University of Pittsburgh

2016-2017 Undergraduate Catalog

University of Pittsburgh

ACADEMIC CALENDAR • 2016–17

Dates in **bold** apply to all schools, on all University campuses. Those not in bold apply only to the Pittsburgh Campus. Official dates for degrees awarded apply to all schools, on all University campuses. Specific dates affecting the professional programs in the Schools of Dental Medicine, Law, Medicine, Pharmacy, and the Joseph M. Katz Graduate School of Business may be obtained from the appropriate Dean's Office.

2016 FALL TERM (2171)

July	**4**	**Monday**	*Independence Day (University closed)*
	13	Wednesday	Fall Term deadline for continuing students to register
August	15	Monday	Graduate International Student Check-In and Orientation
	19-21, incl.	Friday-Sunday	Undergraduate International Student Orientation
	22	Monday	Residence halls open
	22-28, incl.	Monday-Sunday	New and Transfer Student Orientation
	24	Wednesday	New Student Convocation
	25	Thursday	New Faculty Orientation
	26	Friday	New Teaching Assistant Orientation
	29	**Monday**	Fall Term enrollment period ends for all students
	29	**Monday**	Fall Term classes begin
September	**5**	**Monday**	*Labor Day (University closed)*
	9	**Friday**	Fall Term add/drop period ends
	17	Saturday	Constitution Day
	30-Oct 1, incl.	Friday-Saturday	Family Weekend
October	7-9, incl.	Friday-Sunday	Homecoming Activities
	17	**Monday**	Fall Break for students (no classes); University offices and buildings remain open and staffed during Fall Break (see note below)
	18	**Tuesday**	Monday classes normally scheduled to meet Monday, October 17th will meet on Tuesday, October 18th. Tuesday classes will not meet this week (see note below)
	28	**Friday**	Fall Term deadline for students to submit Monitored Withdrawal forms to Dean's Office
	28	**Friday**	Spring Term enrollment appointments begin (Veteran Students)
	31	**Monday**	Spring Term enrollment appointments begin (Non-Veteran Students)
November	**11**	**Friday**	Last day for Spring Term enrollment appointments
	12	**Saturday**	Spring Term open enrollment begins
	23-27, incl.	**Wednesday-Sunday**	Thanksgiving Recess for students (no classes), all schools
	24-25, incl.	**Thursday-Friday**	Thanksgiving Recess for faculty and staff (University closed)
	28	**Monday**	Classes resume (all schools)
December	**9**	**Friday**	Fall Term: Last day for undergraduate day classes
	9	**Friday**	Spring Term deadline for continuing students to register
	10	**Saturday**	Reading Day
	10-17, incl.	Saturday-Saturday	College of General Studies classes, Saturday Only classes, graduate classes, and evening classes will continue to meet during this period; final examinations should be held during the last scheduled class meeting
	12-17, incl.	Monday-Saturday	Final examination period for undergraduate day classes
	17	**Saturday**	Fall Term Ends: Official date for degrees awarded in Fall Term
	18	Sunday	Residence halls close
	18-Jan 3, incl.	**Sunday-Tuesday**	Winter Recess for students (no classes), all schools
	20	Tuesday	Fall Term grades must be approved by instructors by 11:59 p.m.
	23-Jan 2, incl.	**Friday-Monday**	Winter Recess for faculty and staff; designated University offices, including major responsibility centers and research projects, will be staffed as necessary during this period*

Note: Regarding Fall Break, students in the professional programs in the Schools of Dental Medicine, Law, Medicine, Pharmacy, as well as the Joseph M. Katz Graduate School of Business, should contact their Dean's Office.

*Employees covered by collective bargaining agreements will be governed by the terms of those agreements.

Visit our Web site at www.pitt.edu/calendars.html

2017 SPRING TERM (2174)

January	2	Monday	Residence halls reopen
	3	**Tuesday**	All University offices and buildings reopen
	4	**Wednesday**	Spring Term enrollment period ends for all students
	4	**Wednesday**	Spring Term classes begin
	16	**Monday**	*Dr. Martin Luther King's birthday observance (University closed)*
	18	**Wednesday**	Spring Term add/drop period ends
February	**10**	**Friday**	Summer Term enrollment appointments begin (Veteran Students)
	13	**Monday**	Summer Term enrollment appointments begin (Non-Veteran Students)
	24	**Friday**	Honors Convocation
March	**5-12 incl.**	**Sunday-Sunday**	Spring Recess for students (no classes); University offices and buildings remain open and staffed during Spring Recess except on Friday, Spring Holiday
	10	**Friday**	*University's observance of Spring Holiday (University closed)*
	15	**Wednesday**	Spring Term deadline for students to submit Monitored Withdrawal forms to Dean's Office
	24	**Friday**	Fall Term enrollment appointments begin (Veteran Students)
	27	**Monday**	Fall Term enrollment appointments begin (Non-Veteran Students)
April	**7**	**Friday**	Last day for Fall Term enrollment appointments
	8	**Saturday**	Fall Term open enrollment period begins
	21	**Friday**	Spring Term: Last day for undergraduate day classes
	22	**Saturday**	Reading Day
	22-29 incl.	Saturday-Saturday	College of General Studies classes, Saturday Only classes, graduate classes, and evening classes will continue to meet during this period; final examinations should be held during the last scheduled class meeting
	24-29 incl.	Monday-Saturday	Final examination period for all undergraduate day classes
	29	**Saturday**	Spring Term Ends: Official date for degrees awarded in Spring Term
	30	Sunday	Residence halls close (except for graduating seniors)
	30	Sunday	Annual Commencement Convocation

2017 SUMMER TERM (2177)

May	3	Wednesday	Spring Term grades must be approved by instructors by 11:59 p.m.
	7	Sunday	Summer Term: Residence halls open
	8	**Monday**	Summer Term enrollment period ends and classes begin
	15	**Monday**	Summer 12-WEEK, 6-WEEK-1, 4-WEEK-1 sessions enrollment period ends and classes begin
	17	**Wednesday**	Summer 4-WEEK-1 and 6-WEEK-1 sessions add/drop period ends
	19	**Friday**	Summer Term add/drop period ends
	22	**Monday**	Summer 12-WEEK session add/drop period ends
	27	Saturday	Official date for degrees awarded in the School of Law and School of Dental Medicine
	29	**Monday**	Memorial Day (University closed)
	31	**Wednesday**	Summer 4-WEEK-1 session deadline for students to submit Monitored Withdrawal forms to Dean's Office
June	**2**	**Friday**	Summer 6-WEEK-1 session deadline for students to submit Monitored Withdrawal forms to Dean's Office
	10	**Saturday**	Summer 4-WEEK-1 session ends: Final examinations scheduled during last class meeting
	12	**Monday**	Summer 4-WEEK-2 session enrollment period ends and classes begin
	14	Wednesday	Summer 4-WEEK-1 session grades must be approved by instructors by 11:59 p.m.
	14	**Wednesday**	Summer 4-WEEK-2 session add/drop period ends
	24	**Saturday**	Summer 6-WEEK-1 session ends: Final examinations scheduled during last class meeting
	24	**Saturday**	Official date for awarding of degrees
	26	**Monday**	Summer 6-WEEK-2 session enrollment period ends and classes begin
	28	Wednesday	Summer 6-WEEK-1 session grades must be approved by instructors by 11:59 p.m.
	28	**Wednesday**	Summer 6-WEEK-2 session add/drop period ends
	28	**Wednesday**	Summer 4-WEEK-2 session deadline for students to submit Monitored Withdrawal forms to Dean's Office

2017 SUMMER TERM (2177)

July	**4**	**Tuesday**	*Independence Day (University Closed)*
	7	**Friday**	Summer Term and 12-WEEK session deadline for students to submit Monitored Withdrawal forms to Dean's Office
	8	**Saturday**	Summer 4-WEEK-2 session ends: Final examinations scheduled during last class meeting
	10	**Monday**	Summer 4-WEEK-3 session enrollment period ends and classes begin
	12	Wednesday	Summer 4-WEEK-2 session grades must be approved by instructors by 11:59 p.m.
	12	Wednesday	Fall Term deadline for continuing students to register
	12	**Wednesday**	Summer 4-WEEK-3 session add/drop period ends
	21	**Friday**	Summer 6-WEEK-2 session deadline for students to submit Monitored Withdrawal forms to Dean's Office
	26	**Wednesday**	Summer 4-WEEK-3 session deadline for students to submit Monitored Withdrawal forms to Dean's Office
August	**5**	**Saturday**	Summer 12-WEEK, 6-WEEK-2, 4-WEEK-3 sessions end: Final examinations scheduled during last class meeting
	9	Wednesday	Summer 12-WEEK, 6-WEEK-2, 4-WEEK-3 sessions grades must be approved by instructors by 11:59 p.m.
	12	**Saturday**	Summer Term Ends: Final examinations scheduled during last class meeting
	12	**Saturday**	Official date for awarding degrees
	13	Sunday	Residence halls close
	16	Wednesday	Summer Term grades must be approved by instructors by 11:59 p.m.

2017 FALL TERM (2181)

The beginning, ending, and add/drop dates for 2017 Fall Term (2181) classes and the beginning date for 2018 Spring Term (2184) classes are firm; ALL OTHER DATES ARE TENTATIVE.

August	21	Monday	Residence halls open
	28	**Monday**	Fall Term enrollment period ends for all students
	28	**Monday**	Fall Term classes begin
September	**4**	**Monday**	*Labor Day (University closed)*
	8	**Friday**	Fall Term add/drop period ends
	17	Sunday	Constitution Day
October	**TBD**	**Monday**	Fall Break for students (no classes); University offices and buildings remain open and staffed during Fall Break
	TBD	**Tuesday**	Monday classes normally scheduled to meet Monday, TBD will meet on Tuesday, TBD. Tuesday classes will not meet this week.
	27	**Friday**	Fall Term deadline for students to submit Monitored Withdrawal forms to Dean's Office
	27	**Friday**	Spring Term enrollment appointments begin (Veteran Students)
	30	**Monday**	Spring Term enrollment appointments begin (Non-Veteran Students)
November	**10**	**Friday**	Last day for Spring Term enrollment appointments
	11	**Saturday**	Spring Term open enrollment period begins
	22-26, incl.	**Wednesday-Sunday**	Thanksgiving Recess for students (no classes), all schools
	23-24, incl.	**Thursday-Friday**	Thanksgiving Recess for faculty and staff (University closed)
	27	**Monday**	Classes resume (all schools)
December	**8**	**Friday**	Fall Term: Last day for undergraduate day classes
	8	Friday	Spring Term deadline for continuing students to register
	9	**Saturday**	Reading Day
	9-16, incl.	Saturday-Saturday	College of General Studies classes, Saturday Only classes, graduate classes, and evening classes will continue to meet during this period; final examinations should be held during the last scheduled class meeting
	11-16, incl.	Monday-Saturday	Final examination period for undergraduate day classes
	16	**Saturday**	Fall Term Ends: Official date for degrees awarded in Fall Term
	17	Sunday	Residence halls close
	17-Jan. 2, incl.	**Sunday-Tuesday**	Winter Recess for students (no classes), all schools

2017 FALL TERM (2181)

December	20	Wednesday	Fall Term grades must be approved by instructors by 11:59 p.m.
	22-Jan. 1, incl.	**Friday-Monday**	Winter Recess for faculty and staff; designated University offices, including major responsibility centers and research projects, will be staffed as necessary during this period*

Note: Regarding Fall Break, students in the professional programs in the schools of Dental Medicine, Law, Medicine, Pharmacy, as well as the Joseph M. Katz Graduate School of Business, should contact their Dean's Office.

*Employees covered by collective bargaining agreements will be governed by the terms of those agreements.

2018 SPRING TERM (2184)

January	2	Tuesday	Residence halls open
	2	**Tuesday**	All University offices and buildings reopen
	3	**Wednesday**	Spring Term classes begin

NOTE: THE UNIVERSITY RESERVES THE RIGHT TO MAKE SUCH CALENDAR CHANGES AS IT DEEMS NECESSARY.

SUMMER 2017 ACADEMIC CALENDAR BY SESSION

ENROLLMENT and ADD/DROP BEGINS MONDAY, FEBRUARY 13th	4WK1 4-Week-1	4WK2 4-Week-2	4WK3 4-Week-3	6WK1 6-Week-1	6WK2 6-Week-2	12 WK 12-Week	TERM Term
	* Mon 5/15 Sat 6/10	+ Mon 6/12 Sat 7/8	Mon 7/10 Sat 8/5	* Mon 5/15 Sat 6/24	+ Mon 6/26 Sat 8/5	*+ Mon 5/15 Sat 8/5	*+ Mon 5/8 Mon 8/14
Residence Halls Open	Sun 5/14	Sun 6/11	Sun 7/9	Sun 5/14	Sun 6/25	Sun 5/14	Sun 5/7
Enrollment Ends/ Classes Begin	Mon 5/15	Mon 6/12	Mon 7/10	Mon 5/15	Mon 6/26	Mon 5/15	Mon 5/8
Add/Drop Ends	Wed 5/17	Wed 6/14	Wed 7/12	Wed 5/17	Wed 6/28	Mon 5/22	Fri 5/19
Monitored Withdrawal Deadline	Wed 5/31	Wed 6/28	Wed 7/26	Fri 6/9	Fri 7/21	Fri 7/7	Fri7/7
Classes End/Final Exam Held in Last Class Meeting	Sat 6/10	Sat 7/8	Sat 8/5	Sat 6/24	Sat 8/5	Sat 8/5	Sat 8/12
Residence Halls Close	Sun 6/11	Sun 7/9	Sun 8/6	Sun 6/25	Sun 8/6	Sun 8/6	Sun 8/13
Grade Roster Approval Deadline	Wed 6/14	Wed 7/12	Wed 8/9	Wed 6/28	Wed 8/9	Wed 8/9	Wed 8/16

* Memorial Day, Monday 5/29, University Closed + Independence Day, Tuesday 7/4, University Closed

University of Pittsburgh

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2016–17

Faculty Assembly		**Senate Council**		**Staff Association Council**	
Tuesday	June 7, 2016 (tentative)	Wednesday	June 15, 2016 (tentative)	Tuesday	July 12, 2016 *(New Member Orientation Luncheon)*
Tuesday	September 13, 2016	Wednesday	September 21, 2016	Wednesday	July 13, 2016
Tuesday	October 11, 2016	Wednesday	October 19, 2016	Wednesday	August 17, 2016
Tuesday	November 8, 2016	Wednesday	November 16, 2016	Wednesday	September 21, 2016
Tuesday	December 6, 2016	Wednesday	December 14, 2016	Wednesday	October 19, 2016
2017		**2017**		Wednesday	November 16, 2016
Tuesday	January 17, 2017	Wednesday	January 25, 2017	Wednesday	December 21, 2016
Tuesday	February 14, 2017	Wednesday	February 22, 2017	**2017**	
Tuesday	March 14, 2017	Wednesday	March 22, 2017	Wednesday	January 18, 2017
Tuesday	April 11, 2017	Wednesday	April 19, 2017	Wednesday	February 15, 2017
Tuesday	May 9, 2017	Wednesday	May 17, 2017	Wednesday	March 15, 2017
Tuesday	June 6, 2017 (tentative)	Wednesday	June 14, 2017 (tentative)	Wednesday	April 19, 2017
Tuesday	September 12, 2017	Wednesday	September 20, 2017	Wednesday	May 17, 2017
Tuesday	October 10, 2017	Wednesday	October 18, 2017	Wednesday	June 14, 2017
Tuesday	November 7, 2017	Wednesday	November 15, 2017	Wednesday	July 19, 2017
Tuesday	December 5, 2017	Wednesday	December 13, 2017	Wednesday	August 16, 2017
				Wednesday	September 13, 2017
				Wednesday	October 18, 2017
University Senate				Wednesday	November 15, 2017
Thursday	October 2016, TBA (Plenary Session)			Wednesday	December 13, 2017
Wednesday	March 2017, TBA (Plenary Session)				

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Welcome to the University of Pittsburgh Undergraduate Catalog for the Pittsburgh Campus!

Whether you are interested in attending the University of Pittsburgh, or are already enrolled, you can search the Catalog to obtain campus information, academic programs, policies, and courses. Should you have any questions about the content in the catalog, please email us at catalogs@pitt.edu.

Looking for a Different Catalog?

Current Catalogs - Select the Pittsburgh Campus, Graduate and Professional Studies Catalog from the drop-down menu at the top of the screen.

Archived Catalogs - To view a Pittsburgh Campus Catalog from a previous academic year, click on the Archived Catalogs link in the right-hand menu.

Regional Campus Catalogs - To view a catalog from a regional campus, click the following link:
Regional Campus Catalogs

Search Programs, Courses & Policies

Use the Catalog Search at the top of the right-hand navigation to find information in the online catalog.

You can also click on the Advanced Search link below the Catalog Search to narrow or expand your search of the catalog.

University of Pittsburgh Nondiscrimination Policy Statement

The University of Pittsburgh, as an educational institution and as an employer, values equality of opportunity, human dignity, and racial/ethnic and cultural diversity. Accordingly, as fully explained in Policy 07-01-03, the University prohibits and will not engage in discrimination or harassment on the basis of race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, gender identity and expression, genetic information, disability, or status as a veteran. The University also prohibits and will not engage in retaliation against any person who makes a claim of discrimination or harassment or who provides information in such an investigation. Further, the University will continue to take affirmative steps to support and advance these values consistent with the University's mission. This policy applies to admissions, employment, access to and treatment in University programs and activities. This is a commitment made by the University and is in accordance with federal, state, and/or local laws and regulations.

For information on University equal opportunity and affirmative action programs, please contact: University of Pittsburgh, Office of Affirmative Action, Diversity and Inclusion, Pamela W. Connelly, Associate Vice Chancellor, 500 Craig Hall, Pittsburgh, PA 15260 (412) 648-7860.

For complete details on the University's Nondiscrimination Policy, please refer to Policy 07-01-03. For information on how to file a complaint under this policy, please refer to Procedure 07-01-03.

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Printer-Friendly

Need a printed copy? Print only the pages that matter to you! Click the print icon at the top of any page within the Catalog and generate a pop-up page formatted to print neatly.

Catalog Help

At the top of every page you may click this icon to get more specific information on how to use the Catalog.

About the University of Pittsburgh

The University of Pittsburgh is an internationally respected center of learning and research, offering exceptional educational opportunities in the arts, sciences, and professions.

Mission

The University of Pittsburgh, founded in 1787, is one of the oldest institutions of higher education in the United States. As one of the nation's distinguished comprehensive universities, the resources of the University constitute an invaluable asset for the intellectual, economic, and social enrichment of Pennsylvania, while the international prestige of the University enhances the image of Pennsylvania throughout the world.

The University's mission is to:

• Provide high-quality undergraduate programs in the arts and sciences and professional fields, with emphasis upon those of special benefit to the citizens of Pennsylvania;

• Offer superior graduate programs in the arts and sciences and the professions that respond to the needs of Pennsylvania, as well as to the broader needs of the nation and the world;

• Engage in research, artistic, and scholarly activities that advance learning through the extension of the frontiers of knowledge and creative endeavor;

• Cooperate with industrial and governmental institutions to transfer knowledge in science, technology, and health care;

• Offer continuing education programs adapted to the personal enrichment, professional upgrading, and career advancement interests and needs of adult Pennsylvanians; and

• Make available to local communities and public agencies the expertise of the University in ways that are consistent with the primary teaching and research functions and contribute to social, intellectual, and economic development in the Commonwealth, the nation, and the world.

The trustees, faculty, staff, students, and administration of the University are dedicated to accomplishing this mission, to which they pledge their individual and collective efforts, determined that the University shall continue to be counted among the prominent institutions of higher education throughout the world.

History

The University began in the Pennsylvania wilderness as the Pittsburgh Academy in 1787, the year the U.S. Constitution was adopted. Thirty-two years later, the Pittsburgh Academy became the Western University of Pittsburgh, and in 1908, the school changed its name to the University of Pittsburgh. Graduate degrees have been conferred since 1836, and the first doctoral program was developed in 1884. A private institution for most of its past, the University of Pittsburgh became state-related in 1966, establishing a relationship with the Commonwealth of Pennsylvania that continues to benefit both partners. Today, as an elected member of the prestigious Association of American Universities, the University of Pittsburgh claims its place among the top public research universities in the nation.

Accreditation

All campuses of the University of Pittsburgh are accredited by the Middle States Association of Colleges and Schools' Commission on Higher Education 3624 Market Street, Philadelphia, PA 19104, (267) 284 - 5000. Schools, programs, and departments may furthermore be accredited by discipline-specific accrediting bodies.

Academic Organization and Pittsburgh Campus Overview

As a state-related, coeducational institution, the University of Pittsburgh's Pittsburgh campus offers a multitude of degree-granting and other programs housed in 16 undergraduate, graduate, and professional schools. The University system includes the Pittsburgh campus and four regional campuses at Bradford, Greensburg, Johnstown, and Titusville.

There are more than 100 academic, research, and administrative buildings and residence halls located on the Pittsburgh campus, which covers 132 acres in the culturally rich Oakland neighborhood. At the heart of the campus stands a central landmark-the Cathedral of Learning, a 42-story Gothic tower, which is the tallest school building in the Western Hemisphere. The Cathedral contains the Nationality Rooms, 27 classrooms, each designed to reflect a distinct culture and providing an overall, multidimensional understanding of America's heritage.

At the Pittsburgh campus, over 4,900 faculty serve over 28,500 students, including 9,500 graduate and more than 19,000 undergraduate students. Alumni accomplishments range from managing Fortune 500 corporations, to writing best-selling novels, to unlocking the secrets of DNA ... and more.

Web Address

For more information on the University of Pittsburgh, see the University's Web site at www.pitt.edu.

Administrative Officers, Schools, and Campuses

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University of Pittsburgh Board of Trustees

The Board of Trustees is responsible for advancing the purposes of the University; promoting and protecting its independence, academic freedom, and integrity; and enhancing and preserving its assets for the benefit of future students and society at large. In addition, because the University of Pittsburgh is a state-related institution, the trustees ensure that Pitt meets its obligations both to the Commonwealth of Pennsylvania and to society generally.

General administrative, academic, and management authority is delegated to the chancellor. However, the board retains ultimate responsibility for all University affairs.

There are three or more regular meetings of the Board of Trustees each year, including an annual meeting. Special meetings also may be called. Much of the board's work is carried out by committees; many of these committees include faculty, staff, and students as non-voting representatives.

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Schools

Kenneth P. Dietrich School of Arts and Sciences and the College of General Studies

Graduate School of Public and International Affairs

Graduate School of Public Health

Joseph M. Katz Graduate School of Business and the College of Business Administration

School of Dental Medicine

School of Education

John A. Swanson School of Engineering

School of Health and Rehabilitation Sciences

School of Information Sciences

School of Law

School of Medicine

School of Nursing

School of Pharmacy

School of Social Work

University Honors College

Regional Campuses

University of Pittsburgh at Bradford

University of Pittsburgh at Greensburg

University of Pittsburgh at Johnstown

University of Pittsburgh at Titusville

Academic Regulations

Advising

Academic advising is a key part of every undergraduate's experience at the University of Pittsburgh. An academic advisor helps a student determine the appropriate academic path to further the student's educational and career goals. To be a success, the advising process must work both ways: The advisor will be there to help when the student needs it, and the student must actively seek out an advisor for help. Before signing up for classes each term, students meet with their advisors. Though each school may have different advising requirements, students are generally required to meet with their advisors at least two times per term-for an advising appointment and a subsequent registration appointment. The *Class Search* can be a useful advising tool in planning a course of study. Consult with the individual school for school-specific advising services.

Allowable Credits (Credit and Course Limitations)

There are certain limitations on credits, other than those earned as part of regular undergraduate courses taken at the University, that may be applied toward a degree. Those limitations are detailed below.

Advanced Standing Credits

Each school determines whether and under what circumstances the advanced standing credits listed below will be awarded toward a University of Pittsburgh degree or certificate offered by the school. Contact the individual schools for details.

Transfer Credit

Credit may be earned at other appropriately accredited institutions and accepted for transfer to the University of Pittsburgh, subject to University policy and individual school requirements.

Advanced Placement

Credits may be earned toward a University of Pittsburgh degree or certificate through standardized examinations such as the College-Level Examination Program (CLEP), Occupational Competency, Excelsior College Examination Program, and Advanced Placement (AP) Exams. In addition, some schools give credit for the International Baccalaureate Higher-Level Examinations. Credit is given for the following AP Exam scores:

Advanced Placement Credit (effective August 2015)

ART3	Studio Art-2-D	4, 5	SA 0110 Foundation Design	3
ASD	Art: Studio Art -- Drawing Portfolio	4, 5	SA 0130 Foundation Drawing	3
ARH	Art History	3, 4, 5	HAA 0000 Elective	3
BY	Biology	4 5	BIOSC 0050 Foundations Bio Lab 1 BIOSC 0150 Foundation Bio 1 BIOSC 0050 Foundation Bio Lab 1 BIOSC 0150 Foundation Bio 1 BIOSC 0060 Foundation Bio Lab 2 BIOSC 160 Foundation Bio 2	4 8

CH	Chemistry	3, 4 5	CHEM 0110 General Chemistry 1 CHEM 0110 General Chemistry 1 CHEM 0120 General Chemistry 2	4 8
CHIN	Chinese Language	4, 5	CHIN 0001; First Year Spoken 1 CHIN 0002; First Year Spoken 2	10
CSA	Computer Science A	4, 5	CS 0401 Introduction to Computer Science	4
CSAB	Computer Science AB	4, 5	CS 0401 Introduction to Computer Science	4
EMA	Economics-Macroeconomics	4, 5	ECON 0110 Introduction to Macroeconomics	3
EMI	Economics-Microeconomics	4, 5	ECON 0100 Introduction to Microeconomics	3
ENGC	English Language and Composition **Cannot receive credit for both ENGC and ELC	4,5 5 with 600 or higher on verbal SAT	ENGLIT 0000 Undesignated ENGCMP 0200 Seminar in Composition ENGLIT 0000 Undesignated	3 6
ELC	English Literature and Composition **Cannot receive credit for both ENGC and ELC	4, 5 5 with 600 or higher on verbal SAT	ENGLIT 0000 Undesignated ENGCMP 0200 Seminar in Composition ENGLIT 0000 Undesignated	3 6
ENVS	Environmental Science	4, 5	GEOL 0860 Environmental Geology	3
EH	European History	4, 5	HIST 0100 Western Civilization 1 **or** HIST 0101 Western Civilization 2	3
FRA	French Language	4 5	FR 0055 French Conversation FR 0055 French Conversation FR 0056 Written French 1	3 6
FLA	French Literature	4 5	FR 0021 Approaches to French Literature FR 0021 Approaches to French Literature FR 0055 French Conversation	3 6
GM	German Language	4 5	GER 1490 Special Topics GER 1490 Special Topics	3 5
GPC	Comparative Government and Politics	4, 5	PS 0300 Comparative Politics	3
GPU	U.S. Government and Politics	4,5	PS 0200 American Political Process	3
HG	Human Geography	4, 5	GEOL 0030 World Physical Geology	3
ITAL	Italian Language	4 5	ITAL 0004 ITAL 0004 Either ITAL 0055 or ITAL 0061 (subject to faculty review)	3 6
JAPAN	Japanese Culture and Language	4 5	JPNSE 1901 Independent Study JPNSE 1901 Independent Study	3 5
LTL	Latin - Literature	4,5	LATN 0220 Intermediate Latin Verse	3

LTV	Latin - Virgil	4, 5	LATN 0220 Intermediate Latin Verse	3
MAB	Calculus AB	4,5	MATH 0220 Analytic Geometry and Calculus 1	4
MABS	Calculus AB - subscore/BC exam	4, 5	MATH 0220 Analytic Geometry and Calculus 1	4
MBC	Calculus BC	4,5	MATH 0220 Analytic Geometry and Calculus 1 MATH 0230 Analytic Geometry and Calculus 2	8
MSL	Music - Listening and Literature	3,4,5	MUSIC 0211 Introduction to Western Art Music	3
MST	Music Theory	3,4,5	MUSIC 0100 Fundamentals of Western Music	3
PHCM	Physics C Mechanics	5	PHYS 0174 Basic Physics and Engineering 1	4
PY1 and PY2 	Physics 1 and Physics 2 Physics 1 and Physics 2 Physics 1 and Physics 2 - must complete both with a 5	4 & 5 5 & 4 5 & 5	PHYS 0110 Introduction to Physics 1 PHYS 0110 Introduction to Physics 1 PHYS 0110 Introduction to Physics 1, PHYS 0111 Introduction to Physics 2	3 3 6
PY	Psychology	4,5	PSY 0010 Introduction to Psychology	3
SPL	Spanish Language	4,5	See department	3
SPLL	Spanish Literature	4,5	SPAN 1600 Survey of Spanish Literature or SPAN 0000 Undesignated	3
STAT	Statistics	4,5	STAT 1000 Applied Statistical Methods	4
UH	U.S. History	4,5	HIST 0600 US to 1877 **or** HIST 0601 US 1865 to Present	3
WH	World History	4,5	HIST 0700 World History	3

- Students will have to check with the department to determine credit or waiver.
- Students wishing to take German language courses must still take the German Placement Exam at their orientation session.

Credit by Examination

In some cases, students may earn credits toward a University of Pittsburgh degree or certificate by passing a course examination without registering for the course. Contact the individual department or school for information, as each sets its own policies as to the specific courses for which students may request credit by examination.Career Development Courses

Noncredit, career development courses are not applicable to the bachelor's degree but may be included among the requirements for certain professional certificates.

Cooperative Programs

The University has established some arrangements with industries that permit students to rotate four-month terms between the workplace and the classroom. These are paid positions related to the student's field of study. These programs are administered by the Swanson School of Engineering and are available to any student with a science-related major. The experience normally starts in the sophomore or junior year. Students should contact their school or department to determine the maximum number of credits that may be earned toward their degree requirements through cooperative programs. Call 412-624-9826 for more information.

Duplication of Course Content

Students may not earn credit for courses that substantially duplicate the content of other courses for which they have already received credit.

Directed Reading and Research, Independent Study, Internships

Some schools offer individually designed study other than regular courses. Students are limited by the individual schools as to how many such independent study, directed reading, directed research, and internship credits can be counted among the required credits for the degree. Requirements and procedures may also differ. Contact school for details.

Directed Reading

The student undertakes a specified course of study comparable to a regular course under the direct supervision of a faculty member.

Directed Research

The student pursues a defined research project on campus under the guidance of a faculty member.

Independent Study

Independent study involves an independent program of study, research, or creative activity designed under specified conditions and is usually conducted off campus with less immediate direction by the sponsoring faculty member.

Internships

Some schools provide internship experiences appropriate to the student's academic discipline. An internship is a supervised, work-related experience, either volunteer or compensated. It is intended to be a new experience, not an existing position in which the student is already working. Students will only get internship credit for a current employment situation that has been pre-approved as an internship by the relevant school or department.

English Language Institute Courses

Credit for certain English Language Institute courses may be applied toward the undergraduate degree. See school for details.

Enrollment in Graduate Courses

Undergraduate students with sufficient preparation are permitted to enroll in graduate courses, and credits earned may be counted toward the undergraduate degree following procedures determined by each school. Credits earned in graduate courses taken by an undergraduate student typically cannot be counted subsequently toward a graduate degree. Consult the appropriate graduate or professional school bulletin for rules governing transfer credits for graduate-level courses taken by an undergraduate student.

PittOnline (formerly External Studies)

The PittOnline Program offers most courses to students in a Web-based environment. Most course materials can be accessed through CourseWeb, the University's course management system. Web courses feature Web-based instruction and interaction. Students interact with their instructors and other students through the class Web site. Students complete the course requirements within one term and move through the course materials as a cohort. Hybrid courses combine Web-based interaction and face-to-face instruction. Students are required to attend scheduled workshops and participate in online discussions and activities.

Self-paced courses utilize a flexible format where students move through assigned course materials at their own pace. Workshops and Web-based activities are features of some courses. The course syllabus provides more information about workshops and Web-based activities for these courses. Self-paced courses without CourseWeb are indicated with a SPW designation.

For additional information on PittOnline courses, contact the College of General Studies at 412-624-7210.

Reserve Officer Training Corps (ROTC) Credits

Students may elect to participate in either the Air Force ROTC or Army ROTC Programs at the University of Pittsburgh or the Navy ROTC Program at Carnegie Mellon University. Contact individual schools to determine which credits earned in ROTC courses may be applied toward a degree. (For more information on ROTC, see the Special Academic Opportunities section of this bulletin.)

Registration

For additional registration information, visit the University registrar's Web site at www.registrar.pitt.edu

Full-Time and Part-Time Study

Full-time study is defined as enrollment for 12 to 18 credits per term, and part-time study is defined as enrollment for one to 11 credits per term. Students are charged a flat tuition rate for full-time study in the fall and spring terms. For part-time students, tuition payment is on a per-credit basis. Students may exceed the 18-credit limit with written permission from the dean of their school, but they will be billed on a per-credit basis for each additional credit. University fees and other applicable charges are assessed on student statements. Some schools within the University may also apply academic limitations on the number of credits for which a student is permitted to enroll each term. For instance, students in Arts and Sciences must get permission to enroll for more than 18 credits. During the summer term and summer sessions, all students (except co-op students who are doing an academic rotation) are billed on a per-credit basis regardless of the number of credits taken.

Registering for Classes

After students are admitted to a school they will be assigned an academic advisor. All Undergraduate students must meet with their academic advisor each term prior to enrolling in classes. Most students have the ability to use the self- service enrollment tools available through the Student Portal or Pitt PS Mobile.

Continuing students with the ability to utilize self-service enrollment will be assigned an enrollment appointment during the first two weeks of the enrollment period. Students in programs that do not permit self-service enrollment should contact their academic advisor regarding the enrollment process for their program. The enrollment period for a term or session is published in the University's *Academic Calendar*.

Once students have enrolled they may view their class schedules online via the Student Portal or Pitt PS Mobile.

Adding and Dropping Courses

Students may add or drop courses from the start of their enrollment appointment until the end of the add/drop period. The dates for the add/drop periods are published in the University's *Academic Calendar*. Students are encouraged to consult their academic advisors regarding the impact of course changes on their academic career. Students who no longer wish to remain enrolled in a course after the add/drop period has ended may withdraw from the course or resign from the University. See Monitored Withdrawal from a Course and Resigning from the University.

Cross-Registration

Cross-registration provides students with the opportunity to enroll in courses at member institutions of the Pittsburgh Council on Higher Education (PCHE). The designated colleges and universities at which undergraduate students may cross-register include Carlow University, Carnegie Mellon University, Chatham University, Community College of Allegheny County, Duquesne University, La Roche College, Pittsburgh Theological Seminary, Point Park University, and Robert Morris University. Only full-time students may cross-register. Students who cross-register do not pay tuition to the host institution; however, they are responsible for any additional fees associated with the course such as laboratory fees, books, and the like. Students normally may register for only one course off campus in a given term. The grades and credits earned at the host institution are transferred to the home school. The academic policies of the host institution prevail.

Cross-registration is only available in the fall and spring terms. During the summer, students may attend one of the above colleges as guest students, but they must pay that institution's tuition and fees. Students are discouraged from cross-registering during their term of graduation to avoid any delays in the receipt of course credit needed to graduate. Students should meet with their advisors or a school representative before they cross-register. For more information on cross-registration, visit www.pchepa.org.

Monitored Withdrawal from a Course

After the add/drop period has ended, students may withdraw from a course that they no longer wish to attend by completing a Monitored Withdrawal Request form in the office of the school offering the course. Students must process the Monitored Withdrawal Request form within the first nine weeks of the term in the fall and spring. Because summer sessions vary in length, students should check the University's *Academic Calendar* for those deadlines. Students should check with the school offering the course for the last day to submit a Monitored Withdrawal Request form. The grade W will appear on the student's grade report and transcript. There is no financial adjustment to students' tuition or fee obligations involved in withdrawing from courses, but withdrawing may jeopardize satisfactory academic progress, financial aid, and athletic eligibility.

Resigning from the University/Termination of Registration

If students decide to drop all of their courses after the add/drop period has ended and before 60 percent of the term or session has been completed, they must resign from the University for that term. Official resignation from the University requires students to contact the Student Appeals Office. Students have several options. They may resign in person, by mail, or by calling 412-624-7585, where students may leave a message 24 hours a day, including weekends and holidays. An R grade will appear on the student's academic transcript for each course in the term of resignation. Tuition is prorated from the date of the student's notification to the Student Appeals Office of the student's desire to resign, unless 60 percent of the term has been completed, in which case there is no refund.

After the 60 percent point in time of the term or session has passed, students who wish to terminate their registration may process withdrawal from all classes only with the permission of the academic dean. If the reason for withdrawal is medical or psychological in nature, the academic dean may consult with the director of Student Health Service prior to making a determination. There is no financial adjustment associated with this procedure, which results in the assignment of W grades for the courses.

Grading and Records

For additional grading and records information, visit the University Registrar's Web site at www.registrar.pitt.edu.

GPA

The Grade Point Average (GPA) is the numeric indication of a student's academic achievement based on a 4.00 grade point scale. Undergraduates must have a 2.00 GPA in order to graduate from the University of Pittsburgh. The value is the average of total letter grades earned and is available by term or career. Some academic centers may also maintain degree and/or major/departmental GPA values.

Grading System

The University of Pittsburgh has a standard letter grade system (see Letter Grade Option). Some additional grading options are available in some courses as determined by the school and the instructor (see Grading Options below). Finally, undergraduate students may choose to audit a course. Students must complete Grade Option/Audit Request forms to request a grading option available in a particular course.

Grading Options

Individual schools may elect to offer a course with the following grade options:

LG	Letter grade

H/S/U	Honors/Satisfactory/Unsatisfactory
S/NC	Satisfactory/No-Credit (Formerly the S/N Option)
LG and H/S/U	Letter grade and Honors/Satisfactory/Unsatisfactory
LG and S/NC	Letter grade and Satisfactory/No-Credit

Students may select a grade option for those courses that offer more than one option at the point of enrollment or by submitting a Grade Option/Audit Request form by the established deadline to the school offering the course (generally four weeks from the start of the term, but check with the school for specific deadlines). If the student does not select a grade option for a course when more than one grade option is available, the default option (generally the letter grade option) will automatically apply.

Letter Grade Option

The University's letter grade system identified below will be followed without exception:

Grade	Quality Points
A+	= 4.00
A	= 4.00 Superior
A-	= 3.75
B+	= 3.25
B	= 3.00 Meritorious
B-	= 2.75
C+	= 2.25
C	= 2.00 Adequate
C-	= 1.75
D+	= 1.25
D	= 1.00 Minimal
D-	= 0.75
F	= 0.00 Failure

H/S/U Grade Option

Certain courses are offered on the H/S/U (Honors/Satisfactory/Unsatisfactory) grade option. Under this option, students earn an H if they do exceptional work (equivalent to an A- or higher under the letter grade system), an S if they do satisfactory work (equivalent to grades from a C up to a B+), or a U if they do unsatisfactory work (equivalent to a C- or lower). The H and S grades received under this option are counted toward graduation but are not computed in the student's GPA. The U grade is counted toward neither graduation nor the GPA.

S/NC Grade Option (Formerly the S/N Option)

Certain courses are offered on the S/NC (Satisfactory/No-Credit) grade option. This option was designed to encourage students to explore new and potentially difficult subjects without fear of the risks of failure. Under this option, a student who does satisfactory work (a grade of C or better) in a course receives the grade of S. If the student's work is not satisfactory (a grade of C- or lower), the grade of NC (No Credit) is given. Courses for which an S is received are counted toward graduation, but are not computed in the GPA. Courses in which an NC is received are counted toward neither graduation nor the GPA.

Other Grades: Incomplete, Resign, Withdraw

Upon a student's completion of a course, one of the grades listed below may appear on the student's transcript in lieu of one of the options selected by the student and/or instructor (the options are listed under Grading Options). None of these grades carries quality points:

G Grade

The G grade signifies unfinished course work due to extenuating personal circumstances. Students assigned G grades are required to complete course requirements no later than one year after the term or session in which the course was taken. Some schools have a shorter deadline for completion of G grades; see school for details.

Once the deadline has passed, the G grade will remain on the record, and the student will be required to reregister for the course if it is needed to fulfill requirements for graduation.

I Grade

The I grade signifies incomplete course work due to the nature of the course, clinical work, or incomplete research work in individual guidance courses or seminars.

R Grade

The R grade signifies that a student resigned from the University for the term. (See Resigning from the University for more information.)

W Grade

The W grade signifies that a student has withdrawn from a course. (See Monitored Withdrawal from a Course for more information.)

Auditing a Course

To audit a course, a student must register and pay tuition for the course. A Grade Option/Audit Request form must be submitted for undergraduate courses by the established deadline. Students who audit a course are given an N grade.

Repeating Courses

Students may elect to repeat a course, subject to the following stipulations. Students should check with their individual schools for other school-specific rules on repeating courses, including the need to submit appropriate forms.

- A sequence course may not be repeated for credit if the student passes a higher sequence course with a C or better grade.
- A student may not enroll in the same course at another institution and have that grade replace the original grade earned at the University.
- The original course and grade remain on the transcript; however, the grade and credits originally earned are not counted in the calculation of the GPA.
- The grade earned by repeating a course is used instead of the grade originally earned. W, R, or N grades reported for the repeated course will not be identified as a course repeat, and therefore the original grade earned will continue to be counted in the GPA. Incomplete grades (G and I) are not identified as repeated courses until the course work is completed.

- Students are only permitted to repeat a course twice. Any grade earned in the repeated course will be recorded on the academic transcript, even if it is lower than the original grade.

Changing Grades

The instructor of a course may change a student's grade by submitting a Grade Change Request Form which can be found on the Faculty Portal. All grade changes require the authorization of the dean of the school from which the original grade was issued. Students can verify grade changes for the terms available online via Student Portal at my.pitt.edu or via Pitt PS Mobile.

Grade Reports

Students can access their grades online via the Student Center at my.pitt.edu or via Pitt PS Mobile. Grade submission deadlines can be found in the University's *Academic Calendar*.

Transcripts

An academic transcript serves as a permanent record of a student's academic progress. The transcript is a cumulative record of the student's GPA, as well as a record of the department, title, and grade for each course in which the student has enrolled and summary advanced standing information. Students may request an official transcript that bears the seal and signature of the University registrar. Currently enrolled students may also receive one unofficial copy of their transcripts per term for personal use. Upon graduation, the transcript reflects a student's degree and date, major, and, if applicable, honors, area of concentration, and minor.

Academic Record

The academic record is not an official University transcript, but a document containing a student's complete University of Pittsburgh academic history. In addition to the information provided on the transcript, the academic record provides students and advisors with admission data, academic events, detailed advanced standing/placement/transfer credit information, and standardized test scores. Students can view a copy of their academic record in the Student Center at my.pitt.edu.

Academic Standing

Undergraduate students' academic standing is maintained and monitored each term by the school in which a student is enrolled. Students who are not on academic probation or academic suspension (i.e., students who maintain a cumulative grade point average of 2.00 or higher) are considered to be in good academic standing.

Dean's List

Students whose grades indicate outstanding academic achievement are recognized on their school's Dean's List. The following schools have a Dean's List:

- Dietrich School of Arts and Sciences
- College of Business Administration
- School of Dental Medicine
- Swanson School of Engineering
- College of General Studies
- School of Health and Rehabilitation Sciences
- School of Information Sciences
- School of Nursing

Other Academic Honors

Schools and programs may have additional ways of recognizing academic achievement by students, such as Phi Beta Kappa, Tau Beta Pi, or a Term Honor List. More information about these opportunities is available through the school.

Probation, Suspension, and Dismissal

Students who fail to make satisfactory progress may be subject to academic probation and/or suspension and dismissal. Students who have completed at least 12 quality point credits and whose GPA falls below 2.00 will be placed on academic probation by the dean of the school. After a certain period of time on academic probation (determined by the student's school), a student is subject to academic suspension and restricted from registering for classes in that school. Details of the undergraduate school's probation system are available through that school.

Effect on Financial Aid

Conditions for financial aid eligibility usually require students to complete a specified number of credits each year and maintain a specified grade point average (GPA: credits counting toward the degree). Questions about the effect of unsatisfactory academic standing on financial aid should be directed to the Office of Admissions and Financial Aid in Alumni Hall at 412-624-7488.

Graduation

Requirements for Graduation

Graduation requirements differ among schools. However, all undergraduate schools require a minimum of 120 passing credits to graduate, as well as a GPA of at least 2.00. (See specific schools and programs for detailed graduation requirements.)

Application to Graduate

Students must file an application for graduation through their college or school. Generally, students must apply for graduation before the end of the term preceding the one during which they expect to complete all degree requirements. Each school establishes its own deadline by which students must apply for graduation. Students should check with their schools for the deadlines.

Graduation with Honors

Undergraduate members of a graduating class who have attained an outstanding scholastic record may be graduated with University honors. To be eligible, a student must complete at least 60 letter-graded credits at the University of Pittsburgh. All degree-related course work completed at the University is calculated in the grade point average. Receipt of University honors is based on having obtained the following grade point average at graduation:

Summa Cum Laude	3.75
Magna Cum Laude	3.50
Cum Laude	3.25

The honor status achieved by a student will appear on the student's official University transcript and diploma.

Each school may award undergraduate program honors based on the major GPA and other criteria, as determined by the school and department.

Commencement

Candidates for graduation are encouraged to appear in person at commencement, usually held the Sunday after the spring term ends. Although degrees are conferred at commencement for all graduation periods, the official certification for April and May graduates occurs several weeks after the ceremony.

With the exception of students who receive their diplomas at individual school ceremonies, all diplomas are mailed to students approximately four weeks after the official certification date for each graduation period.

Student Rights and Responsibilities

The University has a number of official policies affecting students. For complete and current text on all University policies, please see www.cfo.pitt.edu/policies/.

The information that follows summarizes several key University-wide policies affecting undergraduate students, but students are also responsible for being cognizant of those University, school, and departmental regulations relevant to their programs of study.

Academic Integrity Policy

Students have the responsibility to be honest and to conduct themselves in an ethical manner while pursuing academic studies. Students have the right to be treated by faculty in a fair and conscientious manner in accordance with the ethical standards generally recognized within the academic community (as well as those recognized within the profession). Should a student be accused of a breach of academic integrity or have questions regarding faculty responsibilities, procedural safeguards including provisions of due process have been designed to protect student rights. These may be found in Guidelines on Academic Integrity: Student and Faculty Obligations and Hearing Procedures at www.provost.pitt.edu/info/acguidelinespdf.pdf.

Computing Use Policy

Every member of the University community has two basic rights regarding computing: privacy and a fair share of resources. It is unethical for another person to violate these rights. All users, in turn, are expected to exercise common sense and decency with regard to the campus computing resources. Please read Acceptable Computing Access and Use, available in campus computing labs or online at technology.pitt.edu/security/acceptable-computing-access-and-use for details.

Students are subject to the rules and regulations as described in the University of Pittsburgh *Student Code of Conduct*. Students should realize that any misuse of computing resources may result in the suspension of their computing privileges.

Student Code of Conduct

The Student Code of Conduct is an outline of the nonacademic rights and responsibilities of University students. The code defines offenses by and against students. A student or University official may file a complaint of violation of the Student Code of Conduct at the University Student Judicial System. For a copy of the code, please contact the judicial system office in 738 William Pitt Union at 412-648-7910 or see www.studentaffairs.pitt.edu/studentconduct.

Judicial System

The Office of Student Conduct of the University Student Judicial System coordinates the Campus Judicial Board. It also receives, previews, and acts upon complaints of violations of the *Student Code of Conduct*. Its purpose is to provide due process and fair treatment in adjudicating charges filed for violations of the code. All complaints about nonacademic student behavior should be filed here.

Pitt Promise: A Commitment to Civility

The University of Pittsburgh is committed to the advancement of learning and service to society. This is best accomplished in an atmosphere of mutual respect and civility, self-restraint, concern for others, and academic integrity. Students are asked to accept the obligation to live by these common values and commit themselves to principles of behavior that contribute to a civil campus environment and to support this behavior in others. The Pitt Promise is online at www.studentaffairs.pitt.edu/pitt-promise/.

Other Policies

Affirmative Action and University of Pittsburgh Nondiscrimination Policy Statement

The University of Pittsburgh, as an educational institution and as an employer, values equality of opportunity, human dignity, and racial/ethnic and cultural diversity. Accordingly, as fully explained in Policy 07-01-03, the University prohibits and will not engage in discrimination or harassment on the basis of race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, gender identity and expression, genetic information, disability, or status as a veteran. The University also prohibits and will not engage in retaliation against any person who makes a claim of discrimination or harassment or who provides information in such an investigation. Further, the University will continue to take affirmative steps to support and advance these values consistent with the University's mission. This policy applies to admissions, employment, access to and treatment in University programs and activities. This is a commitment made by the University and is in accordance with federal, state, and/or local laws and regulations.

For information on University equal opportunity and affirmative action programs, please contact: University of Pittsburgh, Office of Affirmative Action, Diversity and Inclusion, Carol W. Mohamed, Director (and Title IX, 504 and ADA Coordinator), 412 Bellefield Hall, Pittsburgh, PA 15260 (412) 648-7860.

For complete details on the University's Nondiscrimination Policy, please refer to Policy 07-01-03. For information on how to file a complaint under this Policy, please refer to Procedure 07-01-03.

Drug-Free School and Workplace Policy

The University of Pittsburgh prohibits the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance on University property or as part of any University activity. Faculty, staff, and students of the University must also comply with the laws of the Commonwealth of Pennsylvania on the possession and consumption of alcohol.

Violation of this policy will result in disciplinary action within 30 days, including, but not limited to, a warning, written reprimand, suspension, dismissal, expulsion, and/or mandatory participation and successful completion of a drug abuse assistance or rehabilitation program approved by an appropriate health or law-enforcement agency.

Any University employee paid from federally funded grants or contracts, or any students participating in any federally funded or guaranteed Student Loan Program, must notify the University of any criminal drug statute conviction for a violation occurring at the University or while engaged in University activities. For more information, see www.cfo.pitt.edu/policies/procedure/06/06-02-01.html.

E-mail Communication Policy

The University of Pittsburgh has established e-mail as an official means of communication with students. For more information, see www.cfo.pitt.edu/policies/policy/09/09-10-01.html.

Faculty-Student Relationships

The University's educational mission is promoted by professional relationships between faculty members and students. Relationships of an intimate nature (that is, sexual and/or romantic) compromise the integrity of a faculty-student relationship whenever the faculty member has a professional responsibility for the student. The University prohibits intimate relationships between a faculty member and a student whose academic work, teaching, or research is being supervised or evaluated by the faculty member.

If an intimate relationship should exist or develop between a faculty member and a student, the University requires the faculty member to remove himself/herself from all supervisory, evaluative, and/or formal advisory roles with respect to the student.

Definition note: In this policy, the definition of faculty member refers to anyone appointed by the University as a teacher, researcher, or academic administrator, including graduate and undergraduate students so appointed. For complete text on this policy, see www.cfo.pitt.edu/policies/policy/02/02-04-03.html.

Family Educational Rights and Privacy Act (FERPA)

In compliance with the Family Educational Rights and Privacy Act of 1974, the University guarantees that students have the right to inspect all personally identifiable records maintained by the institution and may challenge the content and accuracy of those records through appropriate institutional procedures. It is further guaranteed by the University that student records containing personally identifiable information will not be released except as permitted by the Family Educational Rights and Privacy Act. See www.registrar.pitt.edu/ferpa.html for more information.

Harassment Policies

Harassment

No University employee, student, or individual on University property may intentionally harass or abuse a person (physically or verbally) with the purpose or effect of unreasonably interfering with such person's work or academic performance, or of creating an intimidating, hostile, or offensive work or academic environment.

Sexual Harassment

The University of Pittsburgh is committed to the maintenance of a community free from all forms of sexual harassment. Sexual harassment violates University policy as well as state, federal, and local laws. It is neither permitted nor condoned.

It is also a violation of the University of Pittsburgh's policy against sexual harassment for any employee or student at the University of Pittsburgh to attempt in any way to retaliate against a person who makes a claim of sexual harassment. Any individual who, after thorough investigation and an informal or formal hearing, is found to have violated the University's policy against sexual harassment will be subject to disciplinary action, including, but not limited to, reprimand, suspension, termination, or expulsion.

Any disciplinary action taken will depend upon the severity of the offense. For more information, see www.cfo.pitt.edu/policies/documents/policy06-05-01web.pdf.

Immunization Policy

The University requires the immunization of all incoming freshmen against measles, mumps, and rubella as a condition of attendance at the University of Pittsburgh. Incoming freshmen must provide to the University Student Health Service documentation of immunization that includes the month, day, and year that the immunizations were administered. Completed immunization forms must be kept on file in the Student Health Service.

Exemptions may be granted based on a written statement from a physician that the immunization may be detrimental to the health of the student or on a student's objection to immunization on religious grounds or on the basis of a strong moral or ethical conviction similar to a religious belief. However, if an outbreak of measles, mumps, or rubella occurs, the State Health Department may exclude from classes students who do not provide proof of immunity to these diseases. For more information, see www.cfo.pitt.edu/policies/policy/06/06-01-02.html.

Patent Policy

A University student, during his or her period of enrollment, may be responsible for new discoveries and inventions that could have commercial value and contribute to scientific, technological, social, and cultural progress. Those accomplishments should be patented in the best interest of the student, the University, the public, and the government. The University's policy on patents determines the rights and obligations of the student and

the University in any technology the student may invent while enrolled in the University. Details of this University policy are available from the Office of Technology Management or at www.cfo.pitt.edu/policies/policy/11/11-02-01.html.

Research Integrity

The University of Pittsburgh seeks excellence in the discovery and dissemination of knowledge. Excellence in scholarship requires all members of the University community to adhere strictly to the highest standards of integrity with regard to research, instruction, and evaluation. Research misconduct carries potential for serious harm to the University community, to the integrity of science, and to society as a whole. The University's Research Integrity Policy is available online at www.cfo.pitt.edu/policies/policy/11/11-01-01.html.

Smoking Policy

Smoking is prohibited in all University-owned and -leased facilities, including residence halls and off-campus housing facilities, and in all University vehicles, including motor pool vehicles, campus buses, and vans, with explicit limited exceptions described in University Policy 04-05-03. For complete policy text, see www.cfo.pitt.edu/policies/policy/04/04-05-03.html.

Student Service Indicators Policy

Access to many student services including registration and access to grades may be delayed for a number of reasons ranging from financial liability to missing data. Complete information on this policy is available online at www.cfo.pitt.edu/policies/policy/09/09-04-09.html.

Use of Alcohol Policy

The University of Pittsburgh prohibits use and dispensing of alcohol in compliance with the laws of the Commonwealth of Pennsylvania. For more information, see www.cfo.pitt.edu/policies/policy/04/04-05-02.html.

Application for Admission

Most undergraduate admissions to the University of Pittsburgh's Pittsburgh campus are handled by the Office of Admissions and Financial Aid. This section details the general requirements and procedures for admissions to the University through that office and also provides admissions information for prospective students whose applications are not handled by that office. Some schools and programs require supplemental application materials or admission requirements in addition to those requested by the Office of Admissions and Financial Aid. Those requirements are listed within the Schools and Academic Programs section of this bulletin.

The admissions information in this section is subject to change at any time. It is intended to serve only as a general source of information.

Pittsburgh Campus Freshman Admissions

Prospective students who have not earned college credits since graduating from high school with a diploma or GED should consult this section for information on admission to the University of Pittsburgh.

Admissions Contact Information

University of Pittsburgh
Office of Admissions and Financial Aid
4227 Fifth Ave., Alumni Hall
Pittsburgh, PA 15260-6601
412-624-PITT
412-624-7488
oafa@pitt.edu
www.oafa.pitt.edu

High School Preparation

Freshman applicants to the University of Pittsburgh should have completed a minimum of 15 units of credit in college preparatory courses. Flexibility exists within this requirement, however:

- Swanson School of Engineering applicants should have completed four units of mathematics-algebra I, algebra II, plane geometry, and trigonometry/pre-calculus-as well as a unit each of chemistry and physics.
- School of Nursing applicants must have 19 units, with three units of laboratory science, including one year of chemistry with a lab, and four units of mathematics.
- School of Pharmacy applicants seeking conditional admission must have completed one year of high school biology with laboratory, chemistry with laboratory, math through trigonometry (pre-calculus), and either a second-level biology course, second-level chemistry course, or physics.
- Arts and Sciences applicants should have completed three years of mathematics (including algebra I, geometry, and algebra II or trigonometry), three years of science (with labs), and three years of a single second language with a C average or better (or make up the deficit with one year of college-level study).
- College of Business Administration applicants should have completed four units of mathematics, including algebra I and II and geometry, and another math course such as trigonometry, pre-calculus, or calculus in their senior year, as well as two years of a lab science.

Application Procedures

Students seeking admission to the University of Pittsburgh must complete and send the following to the Office of Admissions and Financial Aid: the Freshman Application form (students may also apply online at www.oafa.pitt.edu), an official high school transcript, SAT I or ACT results, and the $45 application fee. The personal essay, included with the Freshman Application form, is optional but strongly recommended for scholarship candidates and for students who wish to be reviewed on more than their high school records and SAT/ACT results. Likewise, letters of

recommendation are optional but recommended. *Note: International applicants must apply online and will find complete application instructions and the online application available at www.oafa.pitt.edu*

Exceptions: Applicants to the Dental Hygiene Program, and students seeking special or non-degree status should see the application procedures outlined under their respective admissions sections (Dental Hygiene Program-School of Dental Medicine Admissions, and Special and Non-Degree Status).

Application Deadlines

The University of Pittsburgh practices a rolling admissions policy, meaning there is not a specific deadline by which prospective students must apply. Applicants are considered and informed of admission decisions on a first-come, first-served basis. However, applicants who want to be reviewed for merit scholarships must submit applications by January 15. See Academic Merit Scholarships.

Note: International students must apply by:

- March 1: for fall and summer term admission
- October 1: for spring term admission

Early Admission

High school students wanting to enter college one year early, prior to completing the senior year, may apply as juniors for early admission to some schools. Contact the Office of Admissions and Financial Aid for more information.

Academic Merit Scholarships

Applicants who are U.S. citizens and eligible non-citizens are automatically considered for academic merit scholarships if their applications and all supporting materials are received by January 15. The University awards hundreds of academic scholarships, all of which are renewable for three years after the freshman year, provided the student maintains a 3.00 grade point average and satisfactory academic progress and is enrolled full-time. The scholarships offered include:

- **Chancellor's Nominee Scholarships:** $2,000-$10,000 paid (all schools).
- **Chancellor's Scholarships:** full tuition, room, and board paid. A number of students interviewed for but not receiving the Chancellor's Scholarship will be awarded full-tuition scholarships.
- **Adena Johnson Davis Nursing Scholarship:** full tuition, room, and board paid.
- **Honors Tuition Scholarships:** award-full tuition paid (all schools).
- **Helen Faison Scholarships:** full tuition, room, and board paid (Arts and Sciences).
- **Honors Challenge Scholarships:** full tuition paid (all schools).
- **Engineering Honors Scholarships:** $2,000-$4,000.
- **Fessenden-Trott Engineering Honors Scholarship:** $9,000.
- **Donald M. Henderson Engineering Scholarships:** full tuition, room, and board paid.
- **Robert R. Lavelle Business Scholarship:** full tuition, room, and board paid.

Graduate School Guarantees

Outstanding freshman applicants who are U.S. citizens and eligible non-citizens and indicate certain professional programs (including business, communication science, dental medicine, dietetics, education, engineering, law, medicine, nursing, physical therapy, occupational therapy, public health, public and international affairs, and social work) as their intended field of study on the Freshman Application will automatically be reviewed for guaranteed admission into that professional program. Early application is recommended as spaces are limited.

Enrollment Fee/Tuition Deposit

Once accepted, students must reserve their positions in the upcoming class by submitting a nontransferable, nonrefundable $300 enrollment fee (a combined $200 tuition deposit and a $100 PittStart fee) by May 1 for the fall term. Residence hall accommodations on the Pittsburgh campus are guaranteed to freshmen admitted for the fall term who pay the deposit by May 1, for three full years from the time admission is offered. After that they are available on a first-come, first-served basis.

Deferred Admission

The University does not offer deferred admission for a subsequent term to admitted students not enrolling for the term of their admission. Students wishing to have their applications re-reviewed for another term may submit a request in writing to the Office of Admissions and Financial Aid. Applications and supporting documentation for the prior academic cycle of fall, spring, and summer are only retained until early October of the next cycle. After that, students who wish to be re-reviewed for admission must submit a new application and supporting credentials.

Admitted freshman students who defer enrollment to attend classes at another institution must file a transfer application.

Transcripts will need to be resubmitted.

Regional Campus Admissions

Listed below is the contact information for the admissions offices of the University of Pittsburgh's four regional campuses. Contact the regional campuses for more information on their particular requirements:

University of Pittsburgh at Bradford

Office of Admissions and Financial Aid
300 Campus Dr.
Bradford, PA 16701-2898
814-362-7555
1-800-872-1787
Fax: 814-362-5150
admissions@upb.pitt.edu
www.upb.pitt.edu

University of Pittsburgh at Greensburg

Office of Admissions
Rossetti House
150 Finoli Dr.
Greensburg, PA 15601-5898
724-836-9880
Fax: 724-836-7471
upgadmit@pitt.edu
www.upg.pitt.edu

University of Pittsburgh at Johnstown

Office of Admissions
157 Blackington Hall
450 Schoolhouse Rd.
Johnstown, PA 15904
814-269-7050
1-800-765-4875
Fax: 814-269-7044

upjadmit@pitt.edu
www.upj.pitt.edu

University of Pittsburgh at Titusville

Office of Admissions and Financial Aid
504 E. Main St.
P.O. Box 287
Titusville, PA 16354
814-827-4509
1-888-878-0462
Fax: 814-827-4519
uptadm@pitt.edu
www.upt.pitt.edu/

Transfer Student Admissions

Prospective students who are high school graduates and have attended postsecondary institutions, colleges, or universities (except those who took college classes while in high school and are considered freshmen with advanced standing) apply for admission as transfer students through the Office of Admissions and Financial Aid. Transfers between University of Pittsburgh schools or campuses are handled through the school or campus.

Application Procedures

Degree-seeking transfer students who wish to be considered for admission to the University of Pittsburgh must complete and send the Transfer Application form (students may also apply online at www.oafa.pitt.edu), an official high school transcript, an official transcript from each postsecondary institution attended (whether or not it is intended that all courses will be counted toward a degree at the University of Pittsburgh), an SAT I or ACT score if either test was taken, and the $45 application fee. Consult the *University of Pittsburgh Guide and Application for Transfer Students* (available from the Office of Admissions and Financial Aid) for more information or look online at www.oafa.pitt.edu.

Exceptions: RN to BSN applicants to the School of Nursing, applicants to the Dental Hygiene Program, and students seeking special or non-degree status should see the application procedures outlined under their respective admissions sections (School of Nursing-RN Options Program, PharmD Program, Dental Hygiene Program-School of Dental Medicine Admissions, and Special and Non-Degree Status).

NOTE: International students must apply online at www.oafa.pitt.edu, "Applying" "International Students."

Admission Deadlines

The University of Pittsburgh practices a rolling admissions policy, meaning there is not a specific deadline by which transfer students must apply. Applicants are considered and informed of admission decisions on a first-come, firstserved basis. The following schools practice rolling admission for all three terms, except where noted: Dietrich School of Arts and Sciences, College of Business Administration, Swanson School of Engineering, College of General Studies, School of Nursing (fall and spring term admission only) and the School of Social Work (fall and spring term admission only). However, there are several schools and programs that have definitive deadlines by which applications must be submitted for consideration. These deadlines are subject to change and can be verified on the Office of Admissions and Financial Aid Web site at www.oafa.pitt.edu.

- School of Information Sciences deadlines are August 1 for the fall term, November 1 for the spring term, and April 1 for the summer term.
- School of Education Health and Physical Activity applicants must apply by February 1 (fall term admission only). Applied Developmental Psychology applicants must apply by March 15 for fall term (fall term admission only).
- School of Health and Rehabilitation Sciences admits students only in the fall term. Application deadlines are as follows: Applicants to programs in Athletic Training, Clinical Dietetics/Nutrition, and Rehabilitation Science should submit a complete application by March 15. Programs in Communication Science, Emergency Medicine, and Health Information Management practice a rolling admission, but early application is recommended. Students should apply in the second semester of their sophomore year. All admissions requirements must be completed prior to enrollment.

- All transfer pharmacy students, including international students, must file an application through PharmCAS, a Web-based application service (www.pharmcas.org), submitting scores on the Pharmacy College Admissions Test (PCAT) (see www.pcatweb.info for more information). Applicants must also submit a School of Pharmacy Supplemental Application. Instructions for completing the Supplemental Application are on the School of Pharmacy Web site at www.pharmacy.pitt.edu.

NOTE: International applicants must apply by the deadlines specified or the specific program deadline, whichever comes first.

The online international student application and application instructions are different from the instructions above and are available at www.oafa.pitt.edu.

- March 1: summer term admission (transfers only)
- April 1: fall term admission-freshmen
- May 1: fall term admission -transfers
- October 15: spring term admission

Articulation Agreements and Transfer Credit Guide Summaries

The University of Pittsburgh has formal articulation agreements with various higher education institutions throughout the state of Pennsylvania to facilitate the transfer of students from one institution to the other as they pursue their educational goals. For a comprehensive list of articulation agreements and their specific requirements, go to http://www.academic.pitt.edu/articulation/aa2001.htm.

In addition to those formal articulation agreements, The **Pitt Connection Transfer Guide System** was developed by the Office of Admissions and Financial Aid to provide prospective transfer students with the most comprehensive, current, and thorough pre-transfer advising possible. The **Pitt Connection** allows our future students to explore many options at their community college with the assurance that what they are taking will fit nicely into their degree programs at the University of Pittsburgh and allow them to pursue their academic goals with direction. The various undergraduate units at the University regularly review the course offerings at each of the five local community colleges (Butler County Community College, Community College of Allegheny County, Community College of Beaver County, Harrisburg Area Community College, and Westmoreland County Community College) and evaluate the transferability of these courses. The results are then published in five **Pitt Connection Transfer Guides**, one for each of the above-mentioned community colleges. Students at the community college who consult the guides can register for their classes with confidence that, if they complete their coursework with grades of "C" or better, then the courses will help them progress toward their undergraduate degrees from the University of Pittsburgh. The **Pitt Connection Transfer Guides** are also available at the Office of Admissions and Financial Aid.

The College of General Studies also has transfer manuals for the Community College of Allegheny County, Butler County Community College, Community College of Beaver County, Harrisburg Area Community College, and Westmoreland County Community College. See "Prospective Students" at www.cgs.pitt.org for more information.

Contact the relevant schools and programs for further details.

Transfer Scholarships

Transfer scholarships are available to College of General Studies students who are U.S. citizens and eligible non-citizens. Degree-seeking applicants are automatically reviewed for eligibility. These annual scholarships range in value from $600 to $2,500. The scholarships are offered through: the CGS Alumni Endowment Scholarship Fund including John O. Bolvin and Anne E. Levenson scholarships, The Brackmann and Saalbach Family Endowed Scholarship, Joan C. Dash Scholarship, Bruce P. McGough Scholarship, Tom R. Slone Scholarship (designated for students who are active in the Big Brothers Big Sisters youth mentoring organization), and the Grace C. Stewart Fund. Awarding of these scholarships is handled through the Office of Admissions and Financial Aid.

Evaluation of Transfer Credits

Credits earned at another accredited institution are evaluated by the admitting school, which determines the number of advanced standing credits the transfer student will be awarded and the distribution of these credits in relation to the school's degree requirements and University policy. See the appropriate school's information in this bulletin.

Deferred Admission

The University does not offer deferred admission for a subsequent term to admitted students not enrolling for the term of their admission. However, students wishing to have their applications re-reviewed for another term may submit a request in writing to the Office of Admissions and Financial Aid. Applications and supporting documentation for the prior academic cycle of fall, spring, and summer are only retained until early October of the next cycle. After that, students who wish to be re-reviewed for admission must submit a new application and supporting credentials.

Admitted students who enrolled at another institution must file a new transfer application with supporting credentials.

Readmission

Students who previously attended the University of Pittsburgh then attended other institutions and wish to return to the University are considered transfer students and must reapply following the guidelines for transfer students. The admitting school will evaluate the credits previously earned at the University of Pittsburgh along with credits earned elsewhere to determine the number of credits the transfer student will be allowed. Acceptable credits from institutions other than Pitt will appear on the student transcript as advanced standing credits and will not count in the GPA calculation. Credits earned at the University of Pittsburgh will appear as term entries on the student transcript, and courses accepted toward the degree will be used when calculating the student's GPA.

Former University of Pittsburgh students who have not attended another institution may be reinstated through the dean's office of the school in which they were previously enrolled.

Dental Hygiene Program-School of Dental Medicine Admissions

The School of Dental Medicine offers a two-year (six consecutive terms) Associate of Science Degree in Dental Hygiene. The program is designed to fulfill the professional and academic requirements of the Commission on Dental Accreditation. Completion of the program prepares the student for licensure as a dental hygienist in most states.

Admissions Contact Information

University of Pittsburgh
School of Dental Medicine
Dental Hygiene Program
B-82 Salk Hall
Pittsburgh, PA 15261-1937
412-648-8432
hygieneadmissions@pitt.edu
www.dental.pitt.edu/students/dental-hygiene-program

Admission Requirements

Applicants to the Dental Hygiene Program must fulfill the following criteria before applying: have a high school diploma, have a minimum GPA of 3.0 at all academic institutions, have a minimum SAT I combined math and verbal score of 1200 or ACT score of 24, have successfully completed chemistry and biology courses with laboratory components, and have successfully completed a college-level English composition course and a college-level introduction to sociology course.

Application Procedures

Applicants to the Dental Hygiene Program must submit the following items to the School of Dental Medicine by December 15 for early decision review: a completed Dental Hygiene Program application, including the Personal Essay; three professional references; transcripts from all academic institutions attended; 15 hours of job shadowing with a practicing dental hygienist; and SAT I/ACT scores. Once the application materials have been

received, the qualified applicant will be invited to attend a mandatory Applicant Seminar and participate in a personal interview with the admissions committee.

Students who complete this program also have the option of completing a Bachelor of Science in Dental Hygiene offered by the College of General Studies (see the College of General Studies listing in the Schools and Academic Programs section of this bulletin for information on BS degree completion option).

School of Nursing-RN Options (Early admissions To MSN Or DNP

The University of Pittsburgh RN Options (Early Admission to the MSN or DNP program) curriculum is designed for registered nurses, who obtained their initial nursing education through either a CCNE, NLN or ACEN accredited associate degree program or diploma program and want to purse undergraduate education with early admission to a graduate nursing program. Courses are taught by nursing leaders who are experts in their field. Faculty serves as educators, role models and mentors for their students. The RN Options curriculum builds upon the individual professional nurse's strengths and experiences to expand professional knowledge and practice skills.

Applicants should apply using the online application https://app.applyyourself.com/?id=up-nurs

Contact Information

University of Pittsburgh
School of Nursing
239 Victoria Hall
Pittsburgh, PA 15261
1-888-747-0794 or 412-624-4586
sao50@pitt.edu
www.nursing.pitt.edu

Admission Requirements and Application Procedures

RN-Option applicants must be graduates of a CCNE or NLN accredited associate degree program or diploma school of nursing; have a cumulative Grade Point Average (GPA) of 3.0 or above in previous academic work; possess a valid registered Nurse License (all admitted students must obtain a PA license); complete the RN Option online application, including uploading of an essay and current resume; and submit three letters of professional recommendation from professionals and/or professors who know you well, which may be submitted online or mailed in a sealed envelope to:

University of Pittsburgh
School of Nursing
3500 Victoria St.
239 Victoria Building
Pittsburgh, PA 15261

Academic transcripts should be mailed directly from the graduating institution to the above address. For more information, please call 1-888-747-0794 or 412-624-4586 or e-mail sao50@pitt.edu.

Application Deadlines and Other Information

Course offerings are flexible and students may begin coursework in any term (fall/spring/summer). Upon finishing the first 84 of 96 credits in the RN Options track, students must select to complete their remaining requirements in the selected MSN or DNP program or complete the BSN curriculum.

Students who pursue early admission to the MSN or DNP track must: 1) take the Graduate Record Examination (GRE) 2) provide the necessary documentation for admission to the desired major or area of concentration and 3) complete the remaining 36 credits of which 24 will be at the graduate level. Full and part-time schedules are available.

School of Nursing - Accelerated 2nd Degree BSN Program

The Accelerated 2nd Degree BSN is designed to enable individuals with a Baccalaureate Degree in another discipline the ability to earn a Bachelors of Science Degree in Nursing (BSN) in three consecutive full-time terms.

Contact Information

University of Pittsburgh
School of Nursing
239 Victoria Hall
Pittsburgh, PA 15261
1-888-747-0794
sao50@pitt.edu
http://www.nursing.pitt.edu

Admission Requirements and Application Procedures

The Accelerated 2nd Degree BSN requires an applicant to complete 36 prerequisite credits. These courses may be taken at any college or university. Courses from other institutions must be evaluated as equivalent to University of Pittsburgh courses, (Coursework taken at the University of Pittsburgh School of Nursing prior to admission may be taken as a non-degree seeking student.)

Required prerequisites include:

Course	**Credits**
General and Biological Chemistry *+*(includes a lab)*	4
English Composition (scientific/technical)	3
Human Growth & Development + *(birth to death)*	3
Psychology	3
Sociology	3
Statistics *(descriptive, probability, & inferential)*	3
Human Anatomy & Physiology *+ *(includes a lab)*	6 - 8
Human Genetics *+	3
Microbiology *+ *(includes a lab)*	4
Pathophysiology	4

*Should have been completed within the past eight years
+Should have achieved a grade of "B-" or better

Application Deadlines and Other Information

Early submission of an application is recommended. New classes begin in the Fall, Spring and Summer term. Accelerated 2nd Degree BSN applications are reviewed, and admission decisions made, based on the application deadlines: Fall Term -- February 15/June 1; Spring Term--June 1/October 1; Summer Term--October 1/February 15.

Application information and other materials are located on the web at http://www.nursing.pitt.edu/academics/accelerated.jsp.

Prospective students must apply online to the School of Nursing at: https://app.applyyourself.com/?id=up-nurs.

School of Pharmacy PharmD Program

Transfer students, both within the Pitt system and from other colleges and universities, applying for admission to the School of Pharmacy must: (1) file an online PharmCAS application with all supporting credentials by the deadline (the online PharmCAS application is available at http://www.pharmcas.org); and (2) submit a School of Pharmacy Supplemental Application by the deadline specified in the online instructions. For more information on deadlines, online applications, admission calendar, and application instructions, please visit the school's "Admission Process" Web site at http://www.pages.pharmacy.pitt.edu/pharmdhandbook/the-pharmd-student-handbook/admissions/admissions-process/.

Transfer Within University Schools and Regional Campuses

Transfer between Schools

Students enrolled in an undergraduate school of the University who wish to transfer to another undergraduate school at the University should contact the school in which they are currently enrolled to request a transfer of their records. The student's records will be evaluated by the receiving school, which will then notify the student of acceptance or rejection.

Transfer between Campuses

Students enrolled in one campus of the University who wish to transfer to another campus of the University should contact the school at the campus in which they are currently enrolled to request a transfer of their records. The receiving schools will evaluate the records and notify students of acceptance or rejection.

Reinstatement

Students who have left the University for one calendar year or more (whether of their own volition or as a result of a suspension) and who wish to continue their studies must apply for reinstatement through the school to which they were previously admitted.

Second-degree Candidates

Previous Degree Earned Elsewhere

Students who have earned a previous undergraduate degree from an institution other than the University of Pittsburgh and wish to earn a second degree are treated as transfer students and must apply through the Office of Admissions and Financial Aid. (See Transfer Student Admissions.)

Previous Degree Earned at the University of Pittsburgh

Students who have earned an undergraduate degree from a school or campus of the University of Pittsburgh and who now wish to earn another bachelor's degree should apply as second-degree students directly through the desired school. This process may vary with some upper-level division schools.

Each school determines the number of previously earned credits that will apply. A minimum of 30 new credits must be earned to receive a second degree. In addition to those general rules, schools may have other requirements.

Special and NonDegree Admissions

College in High School

The College in High School Program, offered through the College of Arts and Sciences, offers qualified area high school students the opportunity to earn college credits from the University during their regular school day. Courses in chemistry, communication, computer science, French, Latin, mathematics, physics, and statistics are offered. There is a registration process and fee for this program. For further information, contact the College in High School office at 412624-6789 or online at www.as.pitt.edu/undergraduate/offices/chsp/index.html.

Postbaccalaureate Students

Some of the schools at the University will allow students who have already earned a bachelor's degree to take courses at the University as nondegree students. Students should contact the appropriate school for information about admission requirements.

Students interested in the Dietrich School of Arts and Sciences or the College of General Studies should contact the College of General Studies, 412-624-6600, 407 Cathedral of Learning; College of Business Administration students should contact 412-383-9600, 2100 Sennott Square; Swanson School of Engineering students should contact the Engineering Administration Office 412-624-9800, 253 Benedum Hall.

NOTE: International applicants should file an online international student application available at the Office of Admissions and Financial Aid Web site: www.oafa.pitt.edu

Guest/Visiting Students

Guest students are those who are seeking a degree at another university but want to take courses at the University of Pittsburgh for credit with the expectation that the credits will transfer back to the student's home institution. Guest students must be in good academic standing and generally must apply at least a few weeks before the start of a given term. Contact the appropriate school for other admission requirements. Admission for the fall and spring terms is handled through the school. Summer admission for visiting students is handled through the College of General Studies.

NOTE: International applicants should file an online international student application available at the Office of Admissions and Financial Aid website: www.oafa.pitt.edu

Accelerated High School Students

Qualified high school students in junior or senior year may be eligible to take one or two undergraduate courses each fall, spring, or summer term on the University campus while continuing their high school education. Students cannot take courses at the University that are available to them through their high school curricula. Contact the College in High School Office at 412-624-6789 or 412-624-7428 for admission information or visit online at www.as.pitt.edu/undergraduate and select "High School Students."

Summer Visiting Students

Students who are seeking a degree at another university but want to take courses at the University of Pittsburgh for credit during the summer should apply through the College of General Studies (CGS). Contact CGS at 412-624-6600; visit the office at 407 Cathedral of Learning, or visit the Web site at www.summer.pitt.edu for more information.

EXCEPTION: International students

Campus Facilities and Student Services

Academic Resources

A strong infrastructure of services is key to ensuring academic success at any institution of higher learning. The University of Pittsburgh has a wide variety of academic resources that provide that infrastructure to aid students with their research, computing, tutoring, and advising needs.

University Library System

271 Hillman Library
412-648-7710
feedback@library.pitt.edu
www.library.pitt.edu

The University of Pittsburgh libraries and collections provide an abundant amount of information and services to the University's students, faculty, staff, administrators, and researchers. In fiscal year 2007, the University's 28 libraries and collections have surpassed 5.1 million volumes. In addition, they contain more than 5 million pieces of microforms, and more than 48,000 current serials.

Under the administration of the Hillman University Librarian and Director, the University Library System (ULS) includes the following libraries and collections: Hillman (main), African American, Allegheny Observatory, Archives Service Center, Buhl (social work), Center for American Music, Chemistry, Darlington Memorial (American history), East Asian, Engineering (Bevier Library), Frick Fine Arts, Government Documents, Katz Graduate School of Business, Langley (biological sciences, behavioral neuroscience), Mathematics, Music, Public and International Affairs/Economics, and Special Collections. Libraries are also located at each of the University's four regional campuses. The ULS maintains a high-density storage area at the Library Facility in the Point Breeze section of Pittsburgh.

The Hillman Library is the largest facility, with seating for 1,530 users. It offers an open stack arrangement and an extensive range of library services. Hillman Library houses collections in the humanities and social sciences and includes area studies, psychology, computer science, maps, and government documents. In addition to the ULS, the University offers the Barco Law Library and the Health Sciences Library System.

The Health Sciences Library System (HSLS) at the University of Pittsburgh comprises several libraries that support the educational, research, patient care, and service activities of the schools of the health sciences (Medicine, Dental Medicine, Pharmacy, Health and Rehabilitation Sciences, Nursing, and Public Health) as well as the hospitals of the University of Pittsburgh Medical Center. The HSLS includes Falk Library of the Health Sciences, The Western Psychiatric Institute and Clinic Library, The Libraries at UPMC Shadyside, and the Children's Hospital of Pittsburgh Libraries. The Computer and Media Center in Falk Library is the primary health sciences facility and service point for audiovisual and microcomputer resources. HSLS Online (www.hsls.pitt.edu) is the gateway to extensive electronic resources for clinical and research needs.

This year, the University of Pittsburgh's online library catalog, PITTCat, which provides access to materials held in all University libraries, has been updated. PITTCat+ now offers, in addition to the more than five million titles from PITTCat Classic, all items from the D-Scribe Digital Collections, along with enhanced book content such as integrated article searching, access to tables of contents, jacket covers, and book reviews. Further features are a word cloud of associated search terms, spelling variants, translated terms, and thesaurus terms, as well as refined search options that allow searches based on library location. Searches can also be saved as an RSS feed that will send notifications when new items are added to the catalog.

The ULS also provides access to a comprehensive journal and magazine article discovery tool, Zoom!, as well as other online resources such as: Web of Science, Science Direct, and Scopus in the physical sciences; PsycINFO, ERIC, and Congressional Quarterly for the social sciences; Historical Abstracts, Philosopher's Index, and RILM Abstracts of Music Literature in the arts and humanities; and additional collections of article and newspaper databases from EBSCO and Lexis-Nexis.

These and hundreds of other online resources are available via the Pitt Digital Library at www.library.pitt.edu. The University of Pittsburgh is a member of the Association of Research Libraries. Through membership in several Pennsylvania consortia of libraries (PALCI, PALINET, and the Oakland Library Consortium), cooperative borrowing arrangements have been developed with other Pennsylvania institutions.

Computing Services and Systems Development

728 Cathedral of Learning
412-624-HELP (4357)
technology.pitt.edu

University of Pittsburgh students have access to the latest information technology resources provided by Computing Services and Systems Development (CSSD). An overview of these services is described below. Please visit the Information Technology Web site (technology.pitt.edu) or contact the Help Desk, 412-624-HELP (4357), for assistance.

Technology Help Desk

The Technology Help Desk, which is staffed around the clock, serves as the single point of contact for information technology services at the University of Pittsburgh. Students, faculty, and staff can contact the Technology Help Desk at 412-624-HELP (4357) regarding computing questions, including University computing accounts, e-mail, hardware, software, networking, ResNet services, computing labs, or other information technology services.

Campus Computing Labs

CSSD supports seven campus computing labs for students at the Pittsburgh campus. The labs offer more than 600 computers running Windows, Macintosh, Linux, and UNIX. Computers are equipped with more than 100 of the latest software applications and tools as well as CD writing capability and USB ports. Each lab features several media stations that offer scanning capabilities. Printing services include high-speed print capability in all facilities and color laser print capability in the David Lawrence Hall computing lab. Self-service printing stations were piloted in the David Lawrence Hall and Posvar Hall labs in 2008. Lab locations, hours, and equipment lists are available at technology.pitt.edu. Students can also call Lab Line at 412-383-LABS (5227) for real-time information about lab hours and the number of computers available in each lab. The computing labs are located at B-40 Alumni Hall, 1077 Benedum Hall, G-27/G-62 Cathedral of Learning, 1200 Wesley W. Posvar Hall, 112 Hillman Library, 230 David Lawrence Hall, and C114 Sutherland Hall.

E-mail and University Computing Accounts

Students receive a University computing account at the time of admission. The account features a unique username that is used in conjunction with a secure password. Forgotten passwords can be reset online using the Self-Service Password Reset Service. Students must set three online security questions at find.pitt.edu before using the service.

University e-mail addresses consist of a username followed by "@pitt.edu" (for example, abc123@pitt.edu). Students can read University e-mail online from any location using the Webmail feature available at my.pitt.edu. All official University correspondence is sent to a user's University e-mail address. E-mail forwarding options are available at find.pitt.edu for those who prefer to read their e-mail at another address.

Emergency Notification Service

The University's Emergency Notification Service will be used to communicate through voice and text messages as deemed appropriate in the event of an emergency. Students must subscribe to participate in this service by visiting my.pitt.edu.

E-mail Kiosks

More than 100 e-mail kiosks are located throughout the Pittsburgh campus to provide convenient locations for students to check their e-mail or browse the Web between classes and activities. Current locations include the Benedum Hall and Posvar Hall computing labs and galleria areas, the William Pitt Union lobby, the Cathedral of Learning, Litchfield Towers lobby, and Bellefield Hall's second-floor lobby.

Wireless PittNet

Wireless PittNet, the University's campus-wide wireless network service, is build upon the strength of the University's wired network, PittNet. The service is easy to use, extremely secure, and reliable. Any student with a laptop computer and a compatible wireless network adapter can use Wireless PittNet. Visit http://technology.pitt.edu for instructions, coverage locations, and more.

Student Portal (my.pitt.edu)

The University's Web portal, my.pitt.edu, provides a single point of access to the information that students use most at the University. Access Webmail, adjust spam filtering settings, view grades, search class schedules and course descriptions, pay tuition bills online, access the University's library resources, and more. The portal allows students to customize pages to include the tools and applications they find most helpful.

Residential Networking (ResNet) Program

Students living in University residence halls have access to high-speed Ethernet network connections that provide access to services on the University of Pittsburgh network (PittNet) and the Internet. The ResNet program provides onsite support for residence hall students with computing questions and problems, including Ethernet card installation and configuration, troubleshooting network connection problems, computer viruses, and more. Resident students can schedule appointments with ResNet by contacting the Technology Help Desk at 412-624-HELP (4357).

Software for Students

Students are provided with an extensive array of software applications and utilities at no cost. The Microsoft Campus Software for Students program provides Microsoft applications and operating systems to Pitt students free of charge. Students can receive software upgrades while enrolled at the University and may retain the software when they graduate. CSSD also offers mathematics, statistics, utility, and Internet software products without charge or at greatly reduced prices.

Safe Computing Tools

CSSD provides a variety of security tools and services. The Spam and Virus E-mail Filtering Service blocks junk e-mail and viruses from reaching each student's University e-mail address. Spam filtering settings can be adjusted at my.pitt.edu.

CSSD recommends that students install the latest version of Symantec AntiVirus software on their computers and use the LiveUpdate feature to get the latest updates. In addition, two anti-spyware programs, Ad-Aware and Spybot Search & Destroy, are available at no cost. Computrace LoJack is a software application available at no cost to students that allows a laptop to be traced in the event that it is ever lost or stolen. The Pitt Software Update Service can be configured to automatically download and install the latest security updates and service packs for Windows computers.

Academic Resource Center

G-1 Gardner Steel Conference Center
412-648-7920
www.asundergrad.pitt.edu/offices/arc/index.html

The Academic Resource Center (ARC) offers students help in study skills, tutoring, peer mentoring, time management, and test-taking skills. The ARC also maintains a tutor directory, which is a campus-wide listing of tutors and assistance provided by departments, schools, and Special Support Services. The Math Assistance Center (MAC), which is a part of the ARC, provides assistance to students enrolled in first-level algebra and trigonometry courses through faculty and undergraduate teaching assistant (UTA) office hours. The MAC is in 322 Thackeray Hall.

Writing Center

M-2 Thaw Hall
412-624-6556
www.writing.pitt.edu

The Writing Center, part of the University's Department of English, offers one-on-one assistance to students who need help with their writing in any class. Consultants will help with any aspect of the writing process, including development, organization, revision, grammar, and proofreading but will not edit or write text. Students may drop in any time, but it is best to call for an appointment. The Writing Center's hours vary from term to term. For additional information, for scheduled hours, or to make an appointment, call 412-624-6556.

English Language Institute

2816 Cathedral of Learning
412-624-5901

The English Language Institute (ELI) provides intensive instruction in English for people whose native language is not English and who need to meet proficiency requirements to enter a university. Courses are noncredit and cover reading, writing, listening, speaking, and grammar. The institute offers classes in the Test of English as a Foreign Language (TOEFL) to students already enrolled in the institute to help them prepare for the test.

Admission to the ELI does not include admission to the University of Pittsburgh. The University of Pittsburgh requires a 550 on the TOEFL for admission to most undergraduate programs. Students who wish to be considered for admission but who have not achieved 550 on the TOEFL may request to have their academic qualifications evaluated in advance. This early evaluation assures qualified students that they can register for academic courses when they meet the English proficiency requirement. Instructions for this procedure are on the ELI application form and Web site. The staff of the ELI is available to advise students about applications to colleges and universities.

For more information about the English Language Institute, call 412-624-5901, write to elipitt@pitt.edu, or visit www.eli.pitt.edu.

Housing

The University provides a variety of housing options and support services to students, including Residence Life and Off-Campus Living. Students may choose to live on campus in University-owned housing or in off-campus housing.

Housing Application Process

Incoming Students

As part of the admissions process, the University provides entering freshmen with a three-year housing guarantee, provided they

- Have been admitted through the Office of Admissions and Financial Aid and their tuition deposit has been received by May 1, and
- Have submitted their Housing/Dining Services Application, contract, and deposit by the due date.

Returning Guaranteed Students

Students who have lived in University housing during their first year with a housing "guarantee" are guaranteed housing for their second and third years at the University provided that they

- Maintain their status as current and continuing full-time undergraduate students in each successive year and
- Currently reside in University Housing and meet all housing requirements (application, contract, deposit, and due date) in each successive year.

The housing application process takes place each spring and is administered by Panther Central, which is located in the Litchfield Towers main lobby. For all housing information, stop in or call Panther Central at 412-648-1100 or visit www.pc.pitt.edu/housing/index.html.

Residence Life

The director and assistant directors of Residence Life are responsible for resident assistants and resident directors, who work with students as their live-in advisors and resource persons within the residence halls. The office also advises the Resident Student Association (RSA), the Residence Life

governing body. The staff offers a variety of educational and social activities within the residence halls, addresses student counseling and conduct issues, and provides other assistance to residents on matters affecting the quality of life in the residence halls.

Residence Life also offers students opportunities to live in focused living learning communities, which are linked with specific academic departments. Residence Life staff provide personal assistance 24 hours a day, seven days a week. For more information, students should contact the resident director in their hall, visit or call the office in 203 Bruce Hall (412-648-1200/1201), or go to www.reslife.pitt.edu.

Off-Campus Living

The Off-Campus Living (OCL) Center provides assistance to students, staff, and faculty in identifying, renting, leasing, or purchasing suitable living accommodations. Off-Campus Living provides the following: information on Universityowned apartments, an apartment roommate matching service, a sublet service, maps of Pittsburgh and surrounding areas, rental tips, campus shuttle schedules, free local telephone service to contact landlords, and listings of apartments inspected and approved by the City of Pittsburgh. Call 412-624-6998, visit the office at 127 N. Bellefield Ave., or go to www.ocl.pitt.edu.

Student Resources

The University is committed to providing a high quality of life for its students and toward that end supports a variety of offices and activities designed to aid students in realizing their potential and having a fulfilling on-campus life.

Affirmative Action

In addition to its work with developing, implementing, and monitoring the University's affirmative action program, the Office of Affirmative Action is responsible for receiving, investigating, and mediating complaints from any members of the University community who believe they have been discriminated against or harassed on the basis of their race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, gender identity or expression, disability, or status as a disabled veteran or a veteran of the Vietnam era. Individuals may request information and advice anonymously if they wish. The privacy of all parties will be respected. The office is in 412 Bellefield Hall, 315 S. Bellefield Ave.; the phone number is 412-648-7860.

Athletics

The University offers a variety of opportunities for students to participate in athletics on the varsity, intramural, and club levels, as well as on-campus facilities for group sports and individual exercise.

Varsity Sports

The University offers 10 sports for men (baseball, basketball, cross country, diving, football, soccer, softball, swimming, indoor and outdoor track, and wrestling) and nine sports for women (basketball, cross country, diving, gymnastics, soccer, swimming, tennis, indoor and outdoor track, and volleyball) at the varsity level as well as cheerleading activities. For more information about these sports and contact numbers for varsity coaches, call 412-6488200 or visit the Pittsburgh Panthers Web site at www.pittsburghpanthers.com.

Intramural and Club Sports

New outdoor playing fields are available behind the renovated Cost Sports Center. Call 412-648-8210 for more information or visit the intramural program's Web site at www.intramurals.pitt.edu.

Sports clubs offer participation in sports ranging from bowling to rowing. Contact the Student Organization Resource Center (833 William Pitt Union, 412-624-7116) for more information on sports clubs or visit the Web site at www.sorc.pitt.edu.

Sports Facilities

There are a variety of sports facilities available for use by individuals and groups. Fitness centers are available in Litchfield Towers, Schenley Quadrangle, Lothrop Hall, Sutherland Hall, Bellefield Hall, Trees Hall, and the Baierl Student Recreation Center in the Petersen Events Center. Gymnasiums and swimming pools are available in Trees Hall and Bellefield Hall. The Baierl Student Recreation Center has two convertible racquetball/squash courts and four racquetball courts. In addition, eight squash courts are available in the Fitzgerald Field House, and soccer fields are available through the Department of Athletics.

Visit www.intramurals.pitt.edu for a virtual tour of the facilities, reservation information, and hours of operation.

Book Centers

The University owns and operates two bookstores on campus: The Book Center and The Health Book Center. The Book Center, at 4000 Fifth Ave., carries textbooks for most University courses, as well as a general book selection, school supplies, and sundries such as art supplies, stationery, greeting cards, and calendars. Call 412-648-1455 or visit www.pitt.edu/~bookctr for more information. The Health Book Center, at 3527 Forbes Ave., carries all course books for the Schools of Medicine, Dental Medicine, Health and Rehabilitation Sciences, Nursing, and Pharmacy, as well as the Graduate School of Public Health. Call 412-648-8915 or visit www.healthbookcenter.pitt.edu for more information.

The University Counseling Center

The University Counseling Center, in 334 William Pitt Union, is staffed by licensed psychiatrists, psychologists, social workers, and counselors who provide a variety of services for undergraduate and graduate students. All services of the center are accredited by the International Association of Counseling Services and are confidential, free, and voluntary.

We provide individual, couples, and group counseling for students seeking assistance for relationship problems, anxiety, depression, stress, and concerns about academic progress or direction. We also provide psychiatric services and medication management for currently enrolled students. Special services such as sexual assault counseling and advocacy are provided through the center's Office of Sexual Assault Services. In addition, drug and alcohol assessments and counseling are provided at the center.

For information about the center and its services, see www.counseling.pitt.edu. To schedule an appointment, call 412-648-7930.

Sexual Assault Services/University Counseling

The Office of Sexual Assault Services provides individual and group counseling designed to alleviate the trauma associated with sexual victimization. Emergency medical, legal, and police support is provided. Students are assisted in negotiating course schedules or room changes and in obtaining medical, legal, and counseling resources available to them in the University and local communities.

The Office of Sexual Assault Services also sponsors Peers 2 Peers. This is a volunteer student outreach program whose mission is to create an awareness of the dynamics of sexual assault on the Pittsburgh campus, promote effective communication, and prevent sexual victimization through educational programming. For more information, call 412648-7856 or 412-648-7930, visit 334 William Pitt Union, or see http://www.saserv.pitt.edu.

Disability Resources and Services

The Office of Disability Resources and Services (DRS) provides a broad range of support services to assist students with disabilities. Services include, but are not limited to, tape-recorded textbooks, sign language interpreters, adaptive computer technology, Braille translation, and nonstandard exam arrangements. Contact DRS at 412-648-7890 or 412383-7355 (TTY) in 140 William Pitt Union or see www.drs.pitt.edu for more information.

Dining Services

Campus Dining Services offers students a variety of dining options. All student dining services are coordinated and administered through Panther Central, which is located in the Litchfield Towers main lobby. All students residing in residence halls are required to purchase a meal plan. Students living in University apartment-style accommodations may purchase a meal plan but are not required to do so. Students can select from a variety of

meal plans, each offering different combinations of dining passes and dining dollars. Campus Dining Services invites you to check out all of our dining options across campus.

Major Residence Hall Dining Facilities

- Market Central in Litchfield Towers
- The Perch at Sutherland

Retail Operations

- Quick Zone in Litchfield Towers and Sutherland Hall
- Market to Go in Litchfield Towers
- Schenley Café in William Pitt Union
- Cathedral Café in the Cathedral of Learning
- Petersen Events Center Food Court
- Starbucks Coffee Carts across campus
- Einstein Bros. Bagels in Posvar Hall and Benedum Hall

For all dining information, stop in or call Panther Central at 412-648-1100 or visit www.pc.pitt.edu/dining/index.html.

Health Care and Student Health Service

All full-time students pay a student health fee each term to cover a variety of services at the Student Health Service in Suite 500 of the Medical Arts Building, 3708 Fifth Ave., Pittsburgh, PA 15213. The Student Health Service is a multiservice health care facility that offers outpatient clinical services, gynecology, and comprehensive health education programs. Call 412-383-1800 or visit www.studenthealth.pitt.edu for more information.

The University of Pittsburgh Pharmacy, in the same suite as the Student Health Service, offers over-the-counter and prescription medicines, often at lower prices than available elsewhere. Call 412-383-1850 or visit www.studentaffairs.pitt.edu/shspharmacy for more information.

Students should have health insurance to protect themselves in the event of illness or injury. A direct-pay medical insurance plan is available to students through University health plans. The plan is designed to provide insurance benefits for services not offered at the Student Health Service as well as for hospitalization and emergency care. Applications and product information are available at the Student Health Service.

ID Cards (Panther Cards)

Every student, faculty, and staff member at the University must obtain an ID card from Panther Central, located in the Litchfield Towers main lobby. Student IDs, or "Panther Cards," are used to access residence halls (your assigned residence only), meal plan, athletic events, campus shuttle buses, recreational facilities (within your residence hall, Bellefield Hall, Trees Hall, and the Baierl Student Recreation Center), Student Health Services, computer labs, and Pitt Program Council events. The Panther Card also affords access to off-campus benefits such as free admission to some Pittsburgh cultural facilities. In addition, the Panther Card offers access to Panther Funds at local participating merchants. For all Panther Card information, stop in or call Panther Central at 412-648-1100 or visit www.pc.pitt.edu/card/index.html.

International Services

708 William Pitt Union
412-624-7120
www.ois.pitt.edu

The Office of International Services (OIS) advises international students on how to maintain their immigration status and helps to ensure compliance for both international visitors and the University, with respect to federal regulations. OIS also provides generalized support in connecting the University's international community and their hosting departments with resources inside and outside campus. For more information, contact OIS at ois@pitt.edu, or call 412-624-7120.

Parking and Transportation

The University provides a variety of parking and transportation services, both on and off campus. For more information, contact the University Department of Parking, Transportation, and Services at 412-624-8612 or visit www.pts.pitt.edu.

Parking Services

Student parking is available year-round. The Parking Services Office provides several parking options to meet the different schedules and needs of students. Commuter parking is available daily on a cash basis or by the term in selected facilities by permit only. Resident student permits are available for full-time students residing in one of the University residence halls operated through the Housing Office. Evening permits are available for parking after 2:50 p.m. weekdays and all day on weekends, except during special events, in many University lots. For more information, visit our Web site at www.pts.pitt.edu/parking. The Parking Services Office is located at 204 Brackenridge Hall, 412624-4034.

Commuting Alternatives (Ridesharing)

Daily commuter students can save money by sharing a ride. A free, computerized matching service is available to help you locate others interested in carpooling. Contact the University's ridesharing partner online at commuteinfo.org, or call 888-814-6110. For additional commuting alternatives, visit www.pts.pitt.edu/commuting.

Public Transportation

Students may ride any Port Authority bus, incline, or light-rail train within Allegheny County for free by showing their valid University ID cards. The Department of Parking, Transportation, and Services, at 3525 Forbes Ave., maintains all Port Authority rider information, including maps, schedules, and routes to facilitate the use of public transit. Port Authority bus schedules are also available in the lobby of the William Pitt Union.

Pittsburgh campus Transportation System

University of Pittsburgh students may ride all of the Pitt buses and shuttles fare-free by showing a valid University ID.

In addition, students are permitted two guest riders (space permitting). Buses and shuttles normally have a 20- or 30minute route. Detailed maps and time schedules are available online at www.pc.pitt.edu/transportation/index.html and at the William Pitt Union information desk. The Department of Parking, Transportation, and Services is located at 3525 Forbes Ave.

SafeRider

A night-time, non-emergency van service called SafeRider is available during the evening and early morning hours to transport you from one campus building to another, from local residences to campus buildings, and from campus buildings to local residences within the University boundaries, and it is not on a regular University bus route. SafeRider operates during the following hours:

Fall and Spring:
Sunday-Wednesday and days when the shuttle system operates on a holiday schedule
7 p.m.-3 a.m.

Thursday-Saturday
7 p.m.-5 a.m.

Summer:
Daily 9 p.m.-3 a.m.

For service, call the dispatcher at 412-648-CALL (2255) during these times. You will need to provide the following information when you call: your name, pick-up location and the telephone number at the pick-up location, destination, number of individuals with you, and student ID number. Consult the SafeRider brochure for additional information concerning policies and procedures.

Buses Home for the Holidays

This program is designed to give students a safe, comfortable, alternative ride home for the three major recesses: Thanksgiving, winter, and spring. Buses depart from the William Pitt Union, and most of the destinations served are direct routes. Deluxe motor coaches (Lenzer/Coach USA) transport the students in air-conditioned comfort while movies are shown en route.

Bicycle Registration Program

Registration of bicycles is recommended as a deterrent to theft, to help in the identification of lost or stolen bicycles, and to help better accommodate cyclists at the University. Registration is easy, and it is free. You may register bikes at www.pts.pitt.edu/commuting/bicycling/bike-registration.php.

Bicycle lockers are available at two convenient locations. The locker totally encloses the bicycle, protecting it from rain and snow. There is also room to store a helmet, riding shoes, and other accessories. Lockers may be rented by the term at the Parking Services Office in 204 Brackenridge Hall.

Career Development

The Career Development Office is dedicated to helping students prepare for rewarding careers by providing individual assistance and a variety of professional development programs. Career counselors and consultants assist students with choosing or changing an academic major through personal assessments, writing effective resumes and cover letters, networking with professionals, exploring internship opportunities, applying for graduate or professional school, and preparing for job interviews. Career Development has a variety of online resources that are available through the my.pitt.edu portal, including *FutureLinks*, a career management software program that enables students to apply for jobs and internships, as well as register for job fairs, career workshops, and other programs and events. Diverse educational programs are offered for students in all stages of their journey. For more information, call 412-648-7130, stop by 224 William Pitt Union, or see www.careers.pitt.edu.

Police Department

The University of Pittsburgh Police Department provides police and security services to the University community. For emergency calls, dial 811 from on-campus phones or 412-624-2121 from off-campus phones. The University of Pittsburgh Police Department's main headquarters is in G1N30 Wesley W. Posvar Hall. For general information calls (non-emergency), dial 412-624-4040 or see http://www.police.pitt.edu.

Student Government

Undergraduates at the University are represented by two primary governing bodies, the Student Government Board and the College of General Studies (CGS) Student Government Council.

The Student Government Board (SGB)

The Student Government Board (SGB) is an elected body of nine students that exists to promote the concerns, interests, needs, and welfare of non-College of General Studies undergraduates at the Pittsburgh campus of the University of Pittsburgh. As the governing body for students, SGB serves as the liaison to University faculty, administration, and staff. SGB also disburses student activity fee funds to student clubs and organizations.

SGB makes appointments to University committees and also oversees SGB committees, whose membership is open to all undergraduates. These SGB committees include Academic Affairs; Allocations; Community and Governmental Relations; Elections; Facilities, Technology, and Transportation; Judicial; Wellness; and any existing task force or ad-hoc committee. The SGB meets weekly during the fall and spring terms. For more information, call 412-648-7970, visit 848 William Pitt Union, or see www.pitt.edu/~sgb.

The CGS Student Government Council

The CGS Student Government Council is composed of five elected members who represent the interests of students in the College of General Studies. The Council coordinates a variety of student programs and services and allocates the CGS student activity fee. In addition to the five

members of the Council, there are five divisions that help carry out the Council's business: Budget and Finance, Judicial Affairs, First Degree, Marketing and Advertising, and Student Programs. For more information, call 412-648-7895, visit 824 William Pitt Union, or see www.cgssg.pitt.edu.

PITT Arts

Each year, 22,000 Pitt students experience the power of the visual and performing arts in Pittsburgh through the PITT ARTS program, which sponsors 110 free student outings per year, including trips to the symphony, cinema, opera, ballet, theater, and museums. Students may also use their student ID cards (Panther Card) to visit the Carnegie Museums of Art and Natural History, Phipps Conservatory and Botanical Gardens, and The Andy Warhol Museum at no cost. Visit the PITT ARTS Web site at www.pitt.edu/~pittarts to find a listing of current arts events in Pittsburgh and on campus, and explore the cheap seats page to find out about deeply discounted tickets, sold right in the William Pitt Union, to local arts organizations.

Pitt Program Council

A variety of entertainment and educational activities are planned each year by the student committees of the Pitt Program Council (PPC), the central programming organization on campus. Programs include lectures, travel packages, weekend films, miniseminars, recreational tournaments, annual homecoming activities, and art gallery exhibits. New members are always welcome. For more information, contact the Pitt Program Council at 412-648-7900, or visit www.pitt.edu/~ppc.

Student Employment and Placement Assistance

The mission of the Office of Student Employment and Placement Assistance (SEPA) is to connect Pitt students who are actively seeking jobs or internships with recruiters and human resources professionals at businesses and organizations throughout the country. SEPA staff work to build relationships with representatives in a variety of career fields and help match qualified students with companies. SEPA hosts several career fairs each semester, facilitates the on-campus interviewing process, and helps students to tap into the Pitt Career Network sponsored by the Pitt Alumni Association. Employers and students use the online career management software program *FutureLinks*, which is accessible on the my.pitt.edu portal, to make connections. For more information, call 412-648-HIRE (4473), stop by the office located at 200 William Pitt Union, or visit www.sepa.pitt.edu.

Student Media

Student-produced media creates original news and entertainment for students and provides training to students interested in working in the media.

The Pitt News publishes a daily newspaper in print, online, social media and mobile app and features news, sports, opinions, art and entertainment and videos.

WPTS-FM radio station broadcasts alternative and independent music, campus news and sports via the FM dial, webstreaming and mobile apps. Their website provides music articles, concert reviews, and news and sports reports.

UPTV-21 television station posts varied short comedic and dramatic video entertainment programs on YouTube and streams some programming live on its website.

Student Organizations

More than 500 registered student organizations provide myriad opportunities for extracurricular activity. In addition to government, media, publications, programming, fraternity, sorority, and honor societies, there are clubs for sports, recreation, performing arts, politics, religion, service, professional and academic pursuits, ethnic and cultural enrichment, and many other specialized interests. Students may also participate in organizations that represent the interest of specific student groups, such as the Black Action Society. A complete list of registered student organizations is available at www.sorc.pitt.edu. The Student Organization Resource Center (SORC) is the office that oversees registered student organizations and is located in 833 William Pitt Union.

Student Volunteer Outreach

The Student Volunteer Outreach (SVO) promotes, supports, and provides opportunities for students to participate in community service and service-learning activities ranging from one-time service projects and alternative break projects to internships and ongoing volunteer opportunities. It also sponsors annual projects and events, including the SVO/SGB Pittsburgh Project, Pitt Partnership for Food, and the Agency Fair for student volunteers. The SVO is on the ninth floor of the William Pitt Union; its Web site is www.svo.pitt.edu.

University Child Development Center

The University Child Development Center is a developmental child-care facility for children between the ages of 6 weeks and 5 years. The center is open to children of University students, faculty, and staff. The children are free to select activities from an age-appropriate environment prepared by the teaching staff. The environment allows children to practice previously learned skills and challenges children to develop new psychosocial, cognitive, and motor skills in a relaxed, nurturing atmosphere. The center is at 635 Clyde St. and is open from 7 a.m. to 6 p.m. Monday through Friday. For more information, call 412-383-2100 or see www.hr.pitt.edu/ucdc.

Veterans Services

The staff of the Office of Veterans Services facilitates the transition of veterans from military to University life, supports their ongoing academic success, and assists veterans, guardsmen, reservists, spouses, and dependents in receiving their military education benefits. In addition to these services, the office implements the VA work study program. The Office of Veterans Services is located on the first floor of Posvar Hall, inside of the College of General Studies. Please call 412-624-3213 or email veterans@pitt.edu for more information.

William Pitt Union

The William Pitt Union, built more than 100 years ago and located across Bigelow Boulevard from the Cathedral of Learning, serves as the focal point for campus activities, student organizations, and the Division of Student Affairs. The union features a recreation center, videogame center, dining service, information service, art gallery, dance studio, lounges, meeting rooms, student organization offices, ticket office, dining rooms, and several multi-use spaces for programs. To reach the union's information desk, call 412-648-7815.

Financial Information

Tuition

Enrollment Fee or Tuition Deposit

Upon acceptance to the University, students may be required to pay a nonrefundable, nontransferable enrollment fee or tuition deposit. If paying an enrollment fee, part of that fee will be considered to be a tuition deposit, and part might be used to pay for new student programming of some nature. The tuition deposit component will be applied toward their first-term tuition. The amount of the deposit ranges from $200-$500. Instructions for payment will be specified in the admission letter.

Full-time and Part-time Tuition and Mandatory Fees

Undergraduate students enrolled for 12 to 18 credits are considered full-time and pay a flat tuition rate. Students enrolled for one to 11 credits are considered part-time and pay for individual credits. Students may exceed the 18-credit limit with written permission from the dean of the school, but they will be charged on a per-credit basis for each additional credit.

During the summer term and summer sessions, most students are charged tuition on a per-credit basis regardless of the number of credits taken. There are academic programs that charge full-time students flat rates during the summer term, and those exceptions are listed on the website cited below.

Mandatory fees vary by campus, undergraduate and graduate level, and by full-time and part-time enrollment. Tuition rates are campus, level, and school specific. The University's tuition and mandatory fee rates are available on the Tuition Rates and Mandatory Fees page.

Residency/Reduced Tuition

Students who reside in the Commonwealth of Pennsylvania may be eligible for reduced tuition through state appropriations.

Assessment of Pennsylvania resident tuition rates is based on whether the student meets the criteria to be considered as a permanent resident of the Commonwealth of Pennsylvania. Essentially, a student who has lived in Pennsylvania for a continuous period of 12 months before enrollment in any institution of higher education in the state may be eligible for Pennsylvania tuition rates. The student must be a citizen of the United States or have an immigrant or permanent visa. For a student younger than 22, both the student and parent(s) or legal guardian(s) must meet the residency requirements for eligibility. Any admitted student may petition for Pennsylvania tuition rates by submitting convincing evidence for review by the Student Appeals Office.

Eligibility is determined by criteria outlined in the University of Pittsburgh Guidelines for Determining Eligibility for Reduced Tuition Rates available in the Student Appeals Office in G-12 Thackeray Hall or online at www.payments.pitt.edu/tuitionguide.html.

Financial Obligation

Students establish a financial obligation to the University when they enroll in courses and will be asked to acknowledge that obligation to be permitted to enroll in classes each term. The agreement to pay (Promissory Note) the student electronically agrees to provides detailed information about the student's financial obligation and also the consequences of default of that obligation. Unpaid accounts may be referred to a collection agency, reported to credit bureau(s), and/or the student may be subject to legal action. In either case, the student will be responsible for any and all expenses incurred, including attorney fees. Students will bear the University's costs and fees associated with all collection activity resulting from the student's failure to make payment under the agreement they will sign each term.

Fees

Special Service Fees may be charged for University transactions that are processed beyond deadlines, due dates, and specified time limits. Special service fees are listed each term in the Schedule of Classes.

Course Fees are associated with certain courses and will be charged when the student enrolls in those courses. These courses are identified in the Schedule of Classes and Course Descriptions. Course fee information is also available on the Academic Regulations page.

Late Payment Fees are charged when students make payment after the published due date for their charges for the term.

Payment

PittPAY is the University's online financial hub for students and their Authorized Users, who students designate in PittPAY as having access to their financial information.

Online Payments may be made through PittPAY by electronic check (eCheck) or credit/debit card. While there is no charge for eCheck transactions, our vendor will charge a non-refundable 2.75% service fee for all debit or credit card payments.

International Payments can be processed in PittPAY through the University's partnership with Flywire. Flywire offers a streamlined and cost effective way to make international payments for tuition and fees on the student's account. More information is available at www.payments.pitt.edu/flywire.

PittPAY Payment Plans are available for students who elect to make payments in monthly installments instead of as one payment at their due date. Participation is optional. More detailed information about the payment plans is available at http://www.payments.pitt.edu/pplan.html.

Check Payments can be mailed to the Student Payment Center. Instructions are available in PittPAY.

Tuition Rates and Mandatory Fees

Pennsylvania Resident Tuition Rates

School	Full-Time Per Academic Year	Full-Time Per Term	Part-Time Per Credit
Dietrich School of Arts and Sciences, College of General Studies, School of Education, and School of Social Work	$17,688	$8,844	$737
College of Business Administration	$19,758	$9,879	$823
Swanson School of Engineering	$18,870	$9,435	$786
School of Information Sciences	$19,054	$9,527	$793
School of Dental Medicine	$17,186	$8,593	$716
School of Nursing and School of Health and Rehabilitation Sciences	$22,270	$11,135	$927

Out-of-State Resident Tuition Rates

School	Full-Time Per Academic Year	Full-Time Per Term	Part-Time Per Credit
Dietrich School of Arts and Sciences, College of General Studies, School of Education, and School of Social Work	$28,828	$14,414	$1,201
College of Business Administration	$32,478	$16,239	$1,353
Swanson School of Engineering	$31,502	$15,751	$1,312
School of Information Sciences	$31,144	$15,572	$1,297
School of Dental Medicine	$28,690	$14,345	$1,195
School of Nursing and School of Health and Rehabilitation Sciences	$36,642	$18,321	$1,526

Mandatory Fees

Undergraduate

Fee	Full-Time Per Academic Year	Full-Time Per Term	Part-Time Per Term
Student Activity Fee	$160	$80	$24
Wellness Fee	$240	$120	$60
Computing and Network Services Fee	$350	$175	$100
Security, Safety, and Transportation Fee	$180	$90	$90
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TOTAL	$930	$465	$274

College of Business Administration

The College of Business Administration (Pitt Business) is the undergraduate division of the Joseph M. Katz Graduate School of Business and awards the Bachelor of Science in Business Administration (BSBA) degree. Detailed information about the College of Business Administration is available at our website: http://www.cba.pitt.edu/about/. Pitt Business offers full-time and part-time programs with majors in accounting, business information systems, finance, global management, human resources management, marketing, and supply chain management. Double-degree programs are also available to BSBA students in conjunction with the Dietrich School of Arts and Sciences, School of Information Sciences (SIS) and the College of General Studies. Pitt Business also offers certificate programs in international business, leadership and ethics, supply chain management, innovation and entrepreneurship and business analytics for students in the BSBA degree program.

Additional degree programs include the arts and sciences/business dual major program offered through the Dietrich School of Arts and Sciences in conjunction with Pitt Business, and a post-baccalaureate career development certificate program in accounting available through the College of General Studies. Pitt Business draws its faculty from the Katz School and is accredited by AACSB International-The Association to Advance Collegiate Schools of Business.

Contact Information

University of Pittsburgh
College of Business Administration
Office of Admissions
2100 Sennott Square
Pittsburgh, PA 15260
412-383-9600
admissions@business.pitt.edu
www.cba.pitt.edu

Application Procedures

First-time freshman and external transfer admissions to Pitt Business are handled through the Office of Admissions and Financial Aid. Students planning to relocate to Pitt Business from another Pitt academic program or campus should contact the program in which they are currently enrolled to have their records forwarded to Pitt Business for evaluation. Details for freshman and transfer admissions, as well as for relocation, are provided in the Application for Admission section of this bulletin.

Special Admissions

Under certain circumstances, second-degree, post-baccalaureate, and guest students may apply directly to the College of Business Administration for admission. Students applying under one of these statuses are considered for admission based on the strength of their academic records. (See Second Degree Candidates and Special and Nondegree Admissions sections of this bulletin for more information.) Contact the Pitt Business Office of Admissions for specifics on admission requirements and other procedures.

Evaluation of Transfer Credits

Students transferring from other colleges or universities are encouraged to apply to the College of Business Administration through the Office of Admissions and Financial Aid. (See Transfer Student Admissions section of this bulletin for detailed information.) Upon admission to Pitt Business, transfer students will receive a BSBA degree requirements checklist by email. Pitt Business will evaluate coursework from other colleges based on content and equivalency to coursework offered at the University of Pittsburgh. The degree checklist shows how the transferred courses will apply to the student's BSBA degree. To transfer, a course must be completed with a grade of C or better. The University does not accept grades for transfer, only credits. A minimum of 40 credits must be completed at the University of Pittsburgh. Students who have questions about their credit evaluation should contact the Pitt Business Office of Admissions. Please see our website for additional details on transfer credits: http://www.cba.pitt.edu/admissions/transfer/credit-policies

Academic Standards

The following section details the school's academic standards:

Academic Standing Policy

The academic standing of all BSBA students is reviewed at the end of the fall and spring terms. As a result of this review, students are assigned one of the following academic standing codes: good academic standing, academic probation, academic suspension, or academic dismissal.

Good Academic Standing

Students remain in good standing as long as they maintain a cumulative grade point average (GPA) of 2.00 in all courses taken at the University of Pittsburgh.

The cumulative GPA includes all courses taken on a Letter Grade grading basis at all campuses of the University of Pittsburgh. The course repeat rules require the most recent grade of a repeated course be included in the GPA.

Academic Probation

Any student who has a cumulative GPA below 2.00 is placed on academic probation.

Academic Suspension

Full-time students

If after one term of additional enrollment, the cumulative GPA of a full-time student on probation remains below 2.00, the student is subject to suspension or dismissal.

Students on probation

Students on probation who enroll and then withdraw from all courses are still subject to suspension because they have not raised their cumulative GPA to 2.00 after an additional term of attempted enrollment.

Part-time students

If, after attempting 12 additional credits, the cumulative GPA of a part-time student on probation remains below 2.00, the student is subject to suspension or dismissal.

An academic suspension from Pitt Business prohibits students from enrolling in courses at the University of Pittsburgh for one calendar year. Students will not be awarded transfer credit for courses taken at other colleges or universities while on academic suspension.

Reinstatement after the First Suspension

After one calendar year, suspended students are eligible to apply for reinstatement to the College of Business Administration by writing to the Pitt Business Associate Dean presenting a rationale for reinstatement.

Reinstated students return on academic probation and have one term of enrollment to raise their cumulative GPA to 2.0 or be subject to a second suspension or dismissal.

Second Academic Suspension

If suspended a second time, a student is not eligible for reinstatement for five years. After five years, suspended students are eligible to apply for reinstatement to the College of Business Administration by writing to the Pitt Business Associate Dean presenting a rationale for reinstatement.

Academic Dismissal

Dismissal from Pitt Business is a permanent action, and dismissed students are not eligible for reinstatement at any University of Pittsburgh school or campus.

Grade Point Average Standards

Overall GPA

A cumulative grade point average (GPA) of 2.00 is required in all courses applied toward the BSBA degree.

Major GPA

A minimum cumulative GPA of 2.25 (C+ average) is required in all courses applied toward a student's major. A C- or better must be earned in each individual course applied toward a student's major.

For full-time students: If a full-time student's major GPA drops below 2.25 for two consecutive terms, no new major courses may be taken until the major GPA is raised to 2.25 through course repeats.

For part-time students: If a part-time student's major GPA drops below 2.25 for 9 consecutive credits in his/her major, no new major courses may be taken until the major GPA is raised to 2.25 through course repeats.

Satisfactory/No-Credit Grade Option Policy

All required BSBA core courses and all courses to be applied to a student's major must be taken on a letter grade basis. In addition, courses taken to fulfill the requirements in microeconomics, macroeconomics, calculus, and statistics must also be taken on a letter grade basis. Language classes, arts and sciences general education courses, and electives may be taken on a satisfactory/no-credit (S/NC) grade basis.

Under the satisfactory/no-credit option, a student who does satisfactory work (C or better) receives the grade of S for the course and earns credit for the course. If a student does unsatisfactory work (defined as C- or lower), the student receives the grade of NC and does not earn credit for the course. These courses are not calculated as part of the GPA.

Students may select the S/NC grade option when enrolling online or by visiting 140 Thackeray Hall and completing the grade option form prior to the appropriate deadline.

Course Repeat Policy

A Pitt Business student may repeat a required Arts & Sciences course (including calculus, statistics, microeconomics, macroeconomics and composition), a business core requirement and/or a business major requirement once. If the minimal acceptable grade is not earned after repeating the course, the student may have to transfer out of Pitt Business, or select a different business major.
In the calculation of the major and overall grade point averages, the grade earned in the second taking of a course replaces the grade earned in the first taking; however, the grade earned in the first taking of the course, remains on the student's transcript with a notation indicating the course was repeated.

Academic Integrity

All Pitt Business students are responsible for adhering to Pitt Business policies on academic integrity. The Pitt Business academic integrity guidelines follow the University's guidelines with some procedural changes. Please see the guidelines for details.

Advising

Students pursuing the BSBA degree receive academic advising from full-time professional academic advisors in the College of Business Administration. Each new BSBA student is assigned an academic advisor, establishing a relationship that usually continues through graduation unless the student requests an advisor assignment change.

Academic advisors are information resources. Advisors meet with BSBA students at least once during the fall and spring academic terms to help students create customized academic and career individual development plans and prepare for course enrollment. BSBA students are required to meet with their academic advisor at least once per term, prior to enrollment.

BSBA students are responsible for their academic and career development choices and decisions, but Pitt Business academic advisors are an integrative information and planning resource for students.

BSBA Learning Goals

Graduates of the University of Pittsburgh's College of Business Administration should achieve the following learning outcomes in the four broad components of the BSBA program (major, electives, core and foundations courses):

Demonstrate in-depth knowledge and skills in at least one academic/career focus through completion of majors, certificates, minors and electives.

Demonstrate business management literacy.

Demonstrate competency in the fundamentals of analyzing problems and making decisions with standard business data and data sources using appropriate quantitative and qualitative methodologies.

Demonstrate competency in professional communication and leadership.

Demonstrate competency in applying acquired knowledge and skills in real-world situations.

Acquire a basic knowledge of at least one nation, region or culture in areas such as language, history, political systems, literature and artistic expression.

Acquire an exposure to the knowledge and methodologies used to explore natural, individual, social and cultural phenomena.

Major and Degree Options

The College of Business Administration offers the following degree options:

BSBA Degree

The College of Business Administration awards the Bachelor of Science in Business Administration (BSBA) degree and offers majors in accounting, business information systems, finance, global management, human resources management, marketing and supply chain management.

Pitt Business Certificate Programs

BSBA students have the opportunity to specialize their studies in business analytics, innovation and entrepreneurship, international business, leadership and ethics, supply chain management, innovation and entrepreneurship and business analytics through certificate programs.

The Certificate Program in Business Analytics (CPBA) is designed to give students a strong foundation in the theory, processes, and tools of business analytics in the organizational setting. The CPBA will help students to understand both the statistical and managerial sides of business analytics so that students can add value to organizations of all sizes and types.

The Certificate Program in Innovation and Entrepreneurship (CPIE) is a unique opportunity for Pitt Business students who wish to explore the interface between innovation and entrepreneurship as an enhancement to their business major. The CPIE will contribute to a student's preparation for an entrepreneurial endeavor or a career within an organization committed to innovation and entrepreneurial thinking.

The Certificate Program in International Business (CPIB) builds upon the core curriculum in the College of Business Administration. Requirements include satisfactory completion of level 4 of a second language (a two-year, four-course sequence at the University of Pittsburgh), specialized course work, and one term of approved study abroad or an international internship. Students majoring in Global Management may not also earn the Certificate in International Business. (15 credits, plus foreign language study, and international experience).

The Certificate Program in Leadership and Ethics (CPLE) builds upon the core curriculum in the College of Business Administration. Students admitted to the CPLE will be required to successfully complete all requirements for the BSBA degree requirements including satisfactory completion of specialized course work, internships, and a service-learning project integrating ethics and leadership. (16 credits)

The Certificate in Supply Chain Management (CSCM) is offered jointly by the College of Business Administration and Swanson School of Engineering. Enrollment is available to BSBA students and students enrolled in the BS engineering programs in the School of Engineering. The CSCM provides students with the opportunity to understand important concepts in supply chain management and develop managerial and technical skills which are highly valued in today's corporate environment. The program also offers an international travel experience for students to gain hands-on exposure to global supply chain organizations. The CSCM requires 15 credits and is comprised of coursework offered by both CBA and the School of Engineering.

The Certificate Program in Innovation and Entrepreneurship (CPIE) builds upon the core curriculum in the College of Business Administration. CPIE students will explore the interface between innovation and entrepreneurship as an enhancement to their business major. The CPIE will contribute to a student's preparation for an entrepreneurial endeavor or a career within an organization committed to innovation and entrepreneurial thinking. (15 credits)

The Certificate Program in Business Analytics (CPBA) builds upon the core curriculum in the College of Business Administration. CPBA students will develop a comprehensive understanding of business analytics. Students will learn how to diagnose problems and envision solutions from an evidence-based perspective. They will develop the capability to build statistical models, measure the data, interpret the results, and then synthesize the findings in order to improve organizational performance. This holistic education will teach students both the statistical and managerial sides of business analytics. (15 credits)

Pitt Business/A&S Double Degree

Pitt Business offers the double degree program for students seeking to earn degrees in both business and the arts and sciences. Students earning degrees from both Pitt Business and A&S complete a 150-credit program of study, generally requiring five years of study. Students considering this option should consult with advisors in both Pitt Business and A&S, as well as a representative from Career Services, to determine how this program will advance their academic and career goals.

Pitt Business/SIS Double Degree

Pitt Business offers a double degree program for BSBA students seeking to earn degrees in both business and information sciences. Students earning degrees from both Pitt Business and SIS complete a 150-credit program of study, generally requiring five years of study. Students considering this option should consult with advisors in both Pitt Business and SIS, as well as a representative from Career Services, to determine how this program will advance their academic and career goals.

Special Academic Opportunities/Programs

The College of Business Administration offers the following special programs:

Internship Programs

Internships and other career development experiences are an absolutely essential part of business education. The Office of Career Development team works closely with business students to prepare them to successfully launch their careers. A wide range of services, including individualized resume development reviews, mock interviews and career coaching are provided by the Career Development team. The Career Development team also works closely with a wide network of employers and alumni to help business students find internships, as well as full-time positions upon graduation.

Additionally, an international internship program is available to qualified Pitt Business students. This six-credit global immersion program provides a valuable professional experience for students to develop their functional skills, gain a better understanding of cultural differences in the workplace, and enhance their language skills. Sites include: Berlin, Germany; San Paulo, Brazil; Dublin, Ireland; Beijing, China; and Madrid, Spain.

Study Abroad

The Pitt Business International Programs Office connects students to opportunities in more than 75 countries, and the insights Pitt Business students gain into other cultures and economies through these experiences abroad helps them stand out in the competitive global marketplace. Each program is designed to promote cultural development and adheres to our standard of academic excellence. For additional details, please visit our website at: http://www.cba.pitt.edu/study_abroad.

Student Organizations

Business students must diversify their experiences at Pitt and develop hands-on leadership skills essential to a career in business. Pitt Business student organizations are a good way to do this. Designed to run like small businesses, the organizations put students in control. We count on members to coordinate speaker visits from the corporate community, to arrange site visits to local offices of financial institutions and accounting firms, to sponsor social activities for members, and much more. As a member of a student organization, you will make friends for life and develop skills that enhance your resume for your first job. For additional details, please visit our website at: http://www.cba.pitt.edu/studentlife/organizations.

BSBA Degree Program Descriptions

BSBA students may choose a major in accounting, finance, general management, global management, or marketing. To earn the BSBA degree in any of these majors, students must complete a minimum of 120 credits, fulfill all arts and sciences foundation requirements, complete all BSBA core curriculum requirements, and fulfill any major-specific requirements as detailed below.

Department of Business Administration

Major

Accounting, BSBA

BSBA Degree Requirements

The following sections describe the general requirements for all majors within the Bachelor of Science in Business Administration (BSBA) degree program:

The degree requirements applicable to a particular student are based upon the student's term of entry into the program and reflect any requirement changes that have been approved since this bulletin was published. These requirements and the student's progress toward the BSBA degree are noted on the student's online Undergraduate Advisement Transcript.

Graduation Requirements

One-hundred twenty credits are required for graduation with a BSBA degree. A minimum of 51 credits must be taken in the arts and sciences.

A student may use one course to fulfill two arts and sciences requirements (e.g., ANTH 1772 - ANTHROPOLOGY OF WOMEN fulfills both social science and foreign culture requirements).

Arts and Sciences Foundations: Basic Skills Requirements

There are seven basic skills that all BSBA students must master; these basic skills prepare students for future classes. The basic skills requirements include:

English Composition

- Students who earn 500 or above on SAT Verbal (Critical Reading) are placed into Seminar in Composition (or equivalent course).
- Students who earn below 500 on SAT Verbal (Critical Reading) will be placed into a Workshop in Composition course.
- Recommendations for ENGCMP 0201 or ENGCMP 0151 (tutorials) will be based on class diagnostic writing during add/drop period.
- English as a Second Language students will be placed into appropriate courses based on English Language proficiency.

All students are strongly encouraged to complete their English composition requirement(s) in the freshman year.

Students earning a score of 600 on the critical reading portion of the SAT, who also earn a score of 5 on the Advanced Placement (AP) English exam, will be awarded advanced standing credit for ENGCMP 0200 - SEMINAR IN COMPOSITION and 3 additional credits in English composition.

Second Language

Any one of the following fulfills the language requirement:

- Three years of study of a single second language in high school, passed with an average of C or better over the three years.
- Placement into level III of a second language on a University of Pittsburgh language placement test.
- Placement into level II of a second language on a University of Pittsburgh language placement test and completion of the appropriate course from the second course list below.
- Completion of an approved two course sequence of a foreign language.

Students should discuss specific foreign language course options with their academic advisor.

Calculus

Taking one course from the following list fulfills this requirement:
Note: *Only one of these courses may apply to the 120 total credits required for graduation.*

- MATH 0120 - BUSINESS CALCULUS
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
  or both
- MATH 0125 - CALCULUS FOR BUSINESS 1 and
- MATH 0126 - CALCULUS FOR BUSINESS 2

Statistics

- STAT 1100 - STAT & PROBLTY FOR BUS MGT fulfills this requirement.

Economics

Both of the following courses must be taken to fulfill this requirement:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY

Arts and Sciences General Education Electives

In addition to fulfilling the basic skills requirements, students further supplement their business curriculum by taking courses from six general education categories including:

- Literature (one course)
- Music/art (one course)
- Philosophy (one course)
- Social sciences (two courses, each from a different discipline)
- Natural sciences (two courses)
- Foreign culture (two courses or participation in an approved study abroad program)

Note: *All students, including international students and U.S. citizens who have lived abroad for any length of time, must complete the foreign culture requirement.*

Contact the school for a complete listing of approved courses that meet these elective requirements.

Business Core Curriculum

The Business Core Curriculum:

The following courses (36 credits) are required of all CBA students:

- BUSSPP 0020 - MANAGING IN COMPLX ENVIRONMNTS
- BUSACC 0030 - FINANCIAL ACCOUNTING
- BUSACC 0040 - MANAGERIAL ACCOUNTING
- BUSQOM 0050 - QUANTITATIVE METHODS
- BUSENV 0060 - MGRL ETHICS & STAKEHOLDER MGT
- BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
- BUSORG 1101 - FUNDAMNTLS OF BUS COMMUNICTN (prerequisite 30 credits)
- BUSFIN 1030 - INTRODUCTION TO FINANCE (prerequisite 30 credits)
- BUSMKT 1040 - INTRODUCTION TO MARKETING (prerequisite 30 credits)
- BUSECN 1010 - MANAGERIAL ECONOMICS (prerequisite 30 credits)
- BUSQOM 1070 - OPERATIONS MANAGEMENT
- BUSSPP 1080 - STRATEGIC MANAGEMENT

Other Business Requirements

CBA students must also satisfy one of the following requirements:

BUS 0010 - YOUR ACADEMIC & CAREER SUCCESS This one-credit course is required of all first-time CBA freshmen. In the course, new BSBA students will explore the majors offered in CBA, investigate global opportunities, develop networking and professional skills, create a resume, and learn how to connect with CBA's Career Services team regarding events, internship opportunities, and career development.

BUS 0020 - YOUR CAREER SUCCESS This one-credit course is required of all new CBA transfer students. In the course, students will participate in career exploration, develop and implement a personal strategy for career goal setting and planning, learn and practice communication and other professional skills, and become familiar with the internship and job search processes.

Requirements

The major in accounting is designed to provide students with the general, business, and accounting knowledge necessary for them to succeed as professional accountants. As accounting is a dynamic field, all accounting majors will learn how to keep their knowledge up to date so they can continue to grow throughout their professional careers. Accounting majors will acquire the communication, computer, and interpersonal skills necessary to successfully resolve complex problems in unstructured settings. Accounting majors benefit from participation in extracurricular activities and organizations such as the University of Pittsburgh Accounting Association and Beta Alpha Psi, the national accounting honorary society.

All accounting majors must complete the two (2) BSBA core courses in accounting as well as the seven (7)required accounting major courses listed below. All courses are three credits unless noted otherwise.

BSBA Core Courses in Accounting

Students must complete these courses with a C or better in each course to be eligible to take additional accounting courses:

- BUSACC 0030 - FINANCIAL ACCOUNTING
- BUSACC 0040 - MANAGERIAL ACCOUNTING

Required Accounting Major Courses (22 credits)

Courses are offered on a rotating basis.

- BUSACC 1204 - INTERMEDT FINANCL REPORTING 1
- BUSACC 1205 - INTERMEDT FINANCL REPORTING 2
- BUSACC 1216 - ADVANCED FINANCIAL ACCOUNTING
- BUSACC 1221 - STRATEGIC COST MANAGEMENT
- BUSACC 1236 - ACCOUNTING INFORMATION SYSTEMS
- BUSACC 1238 - AUDITING
- BUSACC 1242 - INDIVIDUAL TAX ACCT & PLANNING

Accounting Electives

- BUSACC 1210 - FINANCIAL STATEMENT ANALYSIS
- BUSACC 1296 - ACCOUNTING INTERNSHIP (requires CBA approval)
- BUSACC 1298 - ACCOUNTING INDEPENDENT STUDY (requires CBA approval)

BSBA Program Learning Goals

Graduates of the University of Pittsburgh's College of Business Administration should achieve the following learning outcomes in the four broad components of the BSBA program (major, electives, core and foundations):

Demonstrate in-depth knowledge and skills in at least one academic/career focus through completion of majors, certificates, minors and electives.

Demonstrate what every BSBA graduate is expected to know about business and management at graduation. This literacy is developed in courses taught in CBA and in particular courses required of all students and offered by the School of Arts and Sciences.

Demonstrate competency in the fundamentals of analyzing problems and making decisions with standard business data and data sources using appropriate quantitative and qualitative methodologies.

Demonstrate competency in interpersonal skills, including concise and persuasive written and presentation communication.

Demonstrate competency in applying acquired knowledge and skills in real-world situations.

Acquire a basic knowledge of at least one nation, region or culture in areas such as language, history, political systems, literature and artistic expression.

Acquire an exposure to the knowledge and methodologies used to explore natural, individual, social and cultural phenomena.

Students preparing for the Certified Public Accounting (CPA) Exam will need to complete 150 total credit hours. These credits may be completed through the BSBA program and/or through the MS in Accounting program. Particular CPA Exam requirements vary by state. Academic Advisors and members of the Accounting faculty provide guidance to students preparing for the CPA exam, but students are responsible for confirming with the appropriate state board of accountancy that all educational and experiential requirements are met.

Business Information Systems, BSBA

BSBA Degree Requirements

The following sections describe the general requirements for all majors within the Bachelor of Science in Business Administration (BSBA) degree program:

The degree requirements applicable to a particular student are based upon the student's term of entry into the program and reflect any requirement changes that have been approved since this bulletin was published. These requirements and the student's progress toward the BSBA degree are noted on the student's online Undergraduate Advisement Transcript.

Graduation Requirements

One-hundred twenty credits are required for graduation with a BSBA degree. A minimum of 51 credits must be taken in the arts and sciences.

A student may use one course to fulfill two arts and sciences requirements (e.g., ANTH 1772 - ANTHROPOLOGY OF WOMEN fulfills both social science and foreign culture requirements).

Arts and Sciences Foundations: Basic Skills Requirements

There are seven basic skills that all BSBA students must master; these basic skills prepare students for future classes. The basic skills requirements include:

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- Students who earn below 500 on SAT Verbal (Critical Reading) will be placed into a Workshop in Composition course.
- Recommendations for ENGCMP 0201 or ENGCMP 0151 (tutorials) will be based on class diagnostic writing during add/drop period.
- English as a Second Language students will be placed into appropriate courses based on English Language proficiency.

All students are strongly encouraged to complete their English composition requirement(s) in the freshman year.

Students earning a score of 600 on the critical reading portion of the SAT, who also earn a score of 5 on the Advanced Placement (AP) English exam, will be awarded advanced standing credit for ENGCMP 0200 - SEMINAR IN COMPOSITION and 3 additional credits in English composition.

Second Language

Any one of the following fulfills the language requirement:

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- Placement into level III of a second language on a University of Pittsburgh language placement test.
- Placement into level II of a second language on a University of Pittsburgh language placement test and completion of the appropriate course from the second course list below.
- Completion of an approved two course sequence of a foreign language.

Students should discuss specific foreign language course options with their academic advisor.

Calculus

Taking one course from the following list fulfills this requirement:
Note: *Only one of these courses may apply to the 120 total credits required for graduation.*

- MATH 0120 - BUSINESS CALCULUS
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
  or both
- MATH 0125 - CALCULUS FOR BUSINESS 1 and
- MATH 0126 - CALCULUS FOR BUSINESS 2

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- STAT 1100 - STAT & PROBLTY FOR BUS MGT fulfills this requirement.

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Both of the following courses must be taken to fulfill this requirement:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY

Arts and Sciences General Education Electives

In addition to fulfilling the basic skills requirements, students further supplement their business curriculum by taking courses from six general education categories including:

- Literature (one course)
- Music/art (one course)
- Philosophy (one course)
- Social sciences (two courses, each from a different discipline)
- Natural sciences (two courses)
- Foreign culture (two courses or participation in an approved study abroad program)

Note: *All students, including international students and U.S. citizens who have lived abroad for any length of time, must complete the foreign culture requirement.*

Contact the school for a complete listing of approved courses that meet these elective requirements.

Business Core Curriculum

The Business Core Curriculum:

The following courses (36 credits) are required of all CBA students:

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- BUSACC 0040 - MANAGERIAL ACCOUNTING
- BUSQOM 0050 - QUANTITATIVE METHODS
- BUSENV 0060 - MGRL ETHICS & STAKEHOLDER MGT
- BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
- BUSORG 1101 - FUNDAMNTLS OF BUS COMMUNICTN (prerequisite 30 credits)
- BUSFIN 1030 - INTRODUCTION TO FINANCE (prerequisite 30 credits)
- BUSMKT 1040 - INTRODUCTION TO MARKETING (prerequisite 30 credits)
- BUSECN 1010 - MANAGERIAL ECONOMICS (prerequisite 30 credits)

- BUSQOM 1070 - OPERATIONS MANAGEMENT
- BUSSPP 1080 - STRATEGIC MANAGEMENT

Other Business Requirements

CBA students must also satisfy one of the following requirements:

BUS 0010 - YOUR ACADEMIC & CAREER SUCCESS This one-credit course is required of all first-time CBA freshmen. In the course, new BSBA students will explore the majors offered in CBA, investigate global opportunities, develop networking and professional skills, create a resume, and learn how to connect with CBA's Career Services team regarding events, internship opportunities, and career development.

BUS 0020 - YOUR CAREER SUCCESS This one-credit course is required of all new CBA transfer students. In the course, students will participate in career exploration, develop and implement a personal strategy for career goal setting and planning, learn and practice communication and other professional skills, and become familiar with the internship and job search processes.

Finance, BSBA

BSBA Degree Requirements

The following sections describe the general requirements for all majors within the Bachelor of Science in Business Administration (BSBA) degree program:

The degree requirements applicable to a particular student are based upon the student's term of entry into the program and reflect any requirement changes that have been approved since this bulletin was published. These requirements and the student's progress toward the BSBA degree are noted on the student's online Undergraduate Advisement Transcript.

Graduation Requirements

One-hundred twenty credits are required for graduation with a BSBA degree. A minimum of 51 credits must be taken in the arts and sciences.

A student may use one course to fulfill two arts and sciences requirements (e.g., ANTH 1772 - ANTHROPOLOGY OF WOMEN fulfills both social science and foreign culture requirements).

Arts and Sciences Foundations: Basic Skills Requirements

There are seven basic skills that all BSBA students must master; these basic skills prepare students for future classes. The basic skills requirements include:

English Composition

- Students who earn 500 or above on SAT Verbal (Critical Reading) are placed into Seminar in Composition (or equivalent course).
- Students who earn below 500 on SAT Verbal (Critical Reading) will be placed into a Workshop in Composition course.
- Recommendations for ENGCMP 0201 or ENGCMP 0151 (tutorials) will be based on class diagnostic writing during add/drop period.
- English as a Second Language students will be placed into appropriate courses based on English Language proficiency.

All students are strongly encouraged to complete their English composition requirement(s) in the freshman year.

Students earning a score of 600 on the critical reading portion of the SAT, who also earn a score of 5 on the Advanced Placement (AP) English exam, will be awarded advanced standing credit for ENGCMP 0200 - SEMINAR IN COMPOSITION and 3 additional credits in English composition.

Second Language

Any one of the following fulfills the language requirement:

- Three years of study of a single second language in high school, passed with an average of C or better over the three years.
- Placement into level III of a second language on a University of Pittsburgh language placement test.
- Placement into level II of a second language on a University of Pittsburgh language placement test and completion of the appropriate course from the second course list below.
- Completion of an approved two course sequence of a foreign language.

Students should discuss specific foreign language course options with their academic advisor.

Calculus

Taking one course from the following list fulfills this requirement:
Note: *Only one of these courses may apply to the 120 total credits required for graduation.*

- MATH 0120 - BUSINESS CALCULUS
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
  or both
- MATH 0125 - CALCULUS FOR BUSINESS 1 and
- MATH 0126 - CALCULUS FOR BUSINESS 2

Statistics

- STAT 1100 - STAT & PROBLTY FOR BUS MGT fulfills this requirement.

Economics

Both of the following courses must be taken to fulfill this requirement:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY

Arts and Sciences General Education Electives

In addition to fulfilling the basic skills requirements, students further supplement their business curriculum by taking courses from six general education categories including:

- Literature (one course)
- Music/art (one course)
- Philosophy (one course)
- Social sciences (two courses, each from a different discipline)
- Natural sciences (two courses)
- Foreign culture (two courses or participation in an approved study abroad program)

Note: *All students, including international students and U.S. citizens who have lived abroad for any length of time, must complete the foreign culture requirement.*

Contact the school for a complete listing of approved courses that meet these elective requirements.

Business Core Curriculum

The Business Core Curriculum:

The following courses (36 credits) are required of all CBA students:

- BUSSPP 0020 - MANAGING IN COMPLX ENVIRONMNTS

- BUSACC 0030 - FINANCIAL ACCOUNTING
- BUSACC 0040 - MANAGERIAL ACCOUNTING
- BUSQOM 0050 - QUANTITATIVE METHODS
- BUSENV 0060 - MGRL ETHICS & STAKEHOLDER MGT
- BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
- BUSORG 1101 - FUNDAMNTLS OF BUS COMMUNICTN (prerequisite 30 credits)
- BUSFIN 1030 - INTRODUCTION TO FINANCE (prerequisite 30 credits)
- BUSMKT 1040 - INTRODUCTION TO MARKETING (prerequisite 30 credits)
- BUSECN 1010 - MANAGERIAL ECONOMICS (prerequisite 30 credits)
- BUSQOM 1070 - OPERATIONS MANAGEMENT
- BUSSPP 1080 - STRATEGIC MANAGEMENT

Other Business Requirements

CBA students must also satisfy one of the following requirements:

BUS 0010 - YOUR ACADEMIC & CAREER SUCCESS This one-credit course is required of all first-time CBA freshmen. In the course, new BSBA students will explore the majors offered in CBA, investigate global opportunities, develop networking and professional skills, create a resume, and learn how to connect with CBA's Career Services team regarding events, internship opportunities, and career development.

BUS 0020 - YOUR CAREER SUCCESS This one-credit course is required of all new CBA transfer students. In the course, students will participate in career exploration, develop and implement a personal strategy for career goal setting and planning, learn and practice communication and other professional skills, and become familiar with the internship and job search processes.

Requirements

The major in finance is designed to provide students with the financial knowledge and skills required for a successful business career. It attempts to give students a thorough understanding of the theoretical financial principles and the practical implementation of these principles in the world of business. Students learn how financial markets operate and how to make effective investment and financial decisions. The major is designed to develop analytical skills and problem-solving abilities.

Finance knowledge and practice have become crucial for the success of corporations and of the individuals employed by them. Financial markets are the major conduits through which investments are channeled in the global marketplace.

Understanding these markets and how to make investment decisions are crucial for success in business.

In addition to the BSBA core course, BUSFIN 1030 - INTRODUCTION TO FINANCE, at least fifteen (15) credits in finance course work are required for the finance major.

BSBA Core Course in Finance

This course must be completed with a C or better to take additional finance courses:

- BUSFIN 1030 - INTRODUCTION TO FINANCE

Required Finance Major Courses

- BUSFIN 1311 - CORPORATE FINANCE
- BUSFIN 1321 - INVESTMENT MANAGEMENT

Finance Electives

Courses are offered on a rotating basis.
(A minimum of three courses must be taken.)

- BUSFIN 1316 - ADVANCED CORPORATE FINANCE
- BUSFIN 1326 - EFFICIENCY OF CAPITAL MARKETS
- BUSFIN 1327 - FUTURES AND OPTIONS
- BUSFIN 1328 - CAPITAL MARKETS
- BUSFIN 1331 - FINANCL INSTITUTIONS & MARKETS
- BUSFIN 1341 - INTERNATIONAL FINANCE
- BUSFIN 1345 - MARKETS AND TRADING
- BUSFIN 1347 - MERGERS ACQISTN & CORPR STRUCT
- BUSFIN 1351 - FINANCIAL MODELING
- BUSFIN 1354 - Valuation
- BUSFIN 1390 - FINANCE INTERNSHIP
- BUSFIN 1395 - FINANCE INDEPENDENT STUDY

BSBA Program Learning Goals

Graduates of the University of Pittsburgh's College of Business Administration should achieve the following learning outcomes in the four broad components of the BSBA program (major, electives, core and foundations):

Demonstrate in-depth knowledge and skills in at least one academic/career focus through completion of majors, certificates, minors and electives.

Demonstrate what every BSBA graduate is expected to know about business and management at graduation. This literacy is developed in courses taught in CBA and in particular courses required of all students and offered by the School of Arts and Sciences.

Demonstrate competency in the fundamentals of analyzing problems and making decisions with standard business data and data sources using appropriate quantitative and qualitative methodologies.

Demonstrate competency in interpersonal skills, including concise and persuasive written and presentation communication.

Demonstrate competency in applying acquired knowledge and skills in real-world situations.

Acquire a basic knowledge of at least one nation, region or culture in areas such as language, history, political systems, literature and artistic expression.

Acquire an exposure to the knowledge and methodologies used to explore natural, individual, social and cultural phenomena.

General Management, BSBA

BSBA Degree Requirements

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A student may use one course to fulfill two arts and sciences requirements (e.g., ANTH 1772 - ANTHROPOLOGY OF WOMEN fulfills both social science and foreign culture requirements).

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- Students who earn below 500 on SAT Verbal (Critical Reading) will be placed into a Workshop in Composition course.
- Recommendations for ENGCMP 0201 or ENGCMP 0151 (tutorials) will be based on class diagnostic writing during add/drop period.
- English as a Second Language students will be placed into appropriate courses based on English Language proficiency.

All students are strongly encouraged to complete their English composition requirement(s) in the freshman year.

Students earning a score of 600 on the critical reading portion of the SAT, who also earn a score of 5 on the Advanced Placement (AP) English exam, will be awarded advanced standing credit for ENGCMP 0200 - SEMINAR IN COMPOSITION and 3 additional credits in English composition.

Second Language

Any one of the following fulfills the language requirement:

- Three years of study of a single second language in high school, passed with an average of C or better over the three years.
- Placement into level III of a second language on a University of Pittsburgh language placement test.
- Placement into level II of a second language on a University of Pittsburgh language placement test and completion of the appropriate course from the second course list below.
- Completion of an approved two course sequence of a foreign language.

Students should discuss specific foreign language course options with their academic advisor.

Calculus

Taking one course from the following list fulfills this requirement:
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- MATH 0120 - BUSINESS CALCULUS
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
  or both
- MATH 0125 - CALCULUS FOR BUSINESS 1 and
- MATH 0126 - CALCULUS FOR BUSINESS 2

Statistics

- STAT 1100 - STAT & PROBLTY FOR BUS MGT fulfills this requirement.

Economics

Both of the following courses must be taken to fulfill this requirement:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY

Arts and Sciences General Education Electives

In addition to fulfilling the basic skills requirements, students further supplement their business curriculum by taking courses from six general education categories including:

- Literature (one course)
- Music/art (one course)
- Philosophy (one course)
- Social sciences (two courses, each from a different discipline)
- Natural sciences (two courses)
- Foreign culture (two courses or participation in an approved study abroad program)

Note: *All students, including international students and U.S. citizens who have lived abroad for any length of time, must complete the foreign culture requirement.*

Contact the school for a complete listing of approved courses that meet these elective requirements.

Business Core Curriculum

The Business Core Curriculum:

The following courses (36 credits) are required of all CBA students:

- BUSSPP 0020 - MANAGING IN COMPLX ENVIRONMNTS
- BUSACC 0030 - FINANCIAL ACCOUNTING
- BUSACC 0040 - MANAGERIAL ACCOUNTING
- BUSQOM 0050 - QUANTITATIVE METHODS
- BUSENV 0060 - MGRL ETHICS & STAKEHOLDER MGT
- BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
- BUSORG 1101 - FUNDAMNTLS OF BUS COMMUNICTN (prerequisite 30 credits)
- BUSFIN 1030 - INTRODUCTION TO FINANCE (prerequisite 30 credits)
- BUSMKT 1040 - INTRODUCTION TO MARKETING (prerequisite 30 credits)
- BUSECN 1010 - MANAGERIAL ECONOMICS (prerequisite 30 credits)
- BUSQOM 1070 - OPERATIONS MANAGEMENT
- BUSSPP 1080 - STRATEGIC MANAGEMENT

Other Business Requirements

CBA students must also satisfy one of the following requirements:

BUS 0010 - YOUR ACADEMIC & CAREER SUCCESS This one-credit course is required of all first-time CBA freshmen. In the course, new BSBA students will explore the majors offered in CBA, investigate global opportunities, develop networking and professional skills, create a resume, and learn how to connect with CBA's Career Services team regarding events, internship opportunities, and career development.

BUS 0020 - YOUR CAREER SUCCESS This one-credit course is required of all new CBA transfer students. In the course, students will participate in career exploration, develop and implement a personal strategy for career goal setting and planning, learn and practice communication and other professional skills, and become familiar with the internship and job search processes.

Requirements

The major in general management provides students with interests in more than one discipline with the flexibility to concentrate their elective course work in two areas. Course work in the areas noted below may be used for the general management major. Courses with significant international content are offered in several areas. Students with international business interests should also consider a study abroad program.

The core courses in the two focused areas of study must be completed with a C or better to take additional courses in those areas. Courses are offered on a rotating basis.

Accounting

- BUSACC 1204 - INTERMEDT FINANCL REPORTING 1
- BUSACC 1205 - INTERMEDT FINANCL REPORTING 2
- BUSACC 1210 - FINANCIAL STATEMENT ANALYSIS
- BUSACC 1216 - ADVANCED FINANCIAL ACCOUNTING
- BUSACC 1221 - STRATEGIC COST MANAGEMENT
- BUSACC 1236 - ACCOUNTING INFORMATION SYSTEMS
- BUSACC 1238 - AUDITING
- BUSACC 1242 - INDIVIDUAL TAX ACCT & PLANNING
- BUSACC 1296 - ACCOUNTING INTERNSHIP *
- BUSACC 1298 - ACCOUNTING INDEPENDENT STUDY **

Finance

- BUSFIN 1311 - CORPORATE FINANCE
- BUSFIN 1316 - ADVANCED CORPORATE FINANCE
- BUSFIN 1321 - INVESTMENT MANAGEMENT
- BUSFIN 1326 - EFFICIENCY OF CAPITAL MARKETS
- BUSFIN 1327 - FUTURES AND OPTIONS
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- BUSFIN 1345 - MARKETS AND TRADING
- BUSFIN 1347 - MERGERS ACQISTN & CORPR STRUCT
- BUSFIN 1351 - FINANCIAL MODELING
- BUSFIN 1355 - VALUATION
- BUSFIN 1390 - FINANCE INTERNSHIP *
- BUSFIN 1395 - FINANCE INDEPENDENT STUDY **

Human Resources Management

- BUSHRM 1665 - NEGOTIATING IN BUSINESS
- BUSHRM 1670 - GLOBAL WORKFORCE MGT & CHANGE
- BUSHRM 1675 - HUMAN RESOURCES STAFFING
- BUSHRM 1680 - COMPENSATION & PERFORM MGMNT
- BUSHRM 1685 - EMPLOYMENT AND LABOR RELATIONS
- BUSHRM 1690 - HUMN RESOURCES MGMNT INTRNSHIP *
- BUSHRM 1695 - HUMN RESOURCS MGMNT INDP STUDY **

Management Information Systems

- BUSMIS 1600 - Technology Enabled Business Transformation
- BUSMIS 1605 - Database Management
- BUSMIS 1610 - Telecommunications Management
- BUSMIS 1615 - Management Information Systems Internship *
- BUSMIS 1620 - Management Information Systems Independent Study **
- BUSMIS 1625 - Electronic Commerce
- BUSMIS 1630 - Project Management
- BUSMIS 1635 - Information Technology Systems and Supply Chains

Marketing

- BUSMKT 1411 - MARKETING RESEARCH
- BUSMKT 1422 - PRINCIPLES OF SELLING
- BUSMKT 1425 - SALES FORCE MANAGEMENT
- BUSMKT 1426 - ADVRTSNG AND SALES PROMOTION
- BUSMKT 1427 - PUBLIC RELATIONS MANAGEMENT
- BUSMKT 1428 - DIGITAL & SOCIAL MEDIA MARKTNG
- BUSMKT 1431 - PRODUCT DEVELOPMNT & MGMNT
- BUSMKT 1435 - SERVICES MARKETING
- BUSMKT 1441 - CONSUMER BEHAVIOR
- BUSMKT 1451 - RETAIL MANAGEMENT
- BUSMKT 1455 - PRICING STRATEGIES AND TACTICS
- BUSMKT 1461 - INTERNATIONAL MARKETING
- BUSMKT 1481 - BRAND MANAGEMENT
- BUSMKT 1485 - PROJECTS IN MARKETING
- BUSMKT 1490 - MARKETING INTERNSHIP *
- BUSMKT 1495 - MARKETING INDEPENDENT STUDY **

Supply Chain Management

- BUSQOM 1725 - SUPPLY NETWRK MFG CULT LAT AM
- BUSSCM 1730 - MANAGING GLOBAL SUPPLY CHAINS
- BUSQOM 1735 - ENGR & BUS COLLBRTN IN INDIA
- BUSQQM 1740 - Procurement and Distribution Management
- BUSBIS 1635 - INF TECHN SYMS SUPPLY CHAINS
- BUSQOM 1790 - SUPPLY CHAIN MGT INTERNSHIP *
- BUSQOM 1795 - SUPPLY CHAIN MGT INDP STUDY **

Organizational Behavior

- BUSORG 1640 - THE ENTREPRENEURSHIP PROCESS
- BUSORG 1645 - CORPORATE ENTREPRENEURSHIP
- BUSORG 1650 - ISSUES IN CAREER MANAGEMENT
- BUSORG 1655 - INT'L DIMENSNS ORGNZTNL BEHAV
- BUSORG 1660 - MANAGING DIVERSTIY IN ORGNIZTN
- BUSORG 1670 - ORGANIZATIONAL BEHAVR IND STDY **

Note:

* Plans for Internships must be approved by CBA Career Services before registration for the course is permitted. Internships will not be counted toward fulfilling Major requirements for students declaring after August 26, 2012.

** Plans for Independent Study courses must be approved by the Associate Dean before registration for the course is permitted.

Global Management, BSBA

BSBA Degree Requirements

The following sections describe the general requirements for all majors within the Bachelor of Science in Business Administration (BSBA) degree program:

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Graduation Requirements

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A student may use one course to fulfill two arts and sciences requirements (e.g., ANTH 1772 - ANTHROPOLOGY OF WOMEN fulfills both social science and foreign culture requirements).

Arts and Sciences Foundations: Basic Skills Requirements

There are seven basic skills that all BSBA students must master; these basic skills prepare students for future classes. The basic skills requirements include:

English Composition

- Students who earn 500 or above on SAT Verbal (Critical Reading) are placed into Seminar in Composition (or equivalent course).
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All students are strongly encouraged to complete their English composition requirement(s) in the freshman year.

Students earning a score of 600 on the critical reading portion of the SAT, who also earn a score of 5 on the Advanced Placement (AP) English exam, will be awarded advanced standing credit for ENGCMP 0200 - SEMINAR IN COMPOSITION and 3 additional credits in English composition.

Second Language

Any one of the following fulfills the language requirement:

- Three years of study of a single second language in high school, passed with an average of C or better over the three years.
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- Placement into level II of a second language on a University of Pittsburgh language placement test and completion of the appropriate course from the second course list below.
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Students should discuss specific foreign language course options with their academic advisor.

Calculus

Taking one course from the following list fulfills this requirement:
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- MATH 0120 - BUSINESS CALCULUS
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  or both
- MATH 0125 - CALCULUS FOR BUSINESS 1 and
- MATH 0126 - CALCULUS FOR BUSINESS 2

Statistics

- STAT 1100 - STAT & PROBLTY FOR BUS MGT fulfills this requirement.

Economics

Both of the following courses must be taken to fulfill this requirement:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY

Arts and Sciences General Education Electives

In addition to fulfilling the basic skills requirements, students further supplement their business curriculum by taking courses from six general education categories including:

- Literature (one course)
- Music/art (one course)
- Philosophy (one course)
- Social sciences (two courses, each from a different discipline)
- Natural sciences (two courses)
- Foreign culture (two courses or participation in an approved study abroad program)

Note: *All students, including international students and U.S. citizens who have lived abroad for any length of time, must complete the foreign culture requirement.*

Contact the school for a complete listing of approved courses that meet these elective requirements.

Business Core Curriculum

The Business Core Curriculum:

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- BUSENV 0060 - MGRL ETHICS & STAKEHOLDER MGT
- BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
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- BUSFIN 1030 - INTRODUCTION TO FINANCE (prerequisite 30 credits)
- BUSMKT 1040 - INTRODUCTION TO MARKETING (prerequisite 30 credits)
- BUSECN 1010 - MANAGERIAL ECONOMICS (prerequisite 30 credits)
- BUSQOM 1070 - OPERATIONS MANAGEMENT
- BUSSPP 1080 - STRATEGIC MANAGEMENT

Other Business Requirements

CBA students must also satisfy one of the following requirements:

BUS 0010 - YOUR ACADEMIC & CAREER SUCCESS This one-credit course is required of all first-time CBA freshmen. In the course, new BSBA students will explore the majors offered in CBA, investigate global opportunities, develop networking and professional skills, create a resume, and learn how to connect with CBA's Career Services team regarding events, internship opportunities, and career development.

BUS 0020 - YOUR CAREER SUCCESS This one-credit course is required of all new CBA transfer students. In the course, students will participate in career exploration, develop and implement a personal strategy for career goal setting and planning, learn and practice communication and other professional skills, and become familiar with the internship and job search processes.

Requirements

The global management major enables students to develop expertise in important dimensions of management in a global context. The GLMGT major requires six (6) courses exposing students to the management of people (International Dimensions of Organizational Behavior, Global Workforce Policy), process (Managing Global Supply Chains), and policy (International Economic Issues for Managers; Global Strategy and Competitive Advantage), plus an integrative, senior-level course, focusing on either a company project or a major global industry. We see these three dimensions as intertwined and mutually critical for those who seek to add value to the management function of today's organizations and the firms of tomorrow. To the core understanding of a traditional management foundation, we add knowledge of a second language at the conversational level with the goal of preparing students to conduct business in a second language.

Second Language Requirement

Global management majors must complete second language study through Level 4 at the University of Pittsburgh with a minimum grade of C+ in each course, along with an additional 3-credit course in the language, also to be completed with a minimum grade of C+. If, for a particular language, the University offers instruction only through Level 4, this requirement is fulfilled by 3 credits of a course specific to the region in which the language is widely spoken, completed with a minimum grade of C+. For students already fluent in a second (or third) language, it is required that they will earn at least 8 credits in another language with a minimum grade of C+ in each course.

A student is not permitted to earn both a Global Management major and a Certificate in International Business.

Required Global Management Major Courses

Earn a minimum grade of C (2.00) in each of the following prerequisites to GLM courses:

- BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY
- BUSHRM 1050 - HUMAN RESOURCES MANAGEMENT
- BUSQOM 1070 - OPERATIONS MANAGEMENT
- BUSSPP 1080 - STRATEGIC MANAGEMENT

Global management majors must successfully complete the following courses

Global management majors must successfully complete the following courses with a C- or better in each course and a cumulative grade point average of 2.25.

- BUSORG 1655 - INT'L DIMENSNS ORGNZTNL BEHAV
- BUSECN 1508 - INT'L ECON FOR MANAGR
- BUSHRM 1670 - GLOBAL WORKFORCE MGT & CHANGE
- BUSSCM 1730 - MANAGING GLOBAL SUPPLY CHAINS
- BUSSPP 1740 - GLBL STRATEGY & COMPV ADVNTG
- BUSSPP 1745 - PROJECTS IN GLOBAL MANAGEMENT

Note:

Global management majors must also earn a minimum GPA of 2.25 in nine (9) credits of second language beyond Level II or 6 credits of language beyond Level II plus 3 credits of a course specific to the region in which the language is widely spoken.

Complete a study abroad experience of at least four weeks in an internationally-based educational or work experience, preferably one making active use of a student's second language training. With permission, up to six (6) credits of the major area courses may be taken abroad as part of a semester study outside of the U.S. Permission will be based on examination of all course material.

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Human Resources Management, BSBA

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Economics

Both of the following courses must be taken to fulfill this requirement:

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Arts and Sciences General Education Electives

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- BUSQOM 0050 - QUANTITATIVE METHODS
- BUSENV 0060 - MGRL ETHICS & STAKEHOLDER MGT
- BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
- BUSORG 1101 - FUNDAMNTLS OF BUS COMMUNICTN (prerequisite 30 credits)
- BUSFIN 1030 - INTRODUCTION TO FINANCE (prerequisite 30 credits)

- BUSMKT 1040 - INTRODUCTION TO MARKETING (prerequisite 30 credits)
- BUSECN 1010 - MANAGERIAL ECONOMICS (prerequisite 30 credits)
- BUSQOM 1070 - OPERATIONS MANAGEMENT
- BUSSPP 1080 - STRATEGIC MANAGEMENT

Other Business Requirements

CBA students must also satisfy one of the following requirements:

BUS 0010 - YOUR ACADEMIC & CAREER SUCCESS This one-credit course is required of all first-time CBA freshmen. In the course, new BSBA students will explore the majors offered in CBA, investigate global opportunities, develop networking and professional skills, create a resume, and learn how to connect with CBA's Career Services team regarding events, internship opportunities, and career development.

BUS 0020 - YOUR CAREER SUCCESS This one-credit course is required of all new CBA transfer students. In the course, students will participate in career exploration, develop and implement a personal strategy for career goal setting and planning, learn and practice communication and other professional skills, and become familiar with the internship and job search processes.

Marketing, BSBA

BSBA Degree Requirements

The following sections describe the general requirements for all majors within the Bachelor of Science in Business Administration (BSBA) degree program:

The degree requirements applicable to a particular student are based upon the student's term of entry into the program and reflect any requirement changes that have been approved since this bulletin was published. These requirements and the student's progress toward the BSBA degree are noted on the student's online Undergraduate Advisement Transcript.

Graduation Requirements

One-hundred twenty credits are required for graduation with a BSBA degree. A minimum of 51 credits must be taken in the arts and sciences.

A student may use one course to fulfill two arts and sciences requirements (e.g., ANTH 1772 - ANTHROPOLOGY OF WOMEN fulfills both social science and foreign culture requirements).

Arts and Sciences Foundations: Basic Skills Requirements

There are seven basic skills that all BSBA students must master; these basic skills prepare students for future classes. The basic skills requirements include:

English Composition

- Students who earn 500 or above on SAT Verbal (Critical Reading) are placed into Seminar in Composition (or equivalent course).
- Students who earn below 500 on SAT Verbal (Critical Reading) will be placed into a Workshop in Composition course.
- Recommendations for ENGCMP 0201 or ENGCMP 0151 (tutorials) will be based on class diagnostic writing during add/drop period.
- English as a Second Language students will be placed into appropriate courses based on English Language proficiency.

All students are strongly encouraged to complete their English composition requirement(s) in the freshman year.

Students earning a score of 600 on the critical reading portion of the SAT, who also earn a score of 5 on the Advanced Placement (AP) English exam, will be awarded advanced standing credit for ENGCMP 0200 - SEMINAR IN COMPOSITION and 3 additional credits in English composition.

Second Language

Any one of the following fulfills the language requirement:

- Three years of study of a single second language in high school, passed with an average of C or better over the three years.
- Placement into level III of a second language on a University of Pittsburgh language placement test.
- Placement into level II of a second language on a University of Pittsburgh language placement test and completion of the appropriate course from the second course list below.
- Completion of an approved two course sequence of a foreign language.

Students should discuss specific foreign language course options with their academic advisor.

Calculus

Taking one course from the following list fulfills this requirement:
Note: *Only one of these courses may apply to the 120 total credits required for graduation.*

- MATH 0120 - BUSINESS CALCULUS
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
  or both
- MATH 0125 - CALCULUS FOR BUSINESS 1 and
- MATH 0126 - CALCULUS FOR BUSINESS 2

Statistics

- STAT 1100 - STAT & PROBLTY FOR BUS MGT fulfills this requirement.

Economics

Both of the following courses must be taken to fulfill this requirement:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY

Arts and Sciences General Education Electives

In addition to fulfilling the basic skills requirements, students further supplement their business curriculum by taking courses from six general education categories including:

- Literature (one course)
- Music/art (one course)
- Philosophy (one course)
- Social sciences (two courses, each from a different discipline)
- Natural sciences (two courses)
- Foreign culture (two courses or participation in an approved study abroad program)

Note: *All students, including international students and U.S. citizens who have lived abroad for any length of time, must complete the foreign culture requirement.*

Contact the school for a complete listing of approved courses that meet these elective requirements.

Business Core Curriculum

The Business Core Curriculum:

The following courses (36 credits) are required of all CBA students:

- BUSSPP 0020 - MANAGING IN COMPLX ENVIRONMNTS
- BUSACC 0030 - FINANCIAL ACCOUNTING
- BUSACC 0040 - MANAGERIAL ACCOUNTING
- BUSQOM 0050 - QUANTITATIVE METHODS
- BUSENV 0060 - MGRL ETHICS & STAKEHOLDER MGT
- BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
- BUSORG 1101 - FUNDAMNTLS OF BUS COMMUNICTN (prerequisite 30 credits)
- BUSFIN 1030 - INTRODUCTION TO FINANCE (prerequisite 30 credits)
- BUSMKT 1040 - INTRODUCTION TO MARKETING (prerequisite 30 credits)
- BUSECN 1010 - MANAGERIAL ECONOMICS (prerequisite 30 credits)
- BUSQOM 1070 - OPERATIONS MANAGEMENT
- BUSSPP 1080 - STRATEGIC MANAGEMENT

Other Business Requirements

CBA students must also satisfy one of the following requirements:

BUS 0010 - YOUR ACADEMIC & CAREER SUCCESS This one-credit course is required of all first-time CBA freshmen. In the course, new BSBA students will explore the majors offered in CBA, investigate global opportunities, develop networking and professional skills, create a resume, and learn how to connect with CBA's Career Services team regarding events, internship opportunities, and career development.

BUS 0020 - YOUR CAREER SUCCESS This one-credit course is required of all new CBA transfer students. In the course, students will participate in career exploration, develop and implement a personal strategy for career goal setting and planning, learn and practice communication and other professional skills, and become familiar with the internship and job search processes.

Requirements

The major in marketing is designed to provide students with the conceptual background and practical skills necessary to address questions such as what new products a firm should introduce, how products should be priced, how to identify the best channels of distribution, and how best to promote new and existing products. Students majoring in marketing can pursue careers in retailing, sales management, marketing research, advertising and promotion, consumer product marketing, or industrial marketing.

In addition to the general BSBA requirements, 18 credits in marketing course work, plus the BSBA core course BUSMKT 1040 - INTRODUCTION TO MARKETING, are required for the marketing major.

BSBA Core Course in Marketing

Students must complete this course with a C or better to be eligible to take additional marketing courses:

- BUSMKT 1040 - INTRODUCTION TO MARKETING

Required Marketing Major Courses

- BUSMKT 1411 - MARKETING RESEARCH
- BUSMKT 1441 - CONSUMER BEHAVIOR

Marketing Electives

Courses are offered on a rotating basis.
(A minimum of four courses must be taken.)

- BUSMKT 1422 - PRINCIPLES OF SELLING
- BUSMKT 1425 - SALES FORCE MANAGEMENT

- BUSMKT 1426 - ADVRTSNG AND SALES PROMOTION
- BUSMKT 1427 - PUBLIC RELATIONS MANAGEMENT
- BUSMKT 1428 - DIGITAL & SOCIAL MEDIA MARKTNG
- BUSMKT 1431 - PRODUCT DEVELOPMNT & MGMNT
- BUSMKT 1435 - SERVICES MARKETING
- BUSMKT 1451 - RETAIL MANAGEMENT
- BUSMKT 1461 - INTERNATIONAL MARKETING
- BUSMKT 1481 - BRAND MANAGEMENT
- BUSMKT 1485 - PROJECTS IN MARKETING
- BUSMKT 1490 - MARKETING INTERNSHIP (requires CBA approval)
- BUSMKT 1495 - MARKETING INDEPENDENT STUDY (requires CBA approval)
- BUSSCM 1730 - MANAGING GLOBAL SUPPLY CHAINS

Supply Chain Management, BSBA

BSBA Degree Requirements

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Certificate

International Business Certificate

The Certificate Program in International Business (CPIB) builds upon the core curriculum in the College of Business Administration and is available only to BSBA students. Requirements include satisfactory completion of level 4 of a second language (a two-year, four-course sequence at the University of Pittsburgh), specialized course work, and one term of approved study abroad or an international internship (3-12 credits). Students majoring in Global Management may not also earn the Certificate in International Business.

Leadership and Ethics Certificate

The Certificate Program in Leadership and Ethics (CPLE) builds upon the core curriculum in the College of Business Administration and is available only to BSBA students. Students admitted to the CPLE will be required to successfully complete all requirements for the BSBA degree requirements including satisfactory completion of specialized course work, internships, and a service-learning project integrating ethics and leadership.

Supply Chain Management Certificate

The Certificate in Supply Chain Management (CSCM) is offered jointly by the College of Business Administration and Swanson School of Engineering. Enrollment is available to BSBA students and students enrolled in the BS engineering programs in the School of Engineering. The CSCM provides students with the opportunity to understand important concepts in supply chain management and develop managerial and technical skills which are highly valued in today's corporate environment. The program also offers an international travel experience for students to gain hands-on exposure to global supply chain organizations. The CSCM requires 15 credits and is comprised of coursework offered by both CBA and the School of Engineering.

Pitt Business

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Haimanti Banerjee, Clinical Assistant Professor, PhD, University of Iowa

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Kimberly Gleason, Clinical Associate Professor of Business Administration

Deborah Good, Clinical Assistant Professor of Business Administration

Josh Gunn, Assistant Professor of Business Administration, PhD, University of Missouri

Paul Harper, Clinical Assistant Professor of Business Administration, University of Virginia

G.G. Hegde, Associate Professor of Business Administration, PhD, University of Rochester

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Zia Hydari, Assistant Professor of Business Administration, PhD, Carnegie Mellon University

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Vanitha Swaminathan, Thomas Marshall Professor of Marketing, PhD, University of Georgia

Pandu R. Tadikamalla, Professor of Business Administration, PhD, University of Iowa

Ryan A. Teeter, PhD, Rutgers University

Shawn Thomas, Professor of Business Administration and J.R. Allen Faculty Fellow, PhD, University of Florida

Gary Tsarsis, Clinical Assistant Professor of Business Administration, PhD, Pace University

Luis Vargas, Professor of Operations, Decision Science and Artificial Intelligence, PhD, University of Sevilla

R. Venkatesh, Professor of Business Administration and Area Director, Marketing & Business Economics, PhD, University of Texas

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Richard E. Wendell, Professor of Business Administration, PhD, Northwestern University

Yun-Oh Whang, Clinical Assistant Professor of Business Administration, PhD, University of Southern California

Eugenia Wu, Assistant Professor of Business Administration and Katz Faculty Fellow in Marketing, PhD, Duke University

Yue Wu, Assistant Professor of Business Administration, PhD, INSEAD

Chad J. Zutter, Associate Professor of Business Administration and Dean's Excellence Faculty Fellow, PhD, Indiana University

College of General Studies

The College of General Studies provides adult and nontraditional students with a wide variety of learning options. Students who enroll in the College of General Studies can complete a Bachelor of Arts or Bachelor of Sciences degree in career-oriented fields and in concentrations in the arts and sciences. In addition to a degree, students may prepare for transfer to any of the University's upper-division and professional schools. The college also offers a wide range of certificate programs in specialized fields such as health services, accounting, and information sciences. For those students who already have a degree but desire career-related study or preparation for graduate study, the College of General Studies permits them to register in a non-degree program. The College of General Studies uses the same faculties as Arts and Sciences and the professional schools of the University to provide instruction.

Professors and instructors teaching for the College of General Studies come from the following seven undergraduate and professional schools across the University of Pittsburgh: Dietrich School of Arts & Sciences, College of Business Administration, School of Dental Medicine/Dental Hygiene Program, Graduate School of Public and International Affairs, School of Health and Rehabilitation Sciences, School of Information Sciences, and School of Nursing. CGS instructors include full-time faculty, regular part-time faculty, adjunct, graduate students, and professionals and leaders from throughout the greater Pittsburgh region.

The College of General Studies (CGS) targets its curriculum to adult and transfer students who have been out of high school at least two years. Most of the students attending the college have full-time work or family responsibilities and therefore take full advantage of the unique delivery systems available for instruction. Students may enroll in traditional day classes, evening classes, or Saturday classes; they may attend one of the suburban locations; or they may enroll for CGS Online courses.

Contact Information

University of Pittsburgh
College of General Studies
1400 Wesley W. Posvar Hall
230 South Bouquet Street
Pittsburgh, PA 15260
412-624-6600
Fax: 412-624-5461
E-mail:cgs@pitt.edu
http://www.cgs.pitt.edu

Financial Aid

The Office of Admissions and Financial Aid handles all financial aid processing for College of General Studies students. Obtain information regarding the necessary forms and important deadline dates from the University's financial aid Web site, http://www.oafa.pitt.edu/fahome.aspx or call 412-624-7488.

Students who wish to be considered for supplemental financial aid may apply through the Office of the Associate Dean, College of General Studies. Students must have a completed current application for University assistance and all federal programs, including loans, on file with the Office of Admissions and Financial Aid located in Alumni Hall (forms are available on the financial aid Web site). CGS supplemental aid is awarded on a rolling basis and is need-based. The CGS supplemental financial aid application is available at www.cgs.pitt.edu/admissions.

Academic and need-based scholarships are available through CGS. Information concerning these scholarships for enrolled CGS students is available at www.cgs.pitt.edu/admissions.

Career Services

A CGS career consultant is available to assist students with the formulation of career objectives and preparation for the job search. Various seminars are offered throughout the year, and a variety of resource materials are available for student use. For more information on CGS career services, visit: http://www.cgs.pitt.edu/student-services/career-services.

Registration

College of General Studies students can now self register using the University portal, www.my.pitt.edu. Enrollment periods are posted in the Student Center prior to each term.

Class Locations and Times

Students in the College of General Studies have an array of options for where and when to pursue their course work.

Pittsburgh Campus

The full range of courses offered by the College of General Studies is available at the Pittsburgh campus. The 120-acre campus is located in Oakland.

Off-Campus Program

Off-campus classes are currently offered in Butler County to increase accessibility to higher education. Courses are offered for degree credit in the arts and sciences and in a few professional areas, but full majors are not available. Faculty for all off-campus courses are provided by the academic schools and departments of the University.

CGS Online

CGS Online provides students with the opportunity to earn credit towards degrees and certificates through three unique course formats. All courses offered through CGS Online are Web-based, meaning that most course materials can be accessed through CourseWeb, the University's course management system. CGS Online courses are offered in the following formats:

- **Web** courses feature web-based instruction and interaction. Students interact with their instructors and other students through the class web site. Students complete the course requirements within one term and move through the course materials as a cohort.
- **Hybrid** courses combine web-based interaction and face-to-face instructions. Students are required to attend scheduled workshops and participate in online discussions and activities. Students complete the course requirements within one term and move through the course materials as a cohort.
- **Self-paced** courses utilize a flexible format where students move through assigned course materials at their own pace. Workshops, proctored exams and web-based activities are features of some of the courses. The course syllabus provides more information about the activities for these courses.

CGS Online courses meet the same standards for content excellence and expert instruction as our traditional classroom courses.

Saturday Classes

Saturday classes are offered on the Pittsburgh campus for students who find Saturday a convenient time to attend class.

Class Meeting Times

In general, courses meet 50 minutes per week for each credit hour awarded. Most courses are three credits and meet once a week for two-and-a-half hours. Courses including recitations or lab sections may have longer class times.

Admission Requirements

Admission requirements vary based on the program the student is applying to and are detailed as follows.

Degree-Seeking Students

Those students who desire to complete a degree at the University of Pittsburgh, either in the College of General Studies or ultimately transferring elsewhere in the University, are required to apply as degree-seeking students through the University's Office of Admissions and Financial Aid (OAFA). Students applying as degree-seeking students must provide

- A completed application,
- The $45 application fee,
- A high school transcript, and
- Transcripts from all colleges or universities previously attended.

Once this information has been provided, students will be reviewed for admission. OAFA makes all admission decisions on an individual basis in a holistic way, with past performance and future potential considered. While it is not required, it is highly recommended to have the strongest application possible that students complete the Short Answer Questions form to highlight past and/or work experiencss, training, educational pursuits, and explain any exceptional circumstances that they believe the Admission Committee should take into account in reviewing their records. Students are also encouraged to provide letters of recommendation.

Students must meet a number of specific admissions criteria, depending on their previous experience. A selection of these criteria follows below. For details, refer to the Office of Admissions and Financial Aid website:

- Less than two years since high school graduation: To be considered for admission, recent high school graduates must apply for Arts and Sciences admission and must meet the regular standards for admission as defined by Arts and Sciences. (See Pittsburgh Campus Freshman Admissions section of this bulletin for details.) Students may apply for transfer to the College of General Studies after completing 12 credits, including the mathematics and seminar in composition requirements.
- More than two years since high school graduation: Less weight is given to high school performance. Evidence of maturity, motivation, ability, and consistency as reflected in the fulfillment of adult responsibilities are an important basis for the admission decision.
- GED/high school equivalency: Students scoring at the 50th percentile or higher may be considered for admission.
- Disciplinary dismissal: Students who are dismissed from a college or university for disciplinary reasons must provide documentation from a college official stating the reason(s) for dismissal.

Certificate Program Admission

Students looking to broaden their educational experience or seeking professional development may elect to enroll in an academic certificate program. Certificate programs offer a course concentration in a specific area of study and may partially fulfill the student's degree requirements.Students seeking admission to one of the certificate programs in the College of General Studies must meet CGS certificate admission criteria and complete the CGS online application. Students are required to provide transcripts from all colleges and universities attended. Students must take at least one half of the coursework for the certificate at the University of Pittsburgh and earn a 2.0 or better GPA in certificate courses. The certificates offered by CGS are as follows:

- Accounting (postbaccalaureate program)
- Communication
- Community health assessment
- Corporate/community relations
- Digital media
- Gender, sexuality, and women's studies
- Information system design
- Leadership
- Managing health services programs and projects
- National preparedness and homeland security
- Nonprofit management
- Writing
- Writing for the professions

* Please note that the Leadership certificate must be earned in conjunction with a degree. To enter the Accounting certificate, students must already have a bachelor's degree with at least a 2.75 GPA.

Non-degree Admission

Postbaccalauriate Students

Students who already hold a bachelor's degree and desire to complete University course work as preparation for graduate study or for personal or professional interest, but do not desire to complete a second degree, may apply for admission as non-degree students. These students need to complete the CGS online application for admission and provide transcripts for all previous college work. Students who enroll under this program and later desire to earn a degree will be reviewed for admission under the normal admission criteria.

Guest, Visiting, and Summer Visiting Students

Guest, Visiting, and Summer Visiting students are students enrolled in an undergraduate degree program at another university who plan to take courses for credit at the University of Pittsburgh with the intention of transferring those courses back to their home institution. To be eligible for admission, students must have a minimum 2.5 cumulative or overall GPA. Guest student status is given for one semester only. Students apply through the CGS online application. Admissions is rolling. Applications should be submitted at least 2 weeks prior to the start of classes.

Inactive Student Re-admission/Reinstatement

Reinstatement is necessary for any Pitt student in good standing, who is seeking re-admission to CGS and has not registered for at least one course in three consecutive terms. Such students are considered "inactive" and must reapply to the College of General Studies before they can register for class, completing all applications and resubmitting all official transcripts, if necessary, and paying the application fee. Students who have not been enrolled in CGS or some other college or school within the University for more than six terms or two calendar years must follow all academic policies in effect at the time of their re-admission to CGS. Students who have not been enrolled for less than the six terms or two calendar years will be treated as continuously enrolled students and as such will have a choice to follow any new policies or those in existence prior to the end of their previous enrollment.

Early Admission Option for Graduate Study

Students with a GPA of 3.5 or better planning to pursue graduate work at the University of Pittsburgh may want to consider the Early Admission Option for Graduate Study. This option allows students to use the first 24 credits of graduate work as the last 24 elective credits of their undergraduate program. The following graduate schools at Pitt allow this option in conjunction with the CGS degree program: the Graduate School of Public and International Affairs and the Graduate School of Public Health. The School of Law has a similar program for it's Master of Studies in Law Degree program for CGS Legal Studies students.

Guidelines:

- Students must be superior graduate school candidates and be admitted to the Pitt graduate program. Admissions requirements can be obtained from the graduate schools.
- Students must complete a minimum of 96 credits toward the CGS degree, including all general education and major requirements, before the graduate program begins. In addition, the last 30 of the 96 undergraduate should be in residence in CGS. Satisfactory completion of these requirements does not guarantee acceptance into the graduate program. This decision is made by the graduate program.
- The graduate program must include at least 24 credits of graduate-level coursework. Students must earn a B or better grade in all graduate coursework. (S or H grades in the MSL program)
- Twenty-four credits is the maximum number of graduate credits that can be used to fulfill elective requirements of the undergraduate degree. A student may seek to use fewer than 24 graduate credits toward their elective credits if they have already partially fulfilled their elective requirements.

Note: Students who choose this option must be aware that enrolling as a graduate student may affect their financial aid package. Students are responsible for contacting the Financial Aid Office regarding this issue.

International Admission

International students (applicants from other countries on student visas) who are interested in full-time attendance in programs offered only in the College of General Studies must first contact the International Student Admissions Officer, Office of International Services, 708 William Pitt Union, Pittsburgh, PA 15260. (See the International Student Admissions Section of this bulletin.)

Advanced Standing Policy

Applicants must submit official transcripts from each accredited college or university attended, whether or not it is intended that the courses be counted toward a degree. Grades for credits transferred are not used in computing a student's grade point average (GPA). All credits eligible for transfer are subject to the following regulations:

- Only courses with C or better grades will be considered for transfer.
- Courses must correspond with those offered by the University in objectives and content.
- The number of credits granted for a given course cannot exceed the number on the transcript from the school where they were earned, nor can it exceed the number earned in the corresponding courses at the University of Pittsburgh.
- A maximum of 90 credits may be transferred from a four-year institution and 60 credits from a two-year institution, however no more than 90 credits can be transferred.
- While the College of General Studies does not have a statute of limitations, it does reserve the right to invalidate some courses for transfer in which the content is outmoded.
- Students in CGS degree programs may transfer up to 18 credits of professional courses as electives (e.g. business, engineering, nursing, etc.).
- All transfer credits are subject to reevaluation if a student transfers from one school to another or from one major to another within the University of Pittsburgh or becomes inactive and is subsequently readmitted.
- If a course for which advanced standing is given is repeated at the University of Pittsburgh, the advanced-standing credit is cancelled.

Advanced Placement and Credit by Examination

Students in CGS may also earn advanced standing credits through the following means:

College Level Examination Program (CLEP)

The CLEP program provides a way of earning college credits through testing. Specific regulations governing the awarding of CLEP general examination credits are available by calling 412-624-6600, from an academic advisor, or at www.cgs.pitt.edu.

Credit by Examination

Students may earn credits toward graduation by successfully completing examinations in courses offered in the College of General Studies. Such examinations must be arranged through both the office of the CGS Associate Dean and the department teaching the course for which credit is desired. Many courses, except those with laboratories, special restrictions, or in the performing arts, may be challenged by examination. Course-specific credit by examination is open to all students enrolled in the College of General Studies who are in good academic standing. Cost for the exam is $10 per credit.

Once a student has enrolled in a course at any institution (including the University of Pittsburgh) and received a grade, including a grade for incomplete work, the student cannot be given credit toward graduation by taking a challenge examination for that course.

Students may be given credit for successfully completed the advanced-standing tests of the College Entrance Examination Board.

Students who are majoring in administration of justice and who have successfully completed Pennsylvania Act 120 or state police cadet training can receive up to 15 credits of advanced standing. The credits are awarded for specific courses.

Credits earned in aerospace science (Air Force ROTC), military science (Army ROTC), or naval science (Navy ROTC) through cross registration at Carnegie Mellon University are accepted toward a College of General Studies degree. CGS will grant up to four credits toward graduation for the

following courses in lieu of or in combination with physical education courses: AFROTC 0001, AFROTC 0002, AFROTC 0003, and AFROTC 0004; MILS 0011, MILS 0012, MILS 0021, and MILS 0022; or freshman/sophomore level Navy ROTC courses from CMU.

Also, four junior and senior level courses from these three ROTC programs may be used as professional electives for the CGS degree program, if professional electives are permitted. These courses are AFROTC 1013, AFROTC 1014, AFROTC 1015, and AFROTC 1016 (all 3-credit courses); MILS 1031, MILS 1032, MILS 1041, and MILS 1042 (all 1-credit courses); and similar courses from Navy ROTC.

Internships

An internship is a supervised, work-related experience, volunteer or paid, which is related to an academic discipline and is sponsored, evaluated, and graded by a University faculty member. The internship is a new experience and does not represent credit for past work or continuation of the current employment situation. A detailed outline of CGS internship requirements is available from CGS academic advisers, and at www.cgs.pitt.edu.

PLEASE NOTE: Several CGS majors require that you complete an internship at a facility that may or will require a criminal background check, an ACT 33/34 clearance, and perhaps a drug screen to determine whether you are qualified to participate in the internship. Additionally, in order to become licensed or employed, many states will inquire as to whether the applicant has been convicted of a misdemeanor, a felony, or a felonious or illegal act associated with alcohol and/or substance abuse.

Study Abroad

College of General Studies students are encouraged to enhance their undergraduate education by including a study abroad experience. Credit may be earned toward a CGS degree through participation in either Pitt-sponsored, exchange, or Pitt-recognized programs. Students may study in virtually any part of the world in these programs or others offered by many American and international institutions. Some programs are of short duration to fit the schedules of students with extensive work, family and other commitments.

Before study abroad is undertaken, approval for credit must be obtained. The study abroad advisor provides program approval and the CGS advisor approves the course selections and credits. Students should have at least a 2.75 GPA before seeking permission to study abroad.

Visit the Study Abroad Office in Room 802 William Pitt Union, call 412-648-7413, or review www.abroad.pitt.edu for more information.

Academic Standards

The College of General Studies' Guidelines on Academic Integrity outlines obligations of both students and instructors for maintaining academic integrity in CGS classes. An electronic copy of this publication, which lists the obligations, procedures, penalties, and remedies for maintaining such integrity, is available on the College of General Studies website.

Graduation Requirements

- Students must apply for graduation from CGS at the beginning of the term when completing the necessary credits in the graduate program. Students must have minimum of 120 credits in order to graduate.
- Students receive a BA or BS degree depending upon the CGS major. The final undergraduate transcript will specify the major completed in CGS.
- The GPA for graduation from CGS will be calculated solely on the earned Pitt credits on the undergraduate transcript. The graduate program courses appear on the graduate transcript and the undergraduate transcript is noted: Baccalaureate degree awarded in conjunction with graduate degree.
- In order for CGS students to graduate with honors from the University, they must have at least 60 letter-graded University of Pittsburgh credits at the undergraduate level. Courses at the graduate level and undergraduate courses graded S or H are not included in this 60 credit requirement.

The Bachelor of Arts or Bachelor of Science degree will be awarded upon the fulfillment of the following conditions:

- Completion of at least 120 credits of University work in one of the prescribed curricular courses, by advanced standing, or by examinations.

- Completion of at least one-half of the major or 15 credits, whichever is greater, at the University of Pittsburgh, Pittsburgh campus.
- Completion of the senior year (30 credits) in the College of General Studies.
- Attainment of at least a cumulative grade point average of 2.00 in courses taken at the University of Pittsburgh.
- Attainment of at least a cumulative grade point average of 2.00 in the major.
- Satisfactory completion of all required CGS and major courses.

Grading Policy

There are two grading options available to students registering for courses offered by the College of General Studies: the letter grade option and the satisfactory/no-credit (S/NC) option (formerly the S/N option). (See the Grading and Records section of this bulletin for additional details on the two systems.)

Students must choose the grading option they desire when self-registering or by submitting a Grade Option/Audit Request form by the end of the fourth full week of classes during a term (second full week of classes during summer sessions 1 and 2). This decision may not be changed. Grade Option/Audit Request forms are available in the CGS registration center, 1400 Wesley W. Posvar or at www.registrar.pitt.edu/ under grades. If the student does not fill out a Grade Option/Audit Request form for a course in which more than one grade option is available, the default option (generally a letter grade) will automatically be selected.

There are two limitations to the choice of the satisfactory/no-credit (S/NC) grade option in the College of General Studies:

1. Departments may decide which courses are required for the major and if any may be taken as satisfactory/no-credit. Departmental rules may cover not only courses within the department but those in other departments that are considered essential to the major. Students should be sure before selecting this grading option that their decision will not have an adverse effect on their plans for majoring in a particular field.
2. Under certain circumstances, departments may declare a course available only for a letter grade or as satisfactory/no-credit. In such courses students will not have a choice for the other grade option.

G Grade

The G grade signifies unfinished course work due to extenuating personal circumstances. Students assigned G grades are required to complete course requirements with the same instructor assigning the G grade. A course in which a student has received a G grade cannot be completed by sitting in the same course with the same or different instructor in a subsequent term. Exception to these conditions can be granted only by the CGS Associate Dean and must be approved before the G grade is issued.

At the time of requesting a G grade, the student should arrange with the instructor a plan and schedule for completing the course work. The instructor and student should complete the G-grade Request form. G-Grade Request forms are available in the CGS registration office, 1400 Wesley W. Posvar Hall.

Grade Reports

Shortly after the term ends, students can access their grades online via the university portal at www.my.pitt.edu. This report shows the total credits carried, the grade received in each course, and total quality points earned.

Academic Probation

Students who have earned a minimum of 12 credits in the College of General Studies and whose cumulative grade point average falls below 2.00 at the end of any term will be placed on probation. Students placed on probation may be limited to 6-12 credits a term until they have regained good academic standing. Any students placed on probation who fail to regain good academic standing by the time they have completed an additional 12 credits of course work are subject to suspension.

Dean's List

The Dean's List, a recognition of high academic performance, is achieved by degree students each time they complete 12 letter-graded credits in continuous active status in the College of General Studies with a grade point average of 3.5 or higher. Students cannot have incomplete grades in terms reviewed for the Dean's List.

Degrees Conferred

The College of General Studies awards Bachelor of Arts degrees in the following majors:

- Administration of justice
- Health services
- Humanities
- Legal studies
- Liberal studies
- Media and professional communications
- Public service
- Social sciences

Bachelor of Science degrees are awarded in the following majors:

- Dental hygiene
- Health services
- Natural sciences

Program and Course Offerings

Major

Administration of Justice, BA

In American society, the justice system is a central social institution. Its effects on individuals and social groups give it a pivotal role in a changing society. The administration of justice program, offered by the University of Pittsburgh Graduate School of Public and International Affairs, is an upper-division undergraduate course of interdisciplinary study in the liberal arts and sciences that leads to a Bachelor of Arts degree. The goal of this baccalaureate program is to develop an understanding of the evolution, theory, structure, functioning, and processes of change in the total system of criminal justice in our society.

Administration of justice majors develop competence in one of four specialized areas:

- Adult and juvenile corrections
- Law enforcement practice
- Forensics
- Cybercrime

Students in the Butler area may complete this degree program while staying close to home, through a combination of online courses and evening classes at our additional location on the Butler County Community College campus.

Major Requirements

Students must complete a minimum of 120 credits (approximately 40 courses) for the Bachelor of Arts degree with a major in administration of justice. Of this total, 30 credits (10 courses) make up the major, which is satisfied by taking courses to complete the core requirements, area of concentration, and major electives. The remaining credits required for the degree are outlined in the General Education Requirements section on this page.

An outline of the Administration of Justice major requirements follows:

Core Requirements: 12 credits (four courses)

Administration of Justice

- ADMJ 0500 - INTRO TO ADMIN OF JUSTICE
- ADMJ 1400 - INTRODUCTION TO CRIMINAL LAW
- ADMJ 1450 - CRITICAL ISS IN CRIMNL JUSTICE
- CGS 1900 - CHOOSING YOUR PATH: INTERNSHIP (section: 7715)

Area of Concentration: 9 credits (three courses)

Choose one of the four areas of specialization. All courses listed under a given area are required.

Adult and Juvenile Corrections

- ADMJ 1220 - DEVIANCE AND THE LAW
- ADMJ 1300 - INTRODUCTION TO CORRECTIONS
- PSY 1205 - ABNORMAL PSYCHOLOGY

Law Enforcement Practice

- ADMJ 1200 - INTRO TO LAW ENFORCEMENT
- ADMJ 1265 - ADVANCED TOPICS IN CRIMINOLOGY
- ADMJ 1410 - INTRO TO CRIMINAL PROCEDURE

Forensics

- ADMJ 1100 - CRIME SCENE INVESTIGATION
- ADMJ 1115 - CRIMINALISTICS
- LEGLST 1230 - PSYCHOLOGY AND LAW

Cybercrime

- ADMJ 1234 - INTRODUCTION TO CYBERCRIME

Choose two of these four concentration courses

- ADMJ 1236 - INTERNATIONAL ORGANIZED CRIME
- ADMJ 1238 - CYBER SECURTY/LAW/MONY LAUNDER
- ADMJ 1246 - FINANCING TERRORISM
- ADMJ 1425 - PRINCIPLES HOMELAND SECURITY

Major Electives: 9 credits (three courses)

- ADMJ 0100 - SOCIETY AND THE LAW
- ADMJ 0600 - INTRODUCTION TO CRIMINOLOGY
- ADMJ 1100 - CRIME SCENE INVESTIGATION
- ADMJ 1115 - CRIMINALISTICS
- ADMJ 1118 - CRIMINALISTICS LAB

- ADMJ 1200 - INTRO TO LAW ENFORCEMENT
- ADMJ 1205 - INTRODUCTION POLICE MANAGEMENT
- ADMJ 1210 - JUVENILE DELINQUENCY
- ADMJ 1220 - DEVIANCE AND THE LAW
- ADMJ 1225 - THE JUVENILE JUSTICE PROCESS
- ADMJ 1230 - WHITE COLLAR CRIME
- ADMJ 1234 - INTRODUCTION TO CYBERCRIME
- ADMJ 1235 - ORGANIZED CRIME
- ADMJ 1236 - INTERNATIONAL ORGANIZED CRIME
- ADMJ 1238 - CYBER SECURTY/LAW/MONY LAUNDER
- ADMJ 1242 - GENDER, RACE, CLASS, AND CRIME
- ADMJ 1245 - TERRORISM
- ADMJ 1246 - FINANCING TERRORISM
- ADMJ 1265 - ADVANCED TOPICS IN CRIMINOLOGY
- ADMJ 1300 - INTRODUCTION TO CORRECTIONS
- ADMJ 1350 - PROBATION AND PAROLE
- ADMJ 1410 - INTRO TO CRIMINAL PROCEDURE (also offered as LEGLST 1141)
- ADMJ 1425 - PRINCIPLES HOMELAND SECURITY (also offered as PUBSRV 1425)
- ADMJ 1901 - INDEPENDENT STUDY
- CGS 1900 - CHOOSING YOUR PATH: INTERNSHIP

Note:

Other related courses are offered by the disciplines of anthropology, legal studies, political science, psychology, public service, and sociology. Check with a CGS academic advisor for approved courses from these disciplines to satisfy the major's elective requirements.

This major requires that you complete an internship at a facility outside the University, and that facility may require a criminal background check, Act 33/34 clearance, and perhaps drug screening to determine whether you are qualified to participate in the internship. Additionally, in order to become licensed or employed, many states will inquire as to whether the applicant has been convicted of a misdemeanor, a felony, or a felonious or illegal act associated with alcohol and/or substance abuse.

Transfer Credit Agreement

A transfer credit agreement has been established between the criminal justice program at Butler County Community College and the administration of justice program at Pitt. The agreement gives a course-by-course outline of the associate's degree program and the equivalent course or requirement fulfilled for CGS. Courses transfer if graded C or better. For a copy of the transfer agreement for a specific community college, contact CGS.

Police Academy Certification

Students may receive up to 15 transfer credits for completion of Pennsylvania Municipal Police Academy Act 120 or state police cadet training. Certification course work is equivalent to ADMJ 0500, ADMJ 1400, ADMJ 1410, and two ADMJ elective courses.

General Education Requirements

To earn a Bachelor of Arts or a Bachelor of Science degree in the College of General Studies, you must satisfactorily complete a minimum of 120 credits (approximately 40 courses), at least 30 credits of which must be in upper-division (1000-level) courses. These 1000-level courses may come from any of the requirements for the degree listed below. Requirements are subject to change; students should check with an academic advisor before registering. Approved courses are listed each term at www.cgs.pitt.edu

Skills (15 credits minimum)

Certain tools of knowledge are required of all students in the baccalaureate degree program: ability to use the English language orally and in writing and ability to understand and use basic mathematical symbols. The courses required to satisfy each of the skills requirements are listed below:

Oral Communication-3 credits

- COMMRC 0520 - PUBLIC SPEAKING or
- COMMRC 0500 - ARGUMENT

Writing-9 credits minimum

ENGCMP 0200 - 0208 and two other courses from English composition (ENGCMP) or English writing (ENGWRT), or those designated W (writing).

Note: At least 3 credits of composition/writing must be from the University of Pittsburgh.

Mathematics-3 credits minimum

- MATH 0010 - COLLEGE ALGEBRA PART 1 and
- MATH 0020 - COLLEGE ALGEBRA PART 2
  or
- MATH 0025 - APPLIED COLLEGE ALGEBRA or
- MATH 0031 - ALGEBRA or
- CS 0004 - INTRO COMPUTER PROGRMMNG-BASIC or
- CS 0007 - INTRO TO COMPUTER PROGRAMMING

Note:

Students admitted to CGS for the fall term 2008 (2091) and thereafter are required to complete the public speaking, math, and first University writing course (ENGCMP 0200 or above) with a C- or better grade.

Quantitative and Formal Reasoning (3 credits minimum)

In addition to the acquisition of certain tools of knowledge through the skills requirements, students also need to acquire the ability to apply logic and formal reasoning to reading, writing, and thinking. Choose one course from the following list:

- Computer science (an approved course, 3 credits)
- INFSCI 0010 - INTRO TO INFORM, SYS & SOCIETY
- HPS 0611 - PRINCPL OF SCIENTIFIC REASNING
- HPS 0621 - PROB SOLVING: HOW SCI WORKS
- PHIL 0500 - INTRODUCTION TO LOGIC
- MATH 0120 - BUSINESS CALCULUS or a more advanced course
- Statistics (any course, 3-4 credits)

Understandings (27 credits)

A liberal education provides broad exposure to the three major bodies of knowledge-humanities, social sciences, and natural sciences. Students are exposed to social, scientific, aesthetic, moral, and religious information, the purpose of which is to furnish insight into how the concerns of people are interrelated, how knowledge has been accumulated, and how unsolved problems still challenge humanity. The courses needed to fulfill the understandings requirements are listed below.

Humanities (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Japanese*
Classics	Linguistics
Communication	Music
English Composition	Philosophy
English Film	Religious studies
English Literature	Russian*
English Writing	Slovak*
French*	Spanish*
German*	Studio Arts
History of Art and Architecture	Theatre Arts
Italian*	

*literature and culture courses

Social Sciences (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Legal Studies
Anthropology	Political Science
Economics	Psychology
Gender, Sexuality, and Women's Studies	Religious Studies
History	Sociology
Jewish Studies	Urban Studies

Natural Sciences (9 credits)

Three courses distributed over two or three of the disciplines listed below:

Anthropology	History and philosophy of science
Astronomy	Neuroscience
Biological sciences	Physics
Chemistry	Psychology
Geology and environmental science	

As these tables show, some departments have courses used in different categories. For the list of approved courses, view Academics at www.cgs.pitt.edu.

Literature (3 credits)

This requirement introduces students to works of literature that have abiding value and, in the process, to the techniques of literary interpretation. This one-course requirement may also be fulfilled from disciplines other than English.

History (3 credits)

The study of history provides an understanding of contemporary society from the viewpoint of long-term change. This one-course requirement may also be fulfilled with courses other than those offered by the Department of History.

Note

A course can be used to fulfill only one requirement in the categories of understandings, literature, and history.

International Perspective (9 credits minimum)

The world of today is economically, politically, and culturally interdependent. In the 21st century, knowledge of countries has become essential. This three-course requirement may be fulfilled by taking internationally focused courses offered by a variety of departments. At least one of the courses must be a non-Western course. All international courses may overlap with another requirement.

Specialized Study (the Major) (30-36 credits)

The baccalaureate degree, in addition to providing certain skills and broad exposure to the major bodies of knowledge, also allows the opportunity to specialize in a particular field, providing depth of experience essential for vocational competence or further graduate study. An outline of each major may be obtained at the CGS information display in 1400 Wesley W. Posvar Hall or on the CGS Web site, www.cgs.pitt.edu.

Students admitted to CGS can choose from the following majors. The majors indicated by asterisks are also available by combining Saturday and CGS Online courses.

- Administration of justice*
- Dental hygiene (for licensed dental hygienists)
- Health services (BA and BS)
- Humanities*
- Legal studies
- Media and professional communications
- Natural sciences
- Public service
- Social sciences*

Students who want a major in an arts and sciences field can begin in CGS and transfer to Arts and Sciences after completing 12 credits including the mathematics and seminar in composition requirements. Admission is determined by Arts and Sciences.

Electives

Any credits not used specifically to satisfy the previous requirements are considered electives. Electives can be taken in a wide variety of subjects to complement, reinforce, or add further breadth to the chosen program of study or to help meet the requirements of aminor or certificate program. Students may have no more than 18 credits in professional courses, such as administration of justice, business, education, engineering, information science, public service, and social work, as electives.

Preparation for Professional Programs

Prerequisite courses for the following programs may be taken through CGS prior to applying to another Pitt school.

• Business • Education • Engineering • Health and Rehabilitation Sciences • Information Science • Nursing • Pharmacy • Social Work

Notes

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see your advisor for additional information.

For more information, contact the University of Pittsburgh College of General Studies.

Dental Hygiene, BS

Opportunities for health care professionals are becoming available as a result of the changes in health care delivery formats. To prepare dental hygiene graduates for employment opportunities created by these changes, the University of Pittsburgh's College of General Studies and the School of Dental Medicine have developed a course of study that leads to a Bachelor of Science in dental hygiene. This degree is intended for those students who have graduated from accredited dental hygiene programs with a certificate or associate's degree. (See School of Dental Medicine listings in this bulletin for information about the Associate of Science in Dental Hygiene program.) The Bachelor of Science degree enhances the already completed professional training and provides important exposure to the liberal arts. The combination of basic sciences, clinical experiences, and liberal arts strengthens the career opportunities for dental hygienists in business, sales, dental hygiene education, and research.

A distinct advantage of the Bachelor of Science degree is that hygienists can practice their profession following receipt of their certificate in dental hygiene and be employed while completing the requirements for the bachelor's degree. Class schedules can be tailored to work schedules. Classes are available in the evening, during the day, on Saturday, and through CGS Online. Attendance can be on a full-time or part-time basis.

Program Requirements

The following program requirements must be met to receive the Bachelor of Science degree:

- Students must earn a minimum of 131 credits to complete the Bachelor of Science degree. Of this 131-credit total, 30 credits must be at the 1000 (junior/senior) level. The courses must be completed within five years of enrolling in the program.
- Students who are transferring from certificate/associate degree hygiene programs to the College of General Studies (CGS) dental hygiene Bachelor of Science degree program complete 39 credits of CGS general education and dental hygiene track course work.
- At least 30 of the 39 credits must be completed at the University of Pittsburgh. Contact CGS Advising for information about credits that transfer from other institutions or if you completed your dental hygiene certificate at Pitt before 1995.

Required Courses (39 credits)

The required courses are listed below. See the complete list of courses that satisfy requirements.

CGS General Education Courses (33 credits)

- English composition or writing-6 credits
    - Choose from ENGCMP (no 0200-level courses), ENGWRT, and ENGLIT/Writing courses.
- Mathematics-3 credits
    - Choose one algebra or computer programming course.
- Humanities-6 credits
    - Choose courses from two of these departments/programs: Africana studies, Chinese, classics, communication, English literature, French, German, history of art and architecture, Italian, Japanese, Korean, linguistics, music, philosophy, religious studies, Russian, Slavic, Slovak, Spanish, studio arts, or theatre arts. One course must be a 1000-level course.
- Social sciences-3 credits
    - Choose a 1000-level course from one of these departments/programs: Africana studies; anthropology; economics; history; Jewish studies; legal studies; political science; psychology; religious studies; urban studies; or gender, sexuality, and women's studies.

- Literature-3 credits
    - Choose one literaruture course.
- History-3 credits
    - Choose one history course.
- International perspective-6 credits
    - Choose two international courses (may include non-Western courses).
- Non-Western-3 credits
    - Choose one non-Western international course.

Dental Hygiene Tracks (6 credits)

Students must choose a concentration in health management, education, or research.

Health Management

- DENHYG 1921 - HEALTH MANAGEMENT SEMINAR
- DENHYG 1922 - HEALTH MANAGEMENT PRACTICUM

Education

- DENHYG 1901 - ALLIED HEALTH EDUCATION
- DENHYG 1902 - ALLD HEALTH EDUCATION PRACTCM

Research

- NUR 0067 - NSG RES: INTRO CRITL APPRL EBP or
- PSY 0035 - RESEARCH METHODS or
- SOC 0230 - SOCIAL RESEARCH METHODS
- Elective

Note:

In this 39-credit program, 21 credits should be completed using 1000-level course work. These 21 credits, when combined with the nine credits for DENHYG 1420, 1422, and 1544 completed in the dental hygiene program, meet the CGS requirement for 30 credits of 1000-level course work. Check with an advisor before registering. Requirements are subject to change.

Health Services, BA

The health services major is an interdisciplinary course of study designed to prepare students to work in health care. The program analyzes the structure of the health care industry; identifies cultural, legal, and environmental factors that impact health; and provides students with communication and management skills.

Students choose one of two fields:

- Managing health services programs and projects gives students key administrative and business skills, with an emphasis on grant and research project management.
- Community health assessment provides skills to assess the physical, social, and environmental factors influencing health behaviors.

Major Requirements

A minimum total of 120 credits is required for the Bachelor of Arts degree with a major in health services. Of this total, the major consists of 3 credits of prerequisite courses and 33 credits of core and specialization courses. The remaining credits for the degree are outlined on the General Education Requirements section on this page.

Prerequisite: Computer Competency

Check with an advisor for information about other options.

- PUBSRV 0040 - PUBLIC SERVICE TECHNOLOGIES

Health Field Core (15 credits)

- COMMRC 1730 - SPECIAL TOPICS IN COMMUNICTN
- HRS 1017 - INTRO TO EPIDEMIOLOGY
- NUR 1829 - CONTEM ISSUES CROS CULTL HLTH
- PUBSRV 1305 - HEALTH, LAW AND ETHICS
- SOC 0477 - MEDICAL SOCIOLOGY

Specialization Tracks (18 credits)

Students take a total of two required courses and four elective courses. Check with an academic advisor for course availability and additional elective options.

Track 1: Managing Health Services Programs and Projects

Required, choose two:

- BUSERV 1915 - INTRODUCTION TO MANAGEMENT
- HRS 1009 - ORGANIZATIONAL THEORY & BEHAVR or
- BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
- PUBSRV 1315 - MANAGING PROJECTS & CONTRACTS

Electives, choose four:

- AFRCNA 1710 - AFRICAN AMERICAN HEALTH ISSUES
- ANTH 1761 - PATNTS & HEALERS: MEDCL ANTH 1
- COMMRC 1102 - ORGANIZATIONAL COMMUNICATION
- COMMRC 1106 - SMALL GROUP COMMUNICATION
- ECON 0220 - INTRO TO HEALTH ECONOMICS
- HIM 1455 - QUALITY MANAGEMENT
- HIM 1465 - REIMBURSEMENT SEMINAR
- HIST 1090 - HISTORY MEDICINE & HEALTH CARE
- HIST 1706 - GLOBAL PHARMACEUTICALS
- HPS 0612 - MIND AND MEDICINE
- NROSCI 0081 - DRUGS AND BEHAVIOR
- PUBSRV 1110 - FINANCIAL MGT IN PUBLIC SECTOR
- PUBSRV 1120 - HUMN RESOURCS MGT PUBLC SECTOR
- PHIL 1360 - BIOMEDICAL ETHICS
- SOCWRK 1044 - AGING IN MULTICULTURAL SOCIETY

Track 2: Community Health Assessment

Required, choose two:

- NUR 1765 - RISK FACTORS AND HEALTH
- SOC 1450 - HEALTH AND ILLNESS
- PUBSRV 1310 - DIVERSTY ISSUES PUBLIC SERVICE

Electives, choose four:

- AFRCNA 1710 - AFRICAN AMERICAN HEALTH ISSUES
- ANTH 1794 - GENDER AND HEALTH
- COMMRC 0530 - INTERPERSONAL COMMUNICATION
- ECON 0220 - INTRO TO HEALTH ECONOMICS
- HIST 1090 - HISTORY MEDICINE & HEALTH CARE
- HIST 1706 - GLOBAL PHARMACEUTICALS
- HPS 0613 - MORALITY AND MEDICINE
- NROSCI 0081 - DRUGS AND BEHAVIOR
- NUR 1634 - HEALTH CARE DELIVERY IN OMAN
- NUTR 1006 - INTRO TO HUMAN NUTRITION
- PSY 1215 - HEALTH PSYCHOLOGY
- PSY 1230 - PSYCHOLOGY OF DEATH AND DYING
- PSY 1235 - ALCOHOL USE AND ABUSE
- PSY 1255 - PRINCIPLES OF BEHAVR MODIFICTN
- PUBHLT 1001 - INTRODUCTION TO GLOBAL HEALTH
- PUBHLT 1002 - SPECIAL TOPICS GLOBAL HEALTH
- PUBSRV 1100 - PRACTICES IN PUBLIC ADMINSTRTN
- PUBSRV 1200 - PRACTICES OF NON-PROFIT MGMNT
- REHSCI 1018 - SURVY HLTH & REHAB PROFESSIONS
- REHSCI 1290 - PRACTICAL ISSUES IN DISABILITY
- RELGST 0625 - DEATH, DYING AND IMMORTALITY
- SOCWRK 1044 - AGING IN MULTICULTURAL SOCIETY

Notes

Requirements subject to change. Check with an academic advisor before registering.

An internship is available through the College of General Studies. Please see your advisor for additional information.

General Education Requirements

To earn a Bachelor of Arts or a Bachelor of Science degree in the College of General Studies, you must satisfactorily complete a minimum of 120 credits (approximately 40 courses), at least 30 credits of which must be in upper-division (1000-level) courses. These 1000-level courses may come from any of the requirements for the degree listed below. Requirements are subject to change; students should check with an academic advisor before registering. Approved courses are listed each term at www.cgs.pitt.edu

Skills (15 credits minimum)

Certain tools of knowledge are required of all students in the baccalaureate degree program: ability to use the English language orally and in writing and ability to understand and use basic mathematical symbols. The courses required to satisfy each of the skills requirements are listed below:

Oral Communication-3 credits

- COMMRC 0520 - PUBLIC SPEAKING or
- COMMRC 0500 - ARGUMENT

Writing-9 credits minimum

ENGCMP 0200 - 0208 and two other courses from English composition (ENGCMP) or English writing (ENGWRT), or those designated W (writing).

Note: At least 3 credits of composition/writing must be from the University of Pittsburgh.

Mathematics-3 credits minimum

- MATH 0010 - COLLEGE ALGEBRA PART 1 and
- MATH 0020 - COLLEGE ALGEBRA PART 2
  or
- MATH 0025 - APPLIED COLLEGE ALGEBRA or
- MATH 0031 - ALGEBRA or
- CS 0004 - INTRO COMPUTER PROGRMMNG-BASIC or
- CS 0007 - INTRO TO COMPUTER PROGRAMMING

Note:

Students admitted to CGS for the fall term 2008 (2091) and thereafter are required to complete the public speaking, math, and first University writing course (ENGCMP 0200 or above) with a C- or better grade.

Quantitative and Formal Reasoning (3 credits minimum)

In addition to the acquisition of certain tools of knowledge through the skills requirements, students also need to acquire the ability to apply logic and formal reasoning to reading, writing, and thinking. Choose one course from the following list:

- Computer science (an approved course, 3 credits)
- INFSCI 0010 - INTRO TO INFORM, SYS & SOCIETY
- HPS 0611 - PRINCPL OF SCIENTIFIC REASNING
- HPS 0621 - PROB SOLVING: HOW SCI WORKS
- PHIL 0500 - INTRODUCTION TO LOGIC
- MATH 0120 - BUSINESS CALCULUS or a more advanced course
- Statistics (any course, 3-4 credits)

Understandings (27 credits)

A liberal education provides broad exposure to the three major bodies of knowledge-humanities, social sciences, and natural sciences. Students are exposed to social, scientific, aesthetic, moral, and religious information, the purpose of which is to furnish insight into how the concerns of people are interrelated, how knowledge has been accumulated, and how unsolved problems still challenge humanity. The courses needed to fulfill the understandings requirements are listed below.

Humanities (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Japanese*

Classics	Linguistics
Communication	Music
English Composition	Philosophy
English Film	Religious studies
English Literature	Russian*
English Writing	Slovak*
French*	Spanish*
German*	Studio Arts
History of Art and Architecture	Theatre Arts
Italian*	

*literature and culture courses

Social Sciences (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Legal Studies
Anthropology	Political Science
Economics	Psychology
Gender, Sexuality, and Women's Studies	Religious Studies
History	Sociology
Jewish Studies	Urban Studies

Natural Sciences (9 credits)

Three courses distributed over two or three of the disciplines listed below:

Anthropology	History and philosophy of science
Astronomy	Neuroscience
Biological sciences	Physics
Chemistry	Psychology
Geology and environmental science	

As these tables show, some departments have courses used in different categories. For the list of approved courses, view Academics at www.cgs.pitt.edu.

Literature (3 credits)

This requirement introduces students to works of literature that have abiding value and, in the process, to the techniques of literary interpretation. This one-course requirement may also be fulfilled from disciplines other than English.

History (3 credits)

The study of history provides an understanding of contemporary society from the viewpoint of long-term change. This one-course requirement may also be fulfilled with courses other than those offered by the Department of History.

Note

A course can be used to fulfill only one requirement in the categories of understandings, literature, and history.

International Perspective (9 credits minimum)

The world of today is economically, politically, and culturally interdependent. In the 21st century, knowledge of countries has become essential. This three-course requirement may be fulfilled by taking internationally focused courses offered by a variety of departments. At least one of the courses must be a non-Western course. All international courses may overlap with another requirement.

Specialized Study (the Major) (30-36 credits)

The baccalaureate degree, in addition to providing certain skills and broad exposure to the major bodies of knowledge, also allows the opportunity to specialize in a particular field, providing depth of experience essential for vocational competence or further graduate study. An outline of each major may be obtained at the CGS information display in 1400 Wesley W. Posvar Hall or on the CGS Web site, www.cgs.pitt.edu.

Students admitted to CGS can choose from the following majors. The majors indicated by asterisks are also available by combining Saturday and CGS Online courses.

- Administration of justice*
- Dental hygiene (for licensed dental hygienists)
- Health services (BA and BS)
- Humanities*
- Legal studies
- Media and professional communications
- Natural sciences
- Public service
- Social sciences*

Students who want a major in an arts and sciences field can begin in CGS and transfer to Arts and Sciences after completing 12 credits including the mathematics and seminar in composition requirements. Admission is determined by Arts and Sciences.

Electives

Any credits not used specifically to satisfy the previous requirements are considered electives. Electives can be taken in a wide variety of subjects to complement, reinforce, or add further breadth to the chosen program of study or to help meet the requirements of aminor or certificate program. Students may have no more than 18 credits in professional courses, such as administration of justice, business, education, engineering, information science, public service, and social work, as electives.

Preparation for Professional Programs

Prerequisite courses for the following programs may be taken through CGS prior to applying to another Pitt school.

• Business • Education • Engineering • Health and Rehabilitation Sciences • Information Science • Nursing • Pharmacy • Social Work

Notes

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see your advisor for additional information.

For more information, contact the University of Pittsburgh College of General Studies.

Health Services, BS

The Bachelor of Science in Health Services is an interdisciplinary degree completion program designed for allied health professionals who have already received their technical education and licensure in diagnostic medical sonography, radiological technology or respiratory therapy and for community college graduates who have already completed a designated allied health profession associate degree. The core of this flexible program provides students with communication and management skills as well as broadening students' understanding of health-related issues.

Requirements

A minimum total of 120 credits is required for the Bachelor of Science degree with a major in health services. Of this total, the degree consists of 12 credits of required health services courses and up to 24 credits of professional courses, with the remainder consisting of general education courses and electives.

- Licensed diagnostic medical sonographers, radiological technologists, and respiratory therapists will be awarded 24 professional education credits. Credits earned at other colleges or universities will be evaluated for transfer. The maximum number of transferable credits (including 24 professional education credits) to this degree program is typically between 62-66.5 credits.
- Graduates who have earned an associate's degree with an allied health profession major such as anesthesia technician, diagnostic medical sonographer, dietetic technician, health information technology, medical laboratory technician, nuclear medicine technology, occupational therapy assistant, physical therapy assistant, radiation therapy technology, radiologic technologist, respiratory therapy, or surgical technologist will be awarded up to 24 professional education credits. Graduates of designated programs with which the College of General Studies has a transfer credit agreement can, in some cases, transfer more than the 60 credits from a two-year college, speeding up the time to degree completion. Please check with an academic advisor for specifics related to your associate's degree program. The maximum number of transferable credits (including 24 professional education credits) to this degree program is typically between 62-66.5 credits.

Health Service Courses: 12 credits

A minimum of 12 credits, or four courses, are required as follows:

A. Health Field: 6 credits

Students choose two courses from the following list:

- NUR 1765 - RISK FACTORS AND HEALTH
- PHIL 1360 - BIOMEDICAL ETHICS
- PSY 1215 - HEALTH PSYCHOLOGY
- SOC 0477 - MEDICAL SOCIOLOGY
- SOC 1450 - HEALTH AND ILLNESS

B. Administration/Management Field: 3 Credits

Students choose one course from the following list:

- BUSERV 1915 - INTRODUCTION TO MANAGEMENT
- HRS 1009 - ORGANIZATIONAL THEORY & BEHAVR or BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
- PUBSRV 1100 - PRACTICES IN PUBLIC ADMINSTRTN
- PUBSRV 1120 - HUMN RESOURCS MGT PUBLC SECTOR

- PUBSRV 1200 - PRACTICES OF NON-PROFIT MGMNT
- PUBSRV 1315 - MANAGING PROJECTS & CONTRACTS

C. Related Field: 3 credits

Students choose one additional course from the Health Field or Administration/Management Field lists above or else from the list below:

- COMMRC 0530 - INTERPERSONAL COMMUNICATION
- COMMRC 1102 - ORGANIZATIONAL COMMUNICATION
- COMMRC 1730 - SPECIAL TOPICS IN COMMUNICTN
- HRS 1006 - INTRO TO HUMAN NUTRITION
- PSY 1255 - PRINCIPLES OF BEHAVR MODIFICTN
- PSYED 1001 - INTRO EDUCATIONAL PSYCHOLOGY
- HIST 1706 - GLOBAL PHARMACEUTICALS

Notes

Requirements are subject to change. Many courses are available in an online format. Check with an academic advisor for course availability and additional elective options before registering.

General Education Requirements

To earn a Bachelor of Arts or a Bachelor of Science degree in the College of General Studies, you must satisfactorily complete a minimum of 120 credits (approximately 40 courses), at least 30 credits of which must be in upper-division (1000-level) courses. These 1000-level courses may come from any of the requirements for the degree listed below. Requirements are subject to change; students should check with an academic advisor before registering. Approved courses are listed each term at www.cgs.pitt.edu

Skills (15 credits minimum)

Certain tools of knowledge are required of all students in the baccalaureate degree program: ability to use the English language orally and in writing and ability to understand and use basic mathematical symbols. The courses required to satisfy each of the skills requirements are listed below:

Oral Communication-3 credits

- COMMRC 0520 - PUBLIC SPEAKING or
- COMMRC 0500 - ARGUMENT

Writing-9 credits minimum

ENGCMP 0200 - 0208 and two other courses from English composition (ENGCMP) or English writing (ENGWRT), or those designated W (writing).

Note: At least 3 credits of composition/writing must be from the University of Pittsburgh.

Mathematics-3 credits minimum

- MATH 0010 - COLLEGE ALGEBRA PART 1 and
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Note:

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Quantitative and Formal Reasoning (3 credits minimum)

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French*	Spanish*
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History of Art and Architecture	Theatre Arts
Italian*	

*literature and culture courses

Social Sciences (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Legal Studies
Anthropology	Political Science
Economics	Psychology
Gender, Sexuality, and Women's Studies	Religious Studies
History	Sociology
Jewish Studies	Urban Studies

Natural Sciences (9 credits)

Three courses distributed over two or three of the disciplines listed below:

Anthropology	History and philosophy of science
Astronomy	Neuroscience
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Note

A course can be used to fulfill only one requirement in the categories of understandings, literature, and history.

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Specialized Study (the Major) (30-36 credits)

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Electives

Any credits not used specifically to satisfy the previous requirements are considered electives. Electives can be taken in a wide variety of subjects to complement, reinforce, or add further breadth to the chosen program of study or to help meet the requirements of aminor or certificate program. Students may have no more than 18 credits in professional courses, such as administration of justice, business, education, engineering, information science, public service, and social work, as electives.

Preparation for Professional Programs

Prerequisite courses for the following programs may be taken through CGS prior to applying to another Pitt school.

• Business • Education • Engineering • Health and Rehabilitation Sciences • Information Science • Nursing • Pharmacy • Social Work

Notes

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see your advisor for additional information.

For more information, contact the University of Pittsburgh College of General Studies.

Humanities, BA

Humanities is a liberal arts major with a focus on courses from three humanities departments. This major can be customized to meet your interests and personal or career goals. You will choose to concentrate in three areas from the list below and have the opportunity to take a variety of courses within those areas of study.

Humanities degree graduates have a variety of skills that make them attractive to prospective employers. Career fields pursued by humanities graduates include the following:

- Acting and drama
- College administration
- Event planning

- Human resources
- Politics
- Teaching
- Publishing
- Journalism
- Marketing and advertising
- Public relations
- Insurance
- Real estate
- Social work
- Occupational therapy
- Travel and tourism

Requirements

Students must earn a minimum of 120 credits for the Bachelor of Arts degree with a major in humanities. Of this total, students must take a minimum of 36 credits (approximately 12 courses) according to the specifications below. The remaining credits required for the degree are outlined in the *General Education Requirements* section on this page.

Standard Option

Choose a minimum of 36 credits (approximately 12 courses) from any three departments/programs below. All courses taken must be humanities related.

- Africana Studies (courses must be humanities related)
- Classics
- Communication
- English Composition (0300 and above)
- Film Studies
- English Literature
- English Writing
- Foreign language departments (literature and culture courses)
- History of Art and Architecture
- Music
- Philosophy
- Religious Studies (courses must be humanities related)
- Studio Arts
- Theatre Arts

Notes

- At least five courses must be taken from one department, and at least three courses must be taken from each of the two other departments.
- At least half of the courses taken for the major must be upper-division (1000-level) courses.
- All courses selected for the humanities major must be approved by an academic advisor.

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see an advisor for additional information.

Pre-Education Options

The College of General Studies and the Pitt School of Education have collaborated on a curriculum within the humanities major that incorporates all of the prerequisite course work needed for admission into the certificate program in comprehensive English education. This option may be used by students interested in the Master of Arts in Teaching (MAT) or Professional Year (PY) programs offered in the School of Education. Completion of the prerequisites for the School of Education does not guarantee acceptance to its programs.

Students pursuing this track take a wide variety of English courses in literature, writing/composition, and literary/film/media theory, in addition to a required foundations course in special education, for a total of 36 credits (approximately 12 courses). At least half of these courses must be at the 1000 level. Students are also encouraged to participate in an internship during their degree program and may fulfill some CGS general education and major requirements by completing a study abroad program. See a CGS advisor for more information.

General Education Requirements

To earn a Bachelor of Arts or a Bachelor of Science degree in the College of General Studies, you must satisfactorily complete a minimum of 120 credits (approximately 40 courses), at least 30 credits of which must be in upper-division (1000-level) courses. These 1000-level courses may come from any of the requirements for the degree listed below. Requirements are subject to change; students should check with an academic advisor before registering. Approved courses are listed each term at www.cgs.pitt.edu

Skills (15 credits minimum)

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- MATH 0025 - APPLIED COLLEGE ALGEBRA or
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- CS 0004 - INTRO COMPUTER PROGRMMNG-BASIC or
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Note:

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English Writing	Slovak*
French*	Spanish*
German*	Studio Arts
History of Art and Architecture	Theatre Arts
Italian*	

*literature and culture courses

Social Sciences (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Legal Studies
Anthropology	Political Science
Economics	Psychology

Gender, Sexuality, and Women's Studies	Religious Studies
History	Sociology
Jewish Studies	Urban Studies

Natural Sciences (9 credits)

Three courses distributed over two or three of the disciplines listed below:

Anthropology	History and philosophy of science
Astronomy	Neuroscience
Biological sciences	Physics
Chemistry	Psychology
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The study of history provides an understanding of contemporary society from the viewpoint of long-term change. This one-course requirement may also be fulfilled with courses other than those offered by the Department of History.

Note

A course can be used to fulfill only one requirement in the categories of understandings, literature, and history.

International Perspective (9 credits minimum)

The world of today is economically, politically, and culturally interdependent. In the 21st century, knowledge of countries has become essential. This three-course requirement may be fulfilled by taking internationally focused courses offered by a variety of departments. At least one of the courses must be a non-Western course. All international courses may overlap with another requirement.

Specialized Study (the Major) (30-36 credits)

The baccalaureate degree, in addition to providing certain skills and broad exposure to the major bodies of knowledge, also allows the opportunity to specialize in a particular field, providing depth of experience essential for vocational competence or further graduate study. An outline of each major may be obtained at the CGS information display in 1400 Wesley W. Posvar Hall or on the CGS Web site, www.cgs.pitt.edu.

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- Administration of justice*

- Dental hygiene (for licensed dental hygienists)
- Health services (BA and BS)
- Humanities*
- Legal studies
- Media and professional communications
- Natural sciences
- Public service
- Social sciences*

Students who want a major in an arts and sciences field can begin in CGS and transfer to Arts and Sciences after completing 12 credits including the mathematics and seminar in composition requirements. Admission is determined by Arts and Sciences.

Electives

Any credits not used specifically to satisfy the previous requirements are considered electives. Electives can be taken in a wide variety of subjects to complement, reinforce, or add further breadth to the chosen program of study or to help meet the requirements of aminor or certificate program. Students may have no more than 18 credits in professional courses, such as administration of justice, business, education, engineering, information science, public service, and social work, as electives.

Preparation for Professional Programs

Prerequisite courses for the following programs may be taken through CGS prior to applying to another Pitt school.

• Business • Education • Engineering • Health and Rehabilitation Sciences • Information Science • Nursing • Pharmacy • Social Work

Notes

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see your advisor for additional information.

For more information, contact the University of Pittsburgh College of General Studies.

Legal Studies, BA

The legal studies major is an interdisciplinary course of study that combines the theories and methods of several social science disciplines and law. While not designed as a prelaw program, the major seeks to develop an understanding of the nature, content, and operation of American law and legal institutions.

Career Opportunities

Courses in legal studies provide a background for graduate work in administration of justice, business, legal studies, and law as well as work in law-related fields like insurance, social security, and social services. The courses also prepare students for careers in the following settings:

- banking
- children's rights
- civil liberties organizations
- collective bargaining/labor relations
- corporate sales divisions
- credit-related agencies
- judicial administration
- legal research
- human resources
- planning commissions

- privacy protection
- public government aid/legislation
- public welfare
- real estate agencies
- tax consultation firms
- workers' compensation bureaus

Major Requirements

Students must earn a minimum of 120 credits for the Bachelor of Arts degree with a major in legal studies. Of this total, 30 credits make up the major, which is satisfied by taking courses to complete the core requirements, legal studies electives, and outside electives. Below is an outline of these major course requirements. The remaining credits required for the degree are outlined in the General Education Requirements section on this page. Some legal studies courses fulfill the College of General Studies social sciences curriculum requirements. See the current time schedule of classes for specific information.

Core Requirements: 6 credits (two courses)

- LEGLST 0080 - INTRODUCTION TO LEGAL STUDIES
  Choose one of the following:
- LEGLST 1210 - LAW AND POLITICS or
- PS 1213 - LAW AND POLITICS (Political Science)

Legal Studies Electives: 18 credits (choose six courses)

- LEGLST 0020 - PUBLIC LAW AND MORAL REASONING
- LEGLST 1140 - INTRODUCTION TO CRIMINAL LAW
- LEGLST 1141 - INTRO TO CRIMINAL PROCEDURE
- LEGLST 1150 - LAWYERS AND LEGAL PROFESSION
- LEGLST 1152 - LEGAL ISSUES IN PUBLIC SERVICE
- LEGLST 1155 - LAW AND SOCIAL CHANGE
- LEGLST 1230 - PSYCHOLOGY AND LAW
- LEGLST 1260 - LAW, LITERATURE, AND CINEMA
- LEGLST 1261 - LANGUAGE AND THE LAW
- LEGLST 1315 - SEX, LAW AND MARRIAGE
- LEGLST 1318 - SEPARATION, DIVORCE & CUSTODY
- LEGLST 1320 - LAW AND ENVIRONMENT
- LEGLST 1325 - CONSUMER LAW
- LEGLST 1326 - GLOBALIZATION AND LAW
- LEGLST 1327 - INTERNATIONAL LAW
- LEGLST 1330 - LAW AND BUSINESS CORPORATIONS
- LEGLST 1340 - INTRODUCTION TO CIVIL RIGHTS
- LEGLST 1345 - EMERGING TECOLOGIES & THE LAW
- LEGLST 1355 - EMERGING ISS LEGL & SOCL POLC
- LEGLST 1410 - INTRODUCTION TO LEGAL RESEARCH
- LEGLST 1430 - TRIAL ADVOCACY 1 (honors)
- LEGLST 1435 - TRIAL ADVOCACY 2 (honors)
- LEGLST 1901 - INDEPENDENT STUDY
- CGS 1900 - CHOOSING YOUR PATH: INTERNSHIP (section: 7715)

Outside Electives: 6 credits (choose two courses)

The final degree requirement is completion of 6 credits (two courses) from a list of approved electives outside legal studies. The following represents approved elective courses from various disciplines:

Administration of Justice

- ADMJ 0100 - SOCIETY AND THE LAW
- ADMJ 0500 - INTRO TO ADMIN OF JUSTICE
- ADMJ 1220 - DEVIANCE AND THE LAW
- ADMJ 1450 - CRITICAL ISS IN CRIMNL JUSTICE

Communication

- COMMRC 1114 - FREEDOM OF SPEECH AND PRESS

English Composition

- ENGCMP 0410 - WRITING IN THE LEGL PROFESSNS

History

- HIST 1190 - MEDIEVAL GOVERNMENT & SOCIETY
- HIST 1191 - ENGLISH ORIGINS OF AMERCN LAW
- HIST 1690 - AMERICAN LEGAL HISTORY

Philosophy

- PHIL 1390 - PHILOSOPHY OF LAW

Political Science

- PS 1211 - LEGISLATIVE PROCESS
- PS 1614 - THEORIES OF JUSTICE (Honors)

Psychology

- PSY 0182 - LAW AND SOCIAL PSYCHOLOGY

Public Service

- PUBSRV 1305 - HEALTH, LAW AND ETHICS

Sociology

- SOC 0471 - DEVIANCE AND SOCIAL CONTROL

Notes

Students interested in a minor, rather than a major, in legal studies should check with their academic advisor.

Requirements are subject to change. Check with an academic advisor before registering.

General Education Requirements

To earn a Bachelor of Arts or a Bachelor of Science degree in the College of General Studies, you must satisfactorily complete a minimum of 120 credits (approximately 40 courses), at least 30 credits of which must be in upper-division (1000-level) courses. These 1000-level courses may come from any of the requirements for the degree listed below. Requirements are subject to change; students should check with an academic advisor before registering. Approved courses are listed each term at www.cgs.pitt.edu

Skills (15 credits minimum)

Certain tools of knowledge are required of all students in the baccalaureate degree program: ability to use the English language orally and in writing and ability to understand and use basic mathematical symbols. The courses required to satisfy each of the skills requirements are listed below:

Oral Communication-3 credits

- COMMRC 0520 - PUBLIC SPEAKING or
- COMMRC 0500 - ARGUMENT

Writing-9 credits minimum

ENGCMP 0200 - 0208 and two other courses from English composition (ENGCMP) or English writing (ENGWRT), or those designated W (writing).

Note: At least 3 credits of composition/writing must be from the University of Pittsburgh.

Mathematics-3 credits minimum

- MATH 0010 - COLLEGE ALGEBRA PART 1 and
- MATH 0020 - COLLEGE ALGEBRA PART 2
  or
- MATH 0025 - APPLIED COLLEGE ALGEBRA or
- MATH 0031 - ALGEBRA or
- CS 0004 - INTRO COMPUTER PROGRMMNG-BASIC or
- CS 0007 - INTRO TO COMPUTER PROGRAMMING

Note:

Students admitted to CGS for the fall term 2008 (2091) and thereafter are required to complete the public speaking, math, and first University writing course (ENGCMP 0200 or above) with a C- or better grade.

Quantitative and Formal Reasoning (3 credits minimum)

In addition to the acquisition of certain tools of knowledge through the skills requirements, students also need to acquire the ability to apply logic and formal reasoning to reading, writing, and thinking. Choose one course from the following list:

- Computer science (an approved course, 3 credits)
- INFSCI 0010 - INTRO TO INFORM, SYS & SOCIETY
- HPS 0611 - PRINCPL OF SCIENTIFIC REASNING
- HPS 0621 - PROB SOLVING: HOW SCI WORKS
- PHIL 0500 - INTRODUCTION TO LOGIC

- MATH 0120 - BUSINESS CALCULUS or a more advanced course
- Statistics (any course, 3-4 credits)

Understandings (27 credits)

A liberal education provides broad exposure to the three major bodies of knowledge-humanities, social sciences, and natural sciences. Students are exposed to social, scientific, aesthetic, moral, and religious information, the purpose of which is to furnish insight into how the concerns of people are interrelated, how knowledge has been accumulated, and how unsolved problems still challenge humanity. The courses needed to fulfill the understandings requirements are listed below.

Humanities (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Japanese*
Classics	Linguistics
Communication	Music
English Composition	Philosophy
English Film	Religious studies
English Literature	Russian*
English Writing	Slovak*
French*	Spanish*
German*	Studio Arts
History of Art and Architecture	Theatre Arts
Italian*	

*literature and culture courses

Social Sciences (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Legal Studies
Anthropology	Political Science
Economics	Psychology
Gender, Sexuality, and Women's Studies	Religious Studies
History	Sociology
Jewish Studies	Urban Studies

Natural Sciences (9 credits)

Three courses distributed over two or three of the disciplines listed below:

Anthropology	History and philosophy of science
Astronomy	Neuroscience
Biological sciences	Physics
Chemistry	Psychology

Geology and environmental science

As these tables show, some departments have courses used in different categories. For the list of approved courses, view Academics at www.cgs.pitt.edu.

Literature (3 credits)

This requirement introduces students to works of literature that have abiding value and, in the process, to the techniques of literary interpretation. This one-course requirement may also be fulfilled from disciplines other than English.

History (3 credits)

The study of history provides an understanding of contemporary society from the viewpoint of long-term change. This one-course requirement may also be fulfilled with courses other than those offered by the Department of History.

Note

A course can be used to fulfill only one requirement in the categories of understandings, literature, and history.

International Perspective (9 credits minimum)

The world of today is economically, politically, and culturally interdependent. In the 21st century, knowledge of countries has become essential. This three-course requirement may be fulfilled by taking internationally focused courses offered by a variety of departments. At least one of the courses must be a non-Western course. All international courses may overlap with another requirement.

Specialized Study (the Major) (30-36 credits)

The baccalaureate degree, in addition to providing certain skills and broad exposure to the major bodies of knowledge, also allows the opportunity to specialize in a particular field, providing depth of experience essential for vocational competence or further graduate study. An outline of each major may be obtained at the CGS information display in 1400 Wesley W. Posvar Hall or on the CGS Web site, www.cgs.pitt.edu.

Students admitted to CGS can choose from the following majors. The majors indicated by asterisks are also available by combining Saturday and CGS Online courses.

- Administration of justice*
- Dental hygiene (for licensed dental hygienists)
- Health services (BA and BS)
- Humanities*
- Legal studies
- Media and professional communications
- Natural sciences
- Public service
- Social sciences*

Students who want a major in an arts and sciences field can begin in CGS and transfer to Arts and Sciences after completing 12 credits including the mathematics and seminar in composition requirements. Admission is determined by Arts and Sciences.

Electives

Any credits not used specifically to satisfy the previous requirements are considered electives. Electives can be taken in a wide variety of subjects to complement, reinforce, or add further breadth to the chosen program of study or to help meet the requirements of aminor or certificate program. Students may have no more than 18 credits in professional courses, such as administration of justice, business, education, engineering, information science, public service, and social work, as electives.

Preparation for Professional Programs

Prerequisite courses for the following programs may be taken through CGS prior to applying to another Pitt school.

• Business • Education • Engineering • Health and Rehabilitation Sciences • Information Science • Nursing • Pharmacy • Social Work

Notes

Requirements are subject to change. Check with an academic advisor before registering.

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Political Science

Liberal Studies, BA

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Skills (15 credits minimum)

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Note:

Students admitted to CGS for the fall term 2008 (2091) and thereafter are required to complete the public speaking, math, and first University writing course (ENGCMP 0200 or above) with a C- or better grade.

Quantitative and Formal Reasoning (3 credits minimum)

In addition to the acquisition of certain tools of knowledge through the skills requirements, students also need to acquire the ability to apply logic and formal reasoning to reading, writing, and thinking. Choose one course from the following list:

- Computer science (an approved course, 3 credits)
- INFSCI 0010 - INTRO TO INFORM, SYS & SOCIETY
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French*

German*

History of Art and Architecture

Italian*

Spanish*

Studio Arts

Theatre Arts

*literature and culture courses

Social Sciences (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies

Anthropology

Economics

Gender, Sexuality, and Women's Studies

History

Jewish Studies

Legal Studies

Political Science

Psychology

Religious Studies

Sociology

Urban Studies

Natural Sciences (9 credits)

Three courses distributed over two or three of the disciplines listed below:

Anthropology

Astronomy

Biological sciences

Chemistry

Geology and environmental science

History and philosophy of science

Neuroscience

Physics

Psychology

As these tables show, some departments have courses used in different categories. For the list of approved courses, view Academics at www.cgs.pitt.edu.

Literature (3 credits)

This requirement introduces students to works of literature that have abiding value and, in the process, to the techniques of literary interpretation. This one-course requirement may also be fulfilled from disciplines other than English.

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The study of history provides an understanding of contemporary society from the viewpoint of long-term change. This one-course requirement may also be fulfilled with courses other than those offered by the Department of History.

Note

A course can be used to fulfill only one requirement in the categories of understandings, literature, and history.

International Perspective (9 credits minimum)

The world of today is economically, politically, and culturally interdependent. In the 21st century, knowledge of countries has become essential. This three-course requirement may be fulfilled by taking internationally focused courses offered by a variety of departments. At least one of the courses must be a non-Western course. All international courses may overlap with another requirement.

Specialized Study (the Major) (30-36 credits)

The baccalaureate degree, in addition to providing certain skills and broad exposure to the major bodies of knowledge, also allows the opportunity to specialize in a particular field, providing depth of experience essential for vocational competence or further graduate study. An outline of each major may be obtained at the CGS information display in 1400 Wesley W. Posvar Hall or on the CGS Web site, www.cgs.pitt.edu.

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Students who want a major in an arts and sciences field can begin in CGS and transfer to Arts and Sciences after completing 12 credits including the mathematics and seminar in composition requirements. Admission is determined by Arts and Sciences.

Electives

Any credits not used specifically to satisfy the previous requirements are considered electives. Electives can be taken in a wide variety of subjects to complement, reinforce, or add further breadth to the chosen program of study or to help meet the requirements of aminor or certificate program. Students may have no more than 18 credits in professional courses, such as administration of justice, business, education, engineering, information science, public service, and social work, as electives.

Preparation for Professional Programs

Prerequisite courses for the following programs may be taken through CGS prior to applying to another Pitt school.

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Notes

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see your advisor for additional information.

For more information, contact the University of Pittsburgh College of General Studies.

Requirements

The College of General Studies and the School of Education have collaborated on the liberal studies curriculum that may be used by students interested in the professional year or the Master of Arts in teaching programs offered in the School of Education. Completion of the prerequisites for the School of Education does not guarantee acceptance to their programs. See an academic advisor for specific requirements. This program is not currently accepting new students. Students who declared the program prior to 2012 and have not completed the program should see an academic advisor for other options, such as the new degree programs offered by the School of Education.

Liberal Studies, BS

General Education Requirements

To earn a Bachelor of Arts or a Bachelor of Science degree in the College of General Studies, you must satisfactorily complete a minimum of 120 credits (approximately 40 courses), at least 30 credits of which must be in upper-division (1000-level) courses. These 1000-level courses may come from any of the requirements for the degree listed below. Requirements are subject to change; students should check with an academic advisor before registering. Approved courses are listed each term at www.cgs.pitt.edu

Skills (15 credits minimum)

Certain tools of knowledge are required of all students in the baccalaureate degree program: ability to use the English language orally and in writing and ability to understand and use basic mathematical symbols. The courses required to satisfy each of the skills requirements are listed below:

Oral Communication-3 credits

- COMMRC 0520 - PUBLIC SPEAKING or
- COMMRC 0500 - ARGUMENT

Writing-9 credits minimum

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Social Sciences (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Legal Studies
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- Social sciences*

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Media and Professional Communications, BA

This major provides students with a rigorous education in the theories of mass media process, history, and ethics as well as the opportunity to specialize in one of three professional practice areas: corporate and community relations, writing for the professions, or digital media.

The three tracks are designed to strengthen both the knowledge base and proficiencies of students pursuing careers in communication fields, such as print, television, radio, film, new media, and corporate and organizational communications. This program also will benefit students pursuing careers in a variety of industries in which communication with internal and external audiences is critical. Learn more about our featured internship opportunity with Pitt Panther TV, and other internship opportunities, today.

The Department of English and Film Studies Program are grateful for the continued support of our sponsoring partners, which provide grants for Pitt undergraduates pursuing media, public relations, and film internships. The funds provide grants for unpaid internships and/or support for living expenses for out-of-town internships. Awards are given on a competitive basis. Also, the University stipulates that students cannot be employed by Pitt while receiving stipends for internships.

Major Requirements

Students must earn a minimum of 120 credits for the Bachelor of Arts degree with a major in media and professional communications. Of this total, the major consists of 12 credits of prerequisite courses and 24 credits of specialization courses. The remaining credits for the degree are outlined in the General Education Requirements section on this page. A grade of C or better is required in English composition and writing courses.

Prerequisite Courses (12 credits)

Required for all three tracks.

- COMMRC 0320 - MASS COMMUNICATION PROCESS
- COMMRC 1121 - HISTORY OF MASS MEDIA
- ENGWRT 0610 - INTRO JOURNALISM & NONFICTION
- PUBSRV 1455 - LAW ETHCS PBLC POLC MASS MEDIA

Specializations (24 credits)

Choose one of the specialization tracks that follow.

TRACK 1: Corporate/Community Relations

Required Courses (9 credits)

- COMMRC 1111 - THEORIES OF PERSUASION
- COMMRC 1732 - SPECIAL TOPICS IN MASS COM
- BUSERV 1940 - MARKETING FUNDAMENTALS

Electives, choose four (12 credits)

- COMMRC 1102 - ORGANIZATIONAL COMMUNICATION
- COMMRC 1730 - SPECIAL TOPICS IN COMMUNICTN
- COMMRC 1732 - SPECIAL TOPICS IN MASS COM
- ENGCMP 0410 - WRITING IN THE LEGL PROFESSNS
- ENGCMP 0420 - WRITING FOR THE PUBLIC
- ENGCMP 0515 - PERSASV WRIT-ADVRTNG/FUNDRSG
- ENGCMP 0520 - INTEGRATING WRITING AND DESIGN
- ENGCMP 0550 - TOPICS IN PUBLC/PROFESSNL WRIT
- ENGCMP 0560 - WRITING ARGUMENTS
- ENGCMP 0600 - INTRO TO TECHNICAL WRITING
- ENGCMP 1103 - PUBLIC RELATIONS WRITING
- ENGCMP 1104 - CREATIVE CORPORATE WRITING
- ENGCMP 1112 - PROF USES OF SOCIAL MEDIA
- ENGWRT 0550 - FUNDAMENTALS OF NEWS REPORTING
- ENGWRT 1330 - INTERMEDIATE NONFICTION
- ENGWRT 1403 - TOPC NON-FCTN:ELECTRNC MEDIA
- PSY 0105 - INTRODUCTION TO SOCIAL PSYCH
- PUBSRV 1200 - PRACTICES OF NON-PROFIT MGMNT
- PUBSRV 1310 - DIVERSTY ISSUES PUBLIC SERVICE

Internship, choose one (3 credits)

- CGS 1900 - CHOOSING YOUR PATH: INTERNSHIP (section 7710)

- THEA 1484 - DIRECTED PROJECT BUSINESS MGT

Track 2: Writing for the Professions

Required Courses (6 credits)

- COMMRC 1114 - FREEDOM OF SPEECH AND PRESS
  and choose one of the following courses:
- ENGCMP 0400 - WRITTEN PROFESSNL COMMUNICTN or
- ENGWRT 1330 - INTERMEDIATE NONFICTION

Electives, choose five (15 credits)

- COMMRC 1732 - SPECIAL TOPICS IN MASS COM
- ENGCMP 0410 - WRITING IN THE LEGL PROFESSNS
- ENGCMP 0420 - WRITING FOR THE PUBLIC
- ENGCMP 0520 - INTEGRATING WRITING AND DESIGN
- ENGCMP 0550 - TOPICS IN PUBLC/PROFESSNL WRIT
- ENGCMP 0560 - WRITING ARGUMENTS
- ENGCMP 0600 - INTRO TO TECHNICAL WRITING
- ENGCMP 0610 - COMPOSING DIGITAL MEDIA
- ENGCMP 1103 - PUBLIC RELATIONS WRITING
- ENGCMP 1112 - PROF USES OF SOCIAL MEDIA
- ENGCMP 1400 - GRANT AND PROPOSAL WRITING
- ENGWRT 0550 - FUNDAMENTALS OF NEWS REPORTING
- ENGWRT 1391 - WRITING THE REVIEW
- ENGWRT 1393 - SPORTS WRITING
- ENGWRT 1399 - TOPICS NON-FICTION: NEWSPAPER
- ENGWRT 1401 - TOPICS NON-FICTION: MAGAZINE
- ENGWRT 1403 - TOPC NON-FCTN:ELECTRNC MEDIA

Internship, choose one (3 credits)

- CGS 1900 - CHOOSING YOUR PATH: INTERNSHIP (section 7710)
- ENGWRT 1370 - JOURNALISM BOOT CAMP:WRITE NOW

Track 3: Digital Media

Completion of two prerequisite courses is necessary before registration for Pittsburgh Filmmakers (PF) courses will be permitted. FILMST 0001 is a prerequisite to all other PF courses. See your advisor to register.

Required Courses (9 credits)

- COMMRC 1112 - THEORIES OF RHETORIC
- ENGFLM 0355 - VISUAL LITERACY
- FILMST 0001 - MOTION PICTURE FUNDAMEMTALS

Electives, choose four (12 credits)

A maximum of two PF courses can be included in the four electives.

- COMMRC 1105 - TELEVISION AND SOCIETY
- COMMRC 1126 - MEDIA AND CONSUMER CULTURE
- ENGCMP 0520 - INTEGRATING WRITING AND DESIGN
- ENGCMP 0610 - COMPOSING DIGITAL MEDIA
- ENGCMP 1112 - PROF USES OF SOCIAL MEDIA
- ENGFLM 0400 - INTRODUCTION TO FILM
- ENGFLM 1390 - CONTEMPORARY FILM
- ENGFLM 1485 - FILM AND POLITICS
- ENGFLM 1683 - DOCUMENTARY FILM
- ENGLIT 0354 - WORDS AND IMAGES
- ENGLIT 0550 - INTRODUCTION TO POPULAR CULTUR
- ENGWRT 0650 - READINGS IN JOURNALISM
- HAA 0010 - INTRODUCTION TO WORLD ART
- HAA 0070 - EURPN VISL TRADTN RENASNC-PRES
- HAA 1810 - EXPERIMENTAL VIDEO
- PS 1836 - POLITICS THROUGH FILM
- PSY 1050 - TOPICS IN PSYCHOLOGY
- SA 0110 - VISUAL THINKING
- SA 0130 - DRAWING STUDIO 1
- SA 1270 - DIGITAL STUDIO: IMAGING
- FILMST 0120 - BASIC DIGITAL PHOTOGRAPHY
- FILMST 0151 - INTRODUCTION TO WEB DESIGN
- FILMST 0245 - PHOTOSHOP FOUNDATIONS
- FILMST 0400 - INTRO TO DIGITAL EDITING
- FILMST 0410 - ADVANCED DIGITAL PHOTOGRAPHY
- FILMST 0420 - ADV DIGITAL EDITING TECHNIQUES
- FILMST 0601 - VIDEO PRODUCTION 1
- FILMST 0610 - DIGITAL EFFECTS & COMPOSITING
- FILMST 1600 - VIDEO PRODUCTION 2

Internship (3 credits)

- CGS 1900 - CHOOSING YOUR PATH: INTERNSHIP (section: 7710)

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Quantitative and Formal Reasoning (3 credits minimum)

In addition to the acquisition of certain tools of knowledge through the skills requirements, students also need to acquire the ability to apply logic and formal reasoning to reading, writing, and thinking. Choose one course from the following list:

- Computer science (an approved course, 3 credits)
- INFSCI 0010 - INTRO TO INFORM, SYS & SOCIETY
- HPS 0611 - PRINCPL OF SCIENTIFIC REASNING
- HPS 0621 - PROB SOLVING: HOW SCI WORKS
- PHIL 0500 - INTRODUCTION TO LOGIC
- MATH 0120 - BUSINESS CALCULUS or a more advanced course
- Statistics (any course, 3-4 credits)

Understandings (27 credits)

A liberal education provides broad exposure to the three major bodies of knowledge-humanities, social sciences, and natural sciences. Students are exposed to social, scientific, aesthetic, moral, and religious information, the purpose of which is to furnish insight into how the concerns of people are interrelated, how knowledge has been accumulated, and how unsolved problems still challenge humanity. The courses needed to fulfill the understandings requirements are listed below.

Humanities (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Japanese*
Classics	Linguistics
Communication	Music

English Composition
English Film
English Literature
English Writing
French*
German*
History of Art and Architecture
Italian*
Philosophy
Religious studies
Russian*
Slovak*
Spanish*
Studio Arts
Theatre Arts

*literature and culture courses

Social Sciences (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies
Anthropology
Economics
Gender, Sexuality, and Women's Studies
History
Jewish Studies
Legal Studies
Political Science
Psychology
Religious Studies
Sociology
Urban Studies

Natural Sciences (9 credits)

Three courses distributed over two or three of the disciplines listed below:

Anthropology
Astronomy
Biological sciences
Chemistry
Geology and environmental science
History and philosophy of science
Neuroscience
Physics
Psychology

As these tables show, some departments have courses used in different categories. For the list of approved courses, view Academics at www.cgs.pitt.edu.

Literature (3 credits)

This requirement introduces students to works of literature that have abiding value and, in the process, to the techniques of literary interpretation. This one-course requirement may also be fulfilled from disciplines other than English.

History (3 credits)

The study of history provides an understanding of contemporary society from the viewpoint of long-term change. This one-course requirement may also be fulfilled with courses other than those offered by the Department of History.

Note

A course can be used to fulfill only one requirement in the categories of understandings, literature, and history.

International Perspective (9 credits minimum)

The world of today is economically, politically, and culturally interdependent. In the 21st century, knowledge of countries has become essential. This three-course requirement may be fulfilled by taking internationally focused courses offered by a variety of departments. At least one of the courses must be a non-Western course. All international courses may overlap with another requirement.

Specialized Study (the Major) (30-36 credits)

The baccalaureate degree, in addition to providing certain skills and broad exposure to the major bodies of knowledge, also allows the opportunity to specialize in a particular field, providing depth of experience essential for vocational competence or further graduate study. An outline of each major may be obtained at the CGS information display in 1400 Wesley W. Posvar Hall or on the CGS Web site, www.cgs.pitt.edu.

Students admitted to CGS can choose from the following majors. The majors indicated by asterisks are also available by combining Saturday and CGS Online courses.

- Administration of justice*
- Dental hygiene (for licensed dental hygienists)
- Health services (BA and BS)
- Humanities*
- Legal studies
- Media and professional communications
- Natural sciences
- Public service
- Social sciences*

Students who want a major in an arts and sciences field can begin in CGS and transfer to Arts and Sciences after completing 12 credits including the mathematics and seminar in composition requirements. Admission is determined by Arts and Sciences.

Electives

Any credits not used specifically to satisfy the previous requirements are considered electives. Electives can be taken in a wide variety of subjects to complement, reinforce, or add further breadth to the chosen program of study or to help meet the requirements of aminor or certificate program. Students may have no more than 18 credits in professional courses, such as administration of justice, business, education, engineering, information science, public service, and social work, as electives.

Preparation for Professional Programs

Prerequisite courses for the following programs may be taken through CGS prior to applying to another Pitt school.

• Business • Education • Engineering • Health and Rehabilitation Sciences • Information Science • Nursing • Pharmacy • Social Work

Notes

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see your advisor for additional information.

For more information, contact the University of Pittsburgh College of General Studies.

Natural Sciences, BS

The natural sciences major is a liberal arts major with a focus on courses from three natural sciences departments. Students customize this major to meet their interests and personal or career goals, choosing from a variety of courses with a concentration in three areas, such as anthropology, biological sciences, chemistry, computer science, geology and planetary science, history and philosophy of science, mathematics, neuroscience, physics, psychology, and statistics.

Also available are a pre-medicine option (for those preparing for medical school or another health professional school); a pre-physician assistant option (for those preparing to apply to Physician Assistant education programs), and two pre-education options (for those preparing for teaching careers).

Natural Sciences Standard Major (36 credits)

Choose a minimum of 36 credits (approximately 12 courses) from any three departments below. All courses taken must be related to natural sciences. At least five courses must be taken from one department, and at least three courses should be taken from each of the two other departments. All courses selected for the natural sciences major must be approved by an academic advisor.

- Anthropology (natural sciences-related course)
- Astronomy
- Biological Sciences
- Chemistry
- Computer science (only courses numbered 0401 and above)
- Geology and planetary science
- History and philosophy of science (natural sciences-related course)
- Mathematics (only courses numbered 0220 and above)
- Neuroscience
- Physics
- Psychology (natural sciences-related course)
- Statistics (0200 or 1000, and courses numbered above 1000)

Pre-Medicine Option (39 credits)

This natural sciences concentration incorporates the course work needed for admission to most medical and dental programs. Completion of this concentration does not guarantee acceptance into graduate study. Students pursuing this option can take advantage of the resources of the University of Pittsburgh's health professions advising team, based in the University Honors College. Night sections of biology, chemistry, and physics courses are available, with seats reserved specifically for CGS students.

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2
- BIOSC 1000 - BIOCHEMISTRY
- CHEM 0110 - GENERAL CHEMISTRY 1
- CHEM 0120 - GENERAL CHEMISTRY 2
- CHEM 0310 - ORGANIC CHEMISTRY 1
- CHEM 0320 - ORGANIC CHEMISTRY 2
- CHEM 0345 - ORGANIC LABORATORY
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1 or STAT 1000 - APPLIED STATISTICAL METHODS
- PHYS 0110 - INTRODUCTION TO PHYSICS 1

- PHYS 0111 - INTRODUCTION TO PHYSICS 2
- PHYS 0212 - INTRO TO LABORATORY PHYSICS
  Additional recommended courses for premedicine option:
  BIOSC 1850 - MICROBIOLOGY
  MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
  NROSCI 1000 - INTRO TO NEUROSCIENCE
  NROSCI 1250 - HUMAN PHYSIOLOGY

Pre-Physician Assistant Option (40 credits)

The pre-PA curriculum is designed for students interested in the Physician Assistant Studies Program at the University of Pittsburgh School of Health & Rehabilitation Sciences (SHRS). The pre-PA option incorporates the prerequisite course work necessary for application to the PA program. Please note that completion of the pre-PA plan of studies does not guarantee direct admission into graduate study. For a full list of admission requirements, visit the School of Health and Rehabilitation Sciences PA program web site. Note: Requirements for other PA programs from other schools than the University of Pittsburgh may differ.

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2
- BIOSC 1850 - MICROBIOLOGY
- CHEM 0110 - GENERAL CHEMISTRY 1
- CHEM 0120 - GENERAL CHEMISTRY 2
- CHEM 0310 - ORGANIC CHEMISTRY 1
- CHEM 0330 - ORGANIC CHEMISTRY LABORATORY 1
- NUR 0012 - HUMAN ANATOMY AND PHYSIOLOGY 1
- NUR 0002 - NSG ANATOMY & PHYSIOLOGY LAB 1
- NUR 0013 - HUMAN ANATOMY AND PHYSIOLOGY 2
- NUR 0003 - NSG ANATOMY & PHYSIOLOGY LAB 2
- PSY 0010 - INTRODUCTION TO PSYCHOLOGY
- PSY 0310 - DEVELOPMENTAL PSYCHOLOGY
- PSY 1000-level Elective Course
  Outside Major: Other Requirements
  HRS 1006 - INTRO TO HUMAN NUTRITION
  REHSCI 1235 - MEDICAL TERMINOLOGY

Pre-Education Options

The College of General Studies and the Pitt School of Education have collaborated on two concentrations in the natural sciences major that incorporate the prerequisite science course work needed for admission into the certificate programs in earth and space science and general science. These options may be used by students interested in the Master of Arts in Teaching program offered in the School of Education. Completion of the prerequisites for the School of Education does not guarantee acceptance to its programs. Students must complete a minimum of 120 credits (approximately 40 courses) for a Bachelor of Science degree with a major in natural sciences. Of this total, students must take a minimum of 38 credits (approximately 12 courses) according to the specifications. The remaining credits required for the degree are outlined on the Requirements for the Bachelor's Degree information sheet.

Earth and Space Science Concentration (45 credits)

- ASTRON 0089 - STARS, GALAXIES AND THE COSMOS
- CHEM 0110 - GENERAL CHEMISTRY 1
- CHEM 0120 - GENERAL CHEMISTRY 2
- GEOL 1030 - THE ATMOSPHERE, OCEANS & CLMTE or GEOL 0890 - OCEANOGRAPHY
- GEOL 0055 - GEOLOGY LABORATORY

- GEOL 0060 - HISTORY OF THE EARTH or GEOL 1020 - SEDIMENTOLOGY AND STRATIGRAPHY
- GEOL 0800 - GEOLOGY
- GEOL 0840 - ENVIRONMENTAL SCIENCE
- GEOL 0860 - ENVIRONMENTAL GEOLOGY
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- PHYS 0110 - INTRODUCTION TO PHYSICS 1
- IL 1580 - FOUNDATIONS OF SPECIAL EDUC
- Science Electives

General Science Concentration (46 credits)

- ASTRON 0089 - STARS, GALAXIES AND THE COSMOS
- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2
- BIOSC 0370 - ECOLOGY
- BIOSC 1000 - BIOCHEMISTRY or BIOSC 1850 - MICROBIOLOGY
  Note that CHEM 0320 is a prerequisite course for BIOSC 1000.
- CHEM 0110 - GENERAL CHEMISTRY 1
- CHEM 0120 - GENERAL CHEMISTRY 2
- CHEM 0310 - ORGANIC CHEMISTRY 1
- GEOL 0800 - GEOLOGY or GEOL 0860 - ENVIRONMENTAL GEOLOGY
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- PHYS 0110 - INTRODUCTION TO PHYSICS 1
- PHYS 0111 - INTRODUCTION TO PHYSICS 2
- PHYS 0212 - INTRO TO LABORATORY PHYSICS
- IL 1580 - FOUNDATIONS OF SPECIAL EDUC

Notes

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see your advisor for additional information.

General Education Requirements

To earn a Bachelor of Arts or a Bachelor of Science degree in the College of General Studies, you must satisfactorily complete a minimum of 120 credits (approximately 40 courses), at least 30 credits of which must be in upper-division (1000-level) courses. These 1000-level courses may come from any of the requirements for the degree listed below. Requirements are subject to change; students should check with an academic advisor before registering. Approved courses are listed each term at www.cgs.pitt.edu

Skills (15 credits minimum)

Certain tools of knowledge are required of all students in the baccalaureate degree program: ability to use the English language orally and in writing and ability to understand and use basic mathematical symbols. The courses required to satisfy each of the skills requirements are listed below:

Oral Communication-3 credits

- COMMRC 0520 - PUBLIC SPEAKING or
- COMMRC 0500 - ARGUMENT

Writing-9 credits minimum

ENGCMP 0200 - 0208 and two other courses from English composition (ENGCMP) or English writing (ENGWRT), or those designated W (writing).

Note: At least 3 credits of composition/writing must be from the University of Pittsburgh.

Mathematics-3 credits minimum

- MATH 0010 - COLLEGE ALGEBRA PART 1 and
- MATH 0020 - COLLEGE ALGEBRA PART 2
  or
- MATH 0025 - APPLIED COLLEGE ALGEBRA or
- MATH 0031 - ALGEBRA or
- CS 0004 - INTRO COMPUTER PROGRMMNG-BASIC or
- CS 0007 - INTRO TO COMPUTER PROGRAMMING

Note:

Students admitted to CGS for the fall term 2008 (2091) and thereafter are required to complete the public speaking, math, and first University writing course (ENGCMP 0200 or above) with a C- or better grade.

Quantitative and Formal Reasoning (3 credits minimum)

In addition to the acquisition of certain tools of knowledge through the skills requirements, students also need to acquire the ability to apply logic and formal reasoning to reading, writing, and thinking. Choose one course from the following list:

- Computer science (an approved course, 3 credits)
- INFSCI 0010 - INTRO TO INFORM, SYS & SOCIETY
- HPS 0611 - PRINCPL OF SCIENTIFIC REASNING
- HPS 0621 - PROB SOLVING: HOW SCI WORKS
- PHIL 0500 - INTRODUCTION TO LOGIC
- MATH 0120 - BUSINESS CALCULUS or a more advanced course
- Statistics (any course, 3-4 credits)

Understandings (27 credits)

A liberal education provides broad exposure to the three major bodies of knowledge-humanities, social sciences, and natural sciences. Students are exposed to social, scientific, aesthetic, moral, and religious information, the purpose of which is to furnish insight into how the concerns of people are interrelated, how knowledge has been accumulated, and how unsolved problems still challenge humanity. The courses needed to fulfill the understandings requirements are listed below.

Humanities (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Japanese*
Classics	Linguistics
Communication	Music

English Composition
English Film
English Literature
English Writing
French*
German*
History of Art and Architecture
Italian*
Philosophy
Religious studies
Russian*
Slovak*
Spanish*
Studio Arts
Theatre Arts

*literature and culture courses

Social Sciences (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies
Anthropology
Economics
Gender, Sexuality, and Women's Studies
History
Jewish Studies
Legal Studies
Political Science
Psychology
Religious Studies
Sociology
Urban Studies

Natural Sciences (9 credits)

Three courses distributed over two or three of the disciplines listed below:

Anthropology
Astronomy
Biological sciences
Chemistry
Geology and environmental science
History and philosophy of science
Neuroscience
Physics
Psychology

As these tables show, some departments have courses used in different categories. For the list of approved courses, view Academics at www.cgs.pitt.edu.

Literature (3 credits)

This requirement introduces students to works of literature that have abiding value and, in the process, to the techniques of literary interpretation. This one-course requirement may also be fulfilled from disciplines other than English.

History (3 credits)

The study of history provides an understanding of contemporary society from the viewpoint of long-term change. This one-course requirement may also be fulfilled with courses other than those offered by the Department of History.

Note

A course can be used to fulfill only one requirement in the categories of understandings, literature, and history.

International Perspective (9 credits minimum)

The world of today is economically, politically, and culturally interdependent. In the 21st century, knowledge of countries has become essential. This three-course requirement may be fulfilled by taking internationally focused courses offered by a variety of departments. At least one of the courses must be a non-Western course. All international courses may overlap with another requirement.

Specialized Study (the Major) (30-36 credits)

The baccalaureate degree, in addition to providing certain skills and broad exposure to the major bodies of knowledge, also allows the opportunity to specialize in a particular field, providing depth of experience essential for vocational competence or further graduate study. An outline of each major may be obtained at the CGS information display in 1400 Wesley W. Posvar Hall or on the CGS Web site, www.cgs.pitt.edu.

Students admitted to CGS can choose from the following majors. The majors indicated by asterisks are also available by combining Saturday and CGS Online courses.

- Administration of justice*
- Dental hygiene (for licensed dental hygienists)
- Health services (BA and BS)
- Humanities*
- Legal studies
- Media and professional communications
- Natural sciences
- Public service
- Social sciences*

Students who want a major in an arts and sciences field can begin in CGS and transfer to Arts and Sciences after completing 12 credits including the mathematics and seminar in composition requirements. Admission is determined by Arts and Sciences.

Electives

Any credits not used specifically to satisfy the previous requirements are considered electives. Electives can be taken in a wide variety of subjects to complement, reinforce, or add further breadth to the chosen program of study or to help meet the requirements of aminor or certificate program. Students may have no more than 18 credits in professional courses, such as administration of justice, business, education, engineering, information science, public service, and social work, as electives.

Preparation for Professional Programs

Prerequisite courses for the following programs may be taken through CGS prior to applying to another Pitt school.

• Business • Education • Engineering • Health and Rehabilitation Sciences • Information Science • Nursing • Pharmacy • Social Work

Notes

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see your advisor for additional information.

For more information, contact the University of Pittsburgh College of General Studies.

Public Service, BA

The undergraduate major in public service is offered by the Pitt Graduate School of Public and International Affairs. It is designed to prepare students for a broad range of careers that are focused on the resolution of public problems or the delivery of public services. These careers range from those in the local government and community arena to the metropolitan region and state arena to national and international settings. Potential employers include local, state, and federal governments; nonprofit and nongovernmental organizations at the local, regional, national, and international level; private firms engaged in working with governments; and private corporations with an active public service culture.

The major serves students who are interested in public issues as concerned and interested citizens and prepares them for a wide range of graduate programs related to public policy and management.

Major Requirements

Students must complete a minimum of 120 credits for the Bachelor of Arts degree with a major in public service. Of this total, students must take 33 credits (11 courses) in public service; one course in statistics(STAT 0200 - BASIC APPLIED STATISTICS or an equivalent course); and six credits (two courses) in a related field such as political science, economics, psychology, sociology, or another field approved by an academic advisor. The remaining credits required for the degree are outlined in the General Education Requirements section on this page.

Core Courses (15 credits)

- PUBSRV 0020 - INTRODUCTION TO PUBLIC SERVICE
- PUBSRV 0030 - PUBLIC POLICY PROCESS
- PUBSRV 0040 - PUBLIC SERVICE TECHNOLOGIES
- PUBSRV 0050 - ETHICS AND ACCOUNTABILITY
- CGS 1900 - CHOOSING YOUR PATH: INTERNSHIP (section: 7715)

Concentration Areas (18 credits)

Choose one of the three concentration areas below:

Public Administration Concentration

- PUBSRV 1100 - PRACTICES IN PUBLIC ADMINSTRTN
- PUBSRV 1110 - FINANCIAL MGT IN PUBLIC SECTOR
- PUBSRV 1120 - HUMN RESOURCS MGT PUBLC SECTOR
- PUBSRV 1130 - PLANNING IN THE PUBLIC SECTOR
- PUBSRV - Electives (choose two additional public service courses)

Nonprofit Management Concentration

- PUBSRV 1200 - PRACTICES OF NON-PROFIT MGMNT
- PUBSRV 1210 - FINANCIAL MGT NON-PROFIT ORGNS
- PUBSRV 1220 - HUMN RESORC MGT NPRF ORGNS
- PUBSRV 1230 - FUNDRAISNG FOR NON-PROFT ORGNS
- PUBSRV - Electives (choose two additional public service courses)

Self-Designed Concentration

Courses that meet the special program needs of the student may be selected from any course offered in public service or in another area or department. The self-designed concentration must be approved by a College of General Studies academic advisor.

Public Service Electives

Public administration concentration students may use the 1200-numbered courses as electives; nonprofit management concentration students may use 1100-numbered courses. Courses designated (UHC) are offered in conjunction with the University Honors College.

- PUBSRV 0150 - INTRODUCTION TO GLOBAL STUDIES
- PUBSRV 1300 - LEGAL ISSUES IN PUBLIC SERVICE
- PUBSRV 1305 - HEALTH, LAW AND ETHICS
- PUBSRV 1310 - DIVERSTY ISSUES PUBLIC SERVICE
- PUBSRV 1315 - MANAGING PROJECTS & CONTRACTS
- PUBSRV 1320 - GIS IN THE PUBLIC SERVICE
- PUBSRV 1340 - STRATEGIC PLNNG PUBLIC SECTOR
- PUBSRV 1390 - THEORIES OF LEADERSHIP
- PUBSRV 1425 - PRINCIPLES HOMELAND SECURITY
- PUBSRV 1430 - TRIAL ADVOCACY 1 (honors)
- PUBSRV 1435 - TRIAL ADVOCACY 2 (honors)
- PUBSRV 1455 - LAW ETHCS PBLC POLC MASS MEDIA
- PUBSRV 1901 - INDEPENDENT STUDY
- PUBSRV 1910 - INSTIT OF POLITICS INTSHP/SEM

Notes

Five-year accelerated program for Pitt undergraduates

High-achieving University of Pittsburgh juniors (and in some cases, first-term seniors) in the College of General Studies may apply early to the Graduate School of Public and International Affairs (GSPIA). If admitted, they may enroll at GSPIA in what normally would have been their senior year, allowing them to complete both a bachelor's and a master's degree in a total of five years. Special eligibility requirements apply. Pitt undergraduates interested in this program should contact GSPIA at 412-648-7640.

Please note:

This major requires that you complete an internship at a facility external to the University, and this facility may or will require a criminal background check, an Act 33/34 clearance, and perhaps a drug screen to determine whether you are qualified to participate in the internship. Additionally, in order to become licensed or employed, many states will inquire as to whether the applicant has been convicted of a misdemeanor, a felony, or a felonious or illegal act associated with alcohol and/or substance abuse.

Students interested in a minor, rather than a major, in public service should check with their academic advisor.

Requirements subject to change. Check with an academic advisor before registering.

General Education Requirements

To earn a Bachelor of Arts or a Bachelor of Science degree in the College of General Studies, you must satisfactorily complete a minimum of 120 credits (approximately 40 courses), at least 30 credits of which must be in upper-division (1000-level) courses. These 1000-level courses may come from any of the requirements for the degree listed below. Requirements are subject to change; students should check with an academic advisor before registering. Approved courses are listed each term at www.cgs.pitt.edu

Skills (15 credits minimum)

Certain tools of knowledge are required of all students in the baccalaureate degree program: ability to use the English language orally and in writing and ability to understand and use basic mathematical symbols. The courses required to satisfy each of the skills requirements are listed below:

Oral Communication-3 credits

- COMMRC 0520 - PUBLIC SPEAKING or
- COMMRC 0500 - ARGUMENT

Writing-9 credits minimum

ENGCMP 0200 - 0208 and two other courses from English composition (ENGCMP) or English writing (ENGWRT), or those designated W (writing).

Note: At least 3 credits of composition/writing must be from the University of Pittsburgh.

Mathematics-3 credits minimum

- MATH 0010 - COLLEGE ALGEBRA PART 1 and
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A liberal education provides broad exposure to the three major bodies of knowledge-humanities, social sciences, and natural sciences. Students are exposed to social, scientific, aesthetic, moral, and religious information, the purpose of which is to furnish insight into how the concerns of people are interrelated, how knowledge has been accumulated, and how unsolved problems still challenge humanity. The courses needed to fulfill the understandings requirements are listed below.

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Classics	Linguistics
Communication	Music
English Composition	Philosophy
English Film	Religious studies
English Literature	Russian*
English Writing	Slovak*
French*	Spanish*
German*	Studio Arts
History of Art and Architecture	Theatre Arts
Italian*	

*literature and culture courses

Social Sciences (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Legal Studies
Anthropology	Political Science
Economics	Psychology
Gender, Sexuality, and Women's Studies	Religious Studies
History	Sociology
Jewish Studies	Urban Studies

Natural Sciences (9 credits)

Three courses distributed over two or three of the disciplines listed below:

Anthropology	History and philosophy of science
Astronomy	Neuroscience
Biological sciences	Physics
Chemistry	Psychology
Geology and environmental science	

As these tables show, some departments have courses used in different categories. For the list of approved courses, view Academics at www.cgs.pitt.edu.

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Note

A course can be used to fulfill only one requirement in the categories of understandings, literature, and history.

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Students admitted to CGS can choose from the following majors. The majors indicated by asterisks are also available by combining Saturday and CGS Online courses.

- Administration of justice*
- Dental hygiene (for licensed dental hygienists)
- Health services (BA and BS)
- Humanities*
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- Media and professional communications
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Students who want a major in an arts and sciences field can begin in CGS and transfer to Arts and Sciences after completing 12 credits including the mathematics and seminar in composition requirements. Admission is determined by Arts and Sciences.

Electives

Any credits not used specifically to satisfy the previous requirements are considered electives. Electives can be taken in a wide variety of subjects to complement, reinforce, or add further breadth to the chosen program of study or to help meet the requirements of aminor or certificate program. Students may have no more than 18 credits in professional courses, such as administration of justice, business, education, engineering, information science, public service, and social work, as electives.

Preparation for Professional Programs

Prerequisite courses for the following programs may be taken through CGS prior to applying to another Pitt school.

• Business • Education • Engineering • Health and Rehabilitation Sciences • Information Science • Nursing • Pharmacy • Social Work

Notes

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see your advisor for additional information.

For more information, contact the University of Pittsburgh College of General Studies.

Social Sciences, BA

Social sciences is a liberal arts major with a focus on courses from three social sciences departments. This major can be customized to meet your interests and personal or career goals. You will choose to concentrate in three areas from the list below and have the opportunity to take a variety of courses within those areas of study.

Also available is a pre-education option for those preparing for a teaching career.

Social Sciences Standard Major (36 credits)

Of the minimum total of 120 credits required for the Bachelor of Arts degree with a major in social sciences area, 36 credits (approximately 12 courses) must come in courses that satisfy the major requirements. To satisfy those requirements, students choose social sciences related courses from three of the following departments and programs.

- Africana studies (social sciences-related courses)
- Anthropology (social sciences-related courses)
- Economics
- Gender, Sexuality, and Women's Studies
- History
- Jewish studies
- Legal studies
- Political science
- Psychology (social sciences-related courses)
- Religious studies (social sciences-related courses)
- Sociology

Notes

Students must adhere to the following requirements as they take courses for the social sciences standard major:

- At least five courses must be taken from one department/program listed above and at least three courses from the other two departments/programs.
- At least one half of the major courses must be at the 1000-level.
- All courses selected for the social sciences area major must be approved by an academic advisor.

Pre-Education Option (36 credits)

The College of General Studies and the Pitt School of Education have collaborated on a concentration in the social sciences major that incorporates the prerequisite science course work needed for admission into the certificate program in Social Studies Education. This option may be used by students interested in the Master of Arts in Teaching (MAT) program and Professional Year (PY) Program offered in the School of Education. Completion of the prerequisites for the School of Education does not guarantee acceptance to its programs. Students must complete a minimum of

120 credits (approximately 40 courses) for a Bachelor of Science degree with a major in social sciences. Of this total, students must take a minimum of 36 credits (approximately 12 courses) according to the specifications. At least 18-credit hours must be at the 1000-level. The remaining credits required for the degree are outlined in the General Education Requirements section on this page.

Area 1: History, Geography, Culture (15-18 credits)

Recommended courses: choose one per category.

U.S. History

- HIST 0600 - UNITED STATES TO 1877
- HIST 0601 - UNITED STATES 1865-PRESENT
- HIST 0670 - AFRO-AMERICAN HISTORY 1
- HIST 0671 - AFRO-AMERICAN HISTORY 2
- HIST 1610 - UNITED STATES COLONIAL
- HIST 1611 - AMERICAN REVOLUTION 1763-1791
- HIST 1619 - UNITED STATES SINCE 1945

Western European History

- HIST 0100 - WESTERN CIVILIZATION 1
- HIST 0101 - WESTERN CIVILIZATION 2

World History (Non-Western)

- HIST 0700 - WORLD HISTORY

Ancient History

- CLASS 0020 - ROMAN CIVILIZATION
- HIST 0400 - EAST ASIAN CIVLIZATION TO 1800
- HIST 1775 - ORIGINS OF CHRISTIANITY
- HIST 1781 - ROMAN HISTORY
- HIST 1783 - GREEK HISTORY

Geography

- AFRCNA 0385 - CARIBBEAN HISTORY
- HIST 0401 - MODERN EAST ASIAN CIVILIZATION
- HIST 0501 - MODERN LATIN AMERICA
- HIST 1164 - SMALL COUNTRIES & THE EU

World Cultures

- ANTH 0780 - INTRO TO CULTURAL ANTHROPOLOGY
- HIST 1423 - MODERN CHINA
- HIST 1433 - MODERN JAPAN
- HIST 1796 - HISTORY OF AFRICA SINCE 1800

Area 2: Civics (3 credits)

Recommended courses.

- HIST 1641 - MODERN AMERICAN POLITICS
- PS 0200 - AMERICAN POLITICS
- PS 1231 - POLITICAL PARTIES & ELECTIONS
- PS 1234 - ELECTRL BEHAVR & DEMOCRTC PROC
- PS 1252 - STATE GOVERNMENT
- PS 1378 - BLDG DEMOCRACY AROUND THE WRLD

Area 3: Economics (3 credits)

Recommended courses.

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY
- ECON 0800 - INTRODUCTION TO ECONOMICS

Area 4: Sociology and Social Foundations (3 credits)

Recommended courses.

- ADMPS 1001 - SOCIAL FOUNDATIONS OF EDUCATN
- SOC 0005 - SOCIETIES
- SOC 0010 - INTRODUCTION TO SOCIOLOGY
- SOC 1107 - CULTURAL SOCIOLOGY

Area 5: Foundations of Special Education (3 credits)

Required course.

- IL 1580 - FOUNDATIONS OF SPECIAL EDUC

Upper Level Electives (6 credits)

Recommended courses.

- GSWS 1180 - POLITICS OF GENDER AND FOOD
- LEGLST 1152 - LEGAL ISSUES IN PUBLIC SERVICE
- LEGLST 1210 - LAW AND POLITICS
- LEGLST 1320 - LAW AND ENVIRONMENT
- PS 1536 - HUMAN SECURITY
- PS 1542 - GLOBAL ENVIRONMENTAL POLITICS
- SOC 1119 - GLOBAL PERSPS POPULAR CULTURE
- SOC 1445 - SOCIETY AND ENVIRONMENT
- SOC 1448 - WORKING WOMEN

Notes

- All courses selected for the social studies pre-education track must be approved by an academic advisor.
- At least half of these courses must be upper-division (1000-level) courses.
- Students are also encouraged to participate in an internship during their degree program and may fulfill some CGS general education and major requirements by completing a study abroad program.

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see your advisor for additional information.

General Education Requirements

To earn a Bachelor of Arts or a Bachelor of Science degree in the College of General Studies, you must satisfactorily complete a minimum of 120 credits (approximately 40 courses), at least 30 credits of which must be in upper-division (1000-level) courses. These 1000-level courses may come from any of the requirements for the degree listed below. Requirements are subject to change; students should check with an academic advisor before registering. Approved courses are listed each term at www.cgs.pitt.edu

Skills (15 credits minimum)

Certain tools of knowledge are required of all students in the baccalaureate degree program: ability to use the English language orally and in writing and ability to understand and use basic mathematical symbols. The courses required to satisfy each of the skills requirements are listed below:

Oral Communication-3 credits

- COMMRC 0520 - PUBLIC SPEAKING or
- COMMRC 0500 - ARGUMENT

Writing-9 credits minimum

ENGCMP 0200 - 0208 and two other courses from English composition (ENGCMP) or English writing (ENGWRT), or those designated W (writing).

Note: At least 3 credits of composition/writing must be from the University of Pittsburgh.

Mathematics-3 credits minimum

- MATH 0010 - COLLEGE ALGEBRA PART 1 and
- MATH 0020 - COLLEGE ALGEBRA PART 2
  or
- MATH 0025 - APPLIED COLLEGE ALGEBRA or
- MATH 0031 - ALGEBRA or
- CS 0004 - INTRO COMPUTER PROGRMMNG-BASIC or
- CS 0007 - INTRO TO COMPUTER PROGRAMMING

Note:

Students admitted to CGS for the fall term 2008 (2091) and thereafter are required to complete the public speaking, math, and first University writing course (ENGCMP 0200 or above) with a C- or better grade.

Quantitative and Formal Reasoning (3 credits minimum)

In addition to the acquisition of certain tools of knowledge through the skills requirements, students also need to acquire the ability to apply logic and formal reasoning to reading, writing, and thinking. Choose one course from the following list:

- Computer science (an approved course, 3 credits)
- INFSCI 0010 - INTRO TO INFORM, SYS & SOCIETY

- HPS 0611 - PRINCPL OF SCIENTIFIC REASNING
- HPS 0621 - PROB SOLVING: HOW SCI WORKS
- PHIL 0500 - INTRODUCTION TO LOGIC
- MATH 0120 - BUSINESS CALCULUS or a more advanced course
- Statistics (any course, 3-4 credits)

Understandings (27 credits)

A liberal education provides broad exposure to the three major bodies of knowledge-humanities, social sciences, and natural sciences. Students are exposed to social, scientific, aesthetic, moral, and religious information, the purpose of which is to furnish insight into how the concerns of people are interrelated, how knowledge has been accumulated, and how unsolved problems still challenge humanity. The courses needed to fulfill the understandings requirements are listed below.

Humanities (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Japanese*
Classics	Linguistics
Communication	Music
English Composition	Philosophy
English Film	Religious studies
English Literature	Russian*
English Writing	Slovak*
French*	Spanish*
German*	Studio Arts
History of Art and Architecture	Theatre Arts
Italian*	

*literature and culture courses

Social Sciences (9 credits)

Three courses (one at the 1000 level) distributed over three of the disciplines listed below:

Africana Studies	Legal Studies
Anthropology	Political Science
Economics	Psychology
Gender, Sexuality, and Women's Studies	Religious Studies
History	Sociology

Jewish Studies	Urban Studies

Natural Sciences (9 credits)

Three courses distributed over two or three of the disciplines listed below:

Anthropology	History and philosophy of science
Astronomy	Neuroscience
Biological sciences	Physics
Chemistry	Psychology
Geology and environmental science	

As these tables show, some departments have courses used in different categories. For the list of approved courses, view Academics at www.cgs.pitt.edu.

Literature (3 credits)

This requirement introduces students to works of literature that have abiding value and, in the process, to the techniques of literary interpretation. This one-course requirement may also be fulfilled from disciplines other than English.

History (3 credits)

The study of history provides an understanding of contemporary society from the viewpoint of long-term change. This one-course requirement may also be fulfilled with courses other than those offered by the Department of History.

Note

A course can be used to fulfill only one requirement in the categories of understandings, literature, and history.

International Perspective (9 credits minimum)

The world of today is economically, politically, and culturally interdependent. In the 21st century, knowledge of countries has become essential. This three-course requirement may be fulfilled by taking internationally focused courses offered by a variety of departments. At least one of the courses must be a non-Western course. All international courses may overlap with another requirement.

Specialized Study (the Major) (30-36 credits)

The baccalaureate degree, in addition to providing certain skills and broad exposure to the major bodies of knowledge, also allows the opportunity to specialize in a particular field, providing depth of experience essential for vocational competence or further graduate study. An outline of each major may be obtained at the CGS information display in 1400 Wesley W. Posvar Hall or on the CGS Web site, www.cgs.pitt.edu.

Students admitted to CGS can choose from the following majors. The majors indicated by asterisks are also available by combining Saturday and CGS Online courses.

- Administration of justice*
- Dental hygiene (for licensed dental hygienists)
- Health services (BA and BS)
- Humanities*
- Legal studies

- Media and professional communications
- Natural sciences
- Public service
- Social sciences*

Students who want a major in an arts and sciences field can begin in CGS and transfer to Arts and Sciences after completing 12 credits including the mathematics and seminar in composition requirements. Admission is determined by Arts and Sciences.

Electives

Any credits not used specifically to satisfy the previous requirements are considered electives. Electives can be taken in a wide variety of subjects to complement, reinforce, or add further breadth to the chosen program of study or to help meet the requirements of aminor or certificate program. Students may have no more than 18 credits in professional courses, such as administration of justice, business, education, engineering, information science, public service, and social work, as electives.

Preparation for Professional Programs

Prerequisite courses for the following programs may be taken through CGS prior to applying to another Pitt school.

• Business • Education • Engineering • Health and Rehabilitation Sciences • Information Science • Nursing • Pharmacy • Social Work

Notes

Requirements are subject to change. Check with an academic advisor before registering.

An internship program is available through the College of General Studies. Please see your advisor for additional information.

For more information, contact the University of Pittsburgh College of General Studies.

Minor

Administration of Justice Minor

Students interested in a minor, rather than a major, in administration of justice should check with their academic advisor. For CGS students, the minor consists of professional elective course work. For Dietrich School of Arts and Sciences (A&S) students, the minor consists of non-A&S elective course work.

Minor Requirements (15 credits)

Students must complete five courses (15 credits) with at least three courses from the University of Pittsburgh. A 2.0 average is required in the minor.

Required Courses

- ADMJ 0500 - INTRO TO ADMIN OF JUSTICE
- ADMJ 1400 - INTRODUCTION TO CRIMINAL LAW
- ADMJ Electives
  See Administration of Justice Major for current list of electives.

Legal Studies Minor

Students interested in a minor, rather than a major, in legal studies should check with their academic advisor.

Minor requirements:

For the minor, students must complete five courses (15 credits) with at least three courses from the University of Pittsburgh. A 2.0 average is required in the minor.

Required Courses

- LEGLST 0080 - INTRODUCTION TO LEGAL STUDIES
  LEGLST Elective Courses

  See LEGLST major for a list of electives.

Public Service Minor

Students interested in a minor, rather than a major, in public service should check with their academic advisor. For CGS students, the minor would be professional elective course work. For Dietrich School of Arts and Sciences students, the minor would be non-A&S elective course work.

Minor Requirements

For the minor, students must complete five courses (15 credits) with at least three courses from the University of Pittsburgh. A 2.0 average is required in the minor.

Required courses:

- PUBSRV 0020 - INTRODUCTION TO PUBLIC SERVICE
- PUBSRV 0030 - PUBLIC POLICY PROCESS
- PUBSRV 0050 - ETHICS AND ACCOUNTABILITY
- PUBSRV - Electives
  See Public Service major for a list of electives.

Note:

Requirements are subject to change. Check with an academic advisor before registering.

Certificate

Accounting Certificate

Develop a practical and theoretical foundation in accounting while earning a certificate. Offered by the College of General Studies and the College of Business Administration, the 24-credit part-time evening program enables students to take the same subjects required for accounting majors in the Bachelor of Science in Business Administration program offered by the College of Business Administration.

Participants benefit from the academic instruction of the College of Business Administration and the nontraditional student services available through the College of General Studies. Credits earned may be counted toward certain state licensure requirements.

Who should participate:

Professionals who already have earned a bachelor's degree in any field and wish to develop careers in accounting or another business field in which substantial knowledge of accounting is an asset.

Upon completion of this certificate, participants will be able to:

- Share substantial knowledge of accounting
- Enhance their careers in the business field
- Meet many of the requirements to sit for the certified public accountant (CPA) examination in Pennsylvania.

This certificate is applicable to fields such as public accounting, auditing, taxation, corporate accounting, governmental accounting, and other careers in business that require a substantial knowledge of financial and/or managerial accounting.

Admission requirements

A bachelor's degree and a 2.75 or higher cumulative grade point average are required for admission to the program. A certificate application must be completed online. For an application and additional information on admissions guidelines, see admissions Web page. Credits earned at other accredited educational institutions will be evaluated for transfer. However, a minimum of 15 credits must be earned at the University of Pittsburgh. Students must earn a grade of C or better in all University accounting courses.

CPA preparation

Becoming a CPA in the state of Pennsylvania will require 150 credit hours of coursework, 36 credits of which must be in accounting, auditing, finance, tax, and business law. At that time, completing the certificate program will no longer be sufficient preparation to sit for the CPA exam. Please contact Melvin Watkins, CGS Academic Advisor, at mwatkins@pitt.edu to discuss options for meeting these requirements while enrolled in the College of General Studies.

To learn about becoming a CPA in Pennsylvania, visit the Pennsylvania Institute of Certified Public Accountants Web site at www.picpa.org. You can also contact the Pennsylvania State Board of Accountancy for more information at 717-783-1404 or by E-mail at st-accountancy@pa.gov.

Obtaining the certificate

To receive the certificate, you must fill out an application with your academic advisor prior to completing your last term in the program. Check with your academic advisor for the application filing form and deadline, and be sure all requirements for the certificate have been met. To avoid a late fee, you should complete this process when registering for the term.

Curriculum (24 credits)

Students must complete their required courses and a minimum of one elective course for a total of 24 credits. A grade of C or better is required for all courses in the program. Students must follow the approved prerequisites for each course. All courses are three credits, and all courses are offered in the evenings.

Required Courses

- CDACCT 6030 - FINANCIAL ACCOUNTING
- CDACCT 6040 - MANAGERIAL ACCOUNTING
- CDACCT 6204 - INTERMEDT FINANCL REPORTING 1
- CDACCT 6205 - INTERMEDT FINANCL REPORTING 2
- CDACCT 6236 - ACCOUNTING INFORMATION SYSTEMS
- CDACCT 6238 - AUDITING
- CDACCT 6242 - INDIVIDUAL TAX ACCT & PLNNG

Electives

Take a minimum of one course.

- CDACCT 6210 - FINANCIAL STATEMENT ANALYSIS
- CDACCT 6221 - STRATEGIC COST MANAGEMENT
- CDACCT 6216 - ADVANCED FINANCIAL ACCOUNTING
- BUSENV 1760 - BUSINESS LAW

Additional Information

Requirements subject to change. Check with an academic advisor before registering.

Gainful Employment Information

Communications Certificate

The Certificate in Communication is a 24-credit program designed to train students to be more effective communicators. Courses, taught by faculty of the Department of Communication, include a range of specialized communication topics. Participants may elect to concentrate their studies in such areas as nonverbal, small group, interpersonal, organizational, or mass communication; persuasion in political settings; or the construction, analysis, and delivery of public speech.

Admission requirements:

Students must meet requirements for admission to the College of General Studies. A certificate application form must be completed and returned to the College of General Studies.

Who should participate:

- Business and professional people whose success may be enhanced by improved communication skills and further understanding of the communication process
- Those who wish to increase their personal knowledge of communication for use in their careers
- Citizens involved in community and public positions in which persuasive delivery and analysis are vital
- Persons seeking a better understanding of the impact of interpersonal, organizational, public, and mass communication in the contemporary world
- Students already enrolled in the College of General Studies or other University programs who want to concentrate on communications skills

Upon completion of this certificate, participants will be able to:

- Understand what makes one presentation more persuasive than another
- Polish and refine their communication skills
- Apply concentrated knowledge of a specialized communication topic

This certificate is applicable to fields such as education, writing, broadcasting, public relations, sales, communication training, personnel, promotions, advertising, market research, lobbying, politics, communications, and related fields.

Curriculum (24 credits)

The certificate is composed of three basic communication courses (9 credits) and five communication elective courses (15 credits).

- A minimum of five of the required eight courses must be completed at the University of Pittsburgh
- No course with a grade below C will be accepted for certificate credit

Required Courses (9 credits)

Choose three of the following courses. All courses are 3 credits, unless otherwise noted.

- COMMRC 0500 - ARGUMENT
- COMMRC 0520 - PUBLIC SPEAKING
- COMMRC 0530 - INTERPERSONAL COMMUNICATION
- COMMRC 0540 - DISCUSSION

- COMMRC 0550 - SPEECH COMPOSITION

Electives (15 credits)

Choose five of the following courses. All courses are 3 credits, unless otherwise noted. Prerequisite courses are in parentheses; English Composition 0200 is required for all 1000-level courses.

- COMMRC 0300 - COMMUNICATION PROCESS
- COMMRC 0310 - RHETORICAL PROCESS
- COMMRC 0320 - MASS COMMUNICATION PROCESS
- COMMRC 1101 - EVIDENCE
- COMMRC 1102 - ORGANIZATIONAL COMMUNICATION (0300)
- COMMRC 1103 - RHETORIC AND CULTURE (0310 or 0320)
- COMMRC 1104 - POLITICAL COMMUNICATION (0310 or 0320)
- COMMRC 1105 - TELEVISION AND SOCIETY (0320)
- COMMRC 1106 - SMALL GROUP COMMUNICATION (0300)
- COMMRC 1109 - NONVERBAL COMMUNICATION (0300)
- COMMRC 1110 - THEORIES OF INTERPERSONAL COM (0300)
- COMMRC 1111 - THEORIES OF PERSUASION (0520 and 0310 or 0320)
- COMMRC 1112 - THEORIES OF RHETORIC (0310 or 0520)
- COMMRC 1114 - FREEDOM OF SPEECH AND PRESS (0310 or 0320)
- COMMRC 1117 - 21ST CENTURY PUBLIC ARGUMENT (0310 or 0320)
- COMMRC 1118 - PRESIDENTIAL RHETORIC 1 (0310 or 0320)
- COMMRC 1119 - PRESIDENTIAL RHETORIC 2 (0310 or 0320)
- COMMRC 1121 - HISTORY OF MASS MEDIA (0320)
- COMMRC 1122 - MEDIA CRITICISM (0320)
- COMMRC 1142 - THEORIES OF MODERN RHETORIC (0310)
- COMMRC 1900 - COMMUNICATION INTERNSHIP

Notes

Requirements subject to change. Check with an academic advisor before registering.

Community Health Assessment Certificate

This interdisciplinary 18-credit program teaches students to:

- apply current theories and research related to how social, economic, cultural, legal, and/or environmental factors are associated with specific health care needs and outcomes;
- communicate knowledgeably and professionally in writing and/or verbally on topics related to health care; and
- use analytical skills to assess the physical, social, cultural, legal, and environmental factors influencing health behaviors.

Students who successfully complete this certificate may apply the credits to an undergraduate degree in the University of Pittsburgh College of General Studies (CGS).

Who should enroll:

- Health care workers seeking to more effectively communicate with and serve diverse populations of people or looking to take on leadership roles in the workplace
- Social work and social services employees interested in learning how health-related factors impact their clients and how social and cultural factors may impact their clients' health behaviors

- Public and community health workers who seek an understanding of the physical, social, and cultural factors influencing health behaviors and outcomes
- Professionals seeking to influence public policy regarding how healthcare services are delivered to diverse populations
- Individuals working for health care- or health services-focused nonprofits

This certificate is applicable to job titles such as health support coordinator, health outreach representative, health services administrator, and more. See an academic consultant for more details.

Upon completion of this certificate, participants will be able to:

- communicate and interact effectively and professionally with people from diverse backgrounds;
- understand how social, cultural, legal, and environmental factors may impact the behaviors of both patients and health care workers and apply this knowledge to their careers;
- identify behaviors that tend to promote or compromise health;
- apply administrative and managerial skills to nonprofits and community health organizations; and
- identify, recognize, gather, and analyze data that are pertinent to the health services field.

Admission requirements

Students must meet requirements for admission to the College of General Studies. A certificate application form must be completed and returned to the CGS.

Obtaining the certificate

To receive the certificate, you must fill out an application with your academic advisor prior to completing your last term in the program. Check with an academic advisor for the application form and filing deadline, and be sure all requirements for the certificate have been met. To avoid a late fee, you should complete this process when registering for the term.

Additional programs offered in this field include:

- Certificate in Managing Health Services Programs and Projects
- Bachelor of Arts in Health Services

Curriculum (18 credits)

Required courses

- COMMRC 1730 - SPECIAL TOPICS IN COMMUNICTN
- HRS 1017 - INTRO TO EPIDEMIOLOGY
- NUR 1765 - RISK FACTORS AND HEALTH
- NUR 1829 - CONTEM ISSUES CROS CULTL HLTH
- PUBSRV 1305 - HEALTH, LAW AND ETHICS

  Choose one of the following:
- SOC 0477 - MEDICAL SOCIOLOGY
- PUBSRV 1200 - PRACTICES OF NON-PROFIT MGMNT

Notes

Credits earned at other accredited educational institutions may be eligible for transfer. However, a minimum of nine credits must be earned at the University of Pittsburgh. Students must maintain at least a 2.0 grade point average in all University certificate courses.

Requirements subject to change. Check with an academic advisor before registering.

Corporate/Community Relations Certificate

The Certificate in Corporate and Community Relations helps students to develop the skills they need to effectively communicate a business or organization's mission and achievements to the outside community. It also teaches them how to effectively communicate organizational news and policies internally to fellow employees. Students learn to develop messages and communications strategies that engage the community and promote an organization's image in a positive way.

In this 18-credit program, each student may customize the curriculum by choosing elective courses to meet his or her own personal professional goals and will acquire a foundation in mass media theory through core classes.

Who should enroll:

- Individuals charged with communicating company and organizational news, policies, benefits, and messages to fellow employees
- Individuals charged with communicating and disseminating company and organizational news to an external audience, thereby improving public perception of the organization
- Individuals interested in advancing the causes of community, civic, or volunteer organizations
- Recent graduates or current students who wish to pursue a career incorporate or community communications

Upon completion of this program, students will be able to:

- apply a theoretical understanding of mass media process, history, and ethics to communications-related careers in broadcasting, journalism, legal professions, government, nonprofits, and other fields;
- identify and analyze audience traits, perspectives, and motivators and develop messages appropriate to each audience;
- manage and navigate professional relationships with a wide rangeof constituents;
- develop and write clear messages that support specific organizational goals and enhance the image of a professional organization in the public's mind; and
- create professional and effective communication strategies as well as persuasive written materials, customized to the needs of a specific profession, such as business proposals, speeches, marketing plans, and news stories.

This certificate is applicable to such fields as corporate communications, nonprofit management, advocacy, public relations, broadcasting, sales, communication training, promotions, advertising, lobbying and politics, human resources and relations, and training and development.

Admission requirements

Students must meet requirements for admission to the College of General Studies. A certificate application must be completed and returned to the College of General Studies. To avoid a late fee, you should complete this process when registering for courses.

Obtaining the certificate

To receive the certificate, you must fill out an application with your academic advisor prior to completing your last term in the program. Check with your academic advisor for the application filing form and deadline, and be sure all requirements for the certificate have been met. To avoid a late fee, you should complete this process when registering for the term.

Curriculum (18 credits)

Many courses are offered in the evenings. Not all courses are offered every term. All courses are three credits unless otherwise noted. Please check course descriptions for prerequisites. Credits earned at other accredited educational institutions may be eligible for transfer. However, a minimum of nine credits must be earned at the University of Pittsburgh. Students must maintain at least a 2.0 grade point average in all University certificate courses. For the course schedule and descriptions of most undergraduate classes offered by the College of General Studies, Kenneth P. Dietrich School of Arts and Sciences, and College of Business Administration, visit www.courses.as.pitt.edu.

Required Courses (6 credits)

- COMMRC 0320 - MASS COMMUNICATION PROCESS
- ENGWRT 0610 - INTRO JOURNALISM & NONFICTION

Electives (6 credits)

Choose two courses from the following:

- BUSERV 1940 - MARKETING FUNDAMENTALS
- COMMRC 1111 - THEORIES OF PERSUASION
- COMMRC 1732 - SPECIAL TOPICS IN MASS COM
- PUBSRV 1455 - LAW ETHCS PBLC POLC MASS MEDIA

Specializations (6 credits)

- COMMRC 1102 - ORGANIZATIONAL COMMUNICATION
- COMMRC 1730 - SPECIAL TOPICS IN COMMUNICTN
- ENGCMP 0410 - WRITING IN THE LEGL PROFESSNS
- ENGCMP 0420 - WRITING FOR THE PUBLIC
- ENGCMP 0515 - PERSASV WRIT-ADVRTNG/FUNDRSG
- ENGCMP 0520 - INTEGRATING WRITING AND DESIGN
- ENGCMP 0550 - TOPICS IN PUBLC/PROFESSNL WRIT
- ENGCMP 0560 - WRITING ARGUMENTS
- ENGCMP 0600 - INTRO TO TECHNICAL WRITING
- ENGCMP 1103 - PUBLIC RELATIONS WRITING
- ENGCMP 1104 - CREATIVE CORPORATE WRITING
- ENGCMP 1112 - PROF USES OF SOCIAL MEDIA
- ENGWRT 1330 - INTERMEDIATE NONFICTION
- ENGWRT 1403 - TOPC NON-FCTN:ELECTRNC MEDIA
- PUBSRV 1200 - PRACTICES OF NON-PROFIT MGMNT
- PUBSRV 1310 - DIVERSTY ISSUES PUBLIC SERVICE

Additional Information

Additional information on certificate programs is available in 1400 Wesley W. Posvar Hall or at the CGS website: www.cgs.pitt.edu

Digital Media Certificate

Visual literacy is becoming increasingly essential in this digital era. The 18-credit Certificate in Digital Media will help you understand the power of visual images to communicate with audiences. In addition, it will provide inspiration to conceive of these images and how to manipulate technology to bring these images to life, all within the context of traditional and emerging media careers. Students have the opportunity to take courses at Pittsburgh Filmmakers and participate in a unique internship with Pitt Panther TV.

Admission and Application Requirements

Students must meet College of General Studies certificate application requirements and complete an application form online. To avoid a late fee, you should complete the application process when registering for courses and prior to completing your last term in the program. For more information, visit http://www.cgs.pitt.edu/admissions or see a CGS advisor.

Who should participate:

- Professionals operating in multimedia environments
- Individuals responsible for e-commerce efforts
- People interested in producing content for online publications and sites, films, documentaries, etc.
- Entrepreneurs
- Educators

Upon completion of this certificate, participants will be able to:

- Understand how concepts, design, and technology work together to communicate with mass audiences
- Design, create, and manipulate digital communication vehicles
- Understand the importance of visual and textual communication in maintaining organizational success
- Produce engaging interactive programs, such as for training or sales purposes

This certificate is applicable to such fields as interactive online training; 3-D animation; electronic catalogs; DVDs for sales, marketing, or training purposes; multimedia businesses; and general e-commerce.

Curriculum (18 credits)

Many courses are offered in the evenings and at off-campus locations. Not all courses are offered every term. All courses are 3 credits unless otherwise noted. Please check course descriptions for prerequisites.

For the course schedule and descriptions of most undergraduate classes offered by the College of General Studies, the Kenneth P. Dietrich School of Arts and Sciences, and the College of Business Administration, visit www.as.pitt.edu/undergraduate. For Pittsburgh Filmmakers courses, visit http://pfm.pittsburgharts.org/course-listing.

Required Courses (9 credits)

- COMMRC 0320 - MASS COMMUNICATION PROCESS
- COMMRC 1122 - MEDIA CRITICISM
- ENGFLM 0355 - VISUAL LITERACY

Electives (9 credits)

Choose three of the courses listed below. A maximum of six credits may be taken from Pittsburgh Filmmakers.

- COMMRC 1105 - TELEVISION AND SOCIETY
- ENGCMP 0520 - INTEGRATING WRITING AND DESIGN
- ENGCMP 0610 - COMPOSING DIGITAL MEDIA
- ENGCMP 1112 - PROF USES OF SOCIAL MEDIA
- ENGFLM 0400 - INTRODUCTION TO FILM
- ENGFLM 1390 - CONTEMPORARY FILM
- ENGFLM 1485 - FILM AND POLITICS
- ENGFLM 1683 - DOCUMENTARY FILM
- ENGLIT 0354 - WORDS AND IMAGES
- ENGLIT 0550 - INTRODUCTION TO POPULAR CULTUR
- ENGWRT 0650 - READINGS IN JOURNALISM
- HAA 0010 - INTRODUCTION TO WORLD ART
- HAA 0470 - PHOTOGRAPHY AND ART
- HAA 1810 - EXPERIMENTAL VIDEO
- PSY 1050 - TOPICS IN PSYCHOLOGY
- PS 1836 - POLITICS THROUGH FILM
- SA 0110 - VISUAL THINKING

- SA 0130 - DRAWING STUDIO 1
- SA 1270 - DIGITAL STUDIO: IMAGING

  Pittsburgh Filmmakers

  Completion of two of the three required courses is necessary before registration for Pittsburgh Filmmakers courses will be permitted. Pittsburgh Filmmakers courses are designated by a (PF) below. A maximum of two courses may be taken from Pittsburgh Filmmakers. FILMST 0001 Motion Picture Fundamentals is a prerequisite to all other Pittsburgh Filmmakers courses.
- FILMST 0001 - MOTION PICTURE FUNDAMEMTALS
- FILMST 0120 - BASIC DIGITAL PHOTOGRAPHY
- FILMST 0151 - INTRODUCTION TO WEB DESIGN
- FILMST 0245 - PHOTOSHOP FOUNDATIONS
- FILMST 0400 - INTRO TO DIGITAL EDITING
- FILMST 0410 - ADVANCED DIGITAL PHOTOGRAPHY
- FILMST 0420 - ADV DIGITAL EDITING TECHNIQUES
- FILMST 0601 - VIDEO PRODUCTION 1
- FILMST 0610 - DIGITAL EFFECTS & COMPOSITING
- FILMST 1600 - VIDEO PRODUCTION 2

Notes

Requirements subject to change. Check with an academic advisor before registering.

Gender, Sexuality, and Women Studies Certificate

The undergraduate Certificate in Gender, Sexuality, and Women's Studies is an interdisciplinary academic program providing students with the opportunity to broaden their understanding of the changing role that gender plays, both in the United States and around the world. The GSWS Certificate is housed in the College of General Studies and offered in partnership with the Gender, Sexuality, and Women's Studies program. Participants benefit from the academic instruction of GSWS faculty and the nontraditional student services available through the College of General Studies.

Students who want to explore the intersection of gender with race, class, ethnicity, ability, and sexual orientation will find courses of interest, as will students who want to know more about the role of women in history, literature and the arts, media, and science. Students who are planning careers in medicine, the creative arts, social work, education, counseling, law, therapy, and business often find that a background in women's studies enhances their professional activities.

Admission and Application Requirements

Students must meet College of General Studies certificate application requirements and complete an application form online. For more information, visit http://www.cgs.pitt.edu/admissions.

In addition, prospective and current students are expected to schedule a meeting with the Gender, Sexuality, and Women's Studies Undergraduate Advisor and complete the UNDERGRADUATE CERTIFICATE ADVISING FORM. The form should be filed as early as possible and no later than the semester prior to graduation.

Certificate Requirements (18 credits)

The Certificate in Gender, Sexuality, and Women's Studies is an 18-credit certificate:

- Transfer courses will be accepted on a case-by-case basis up to a maximum of two courses.
- A cumulative grade point average of 2.0 or higher is required in courses being applied to the certificate.
- A minimum of 12 credits must be earned at the University of Pittsburgh.
- The GSWS Certificate may not be pursued concurrently with the B.A. in Gender, Sexuality, and Women's Studies or with the GSWS minor.

- All certificate students are expected to meet at least once per year with the GSWS advisor to update their files and discuss what courses are needed to fulfill certificate requirements.

Core Courses (6 credits)

A minimum of two courses (six credits) are required (preferably to be completed early in the student's academic program).

- GSWS 0100 - INT TO GENDER, SEXTY, & WOMNST
- GSWS 0500 - INTRO TO FEMINIST THEORY *or*
- GSWS 0550 - SEX AND SEXUALITIES
  Students are advised to take all three core courses to cover the key areas represented by the program (in which case one course counts as an elective, below).

Electives (9 credits)

Three elective courses (9 credits) must be taken from at least two different academic departments (with GSWS as one possible unit.) Visit the Gender, Sexuality, and Women's Studies department Web site for a full listing of approved courses, including such courses as:

- ADMJ 1242 - GENDER, RACE, CLASS, AND CRIME
- AFRCNA 0454 - MAN/WOMAN LITERATURE
- ANTH 0768 - HUMAN SEXUALITY IN CROS CULTUR
- ENGCMP 0203 - SEM CMPSTN: GENDER STUDIES
- ENGLIT 0610 - WOMEN AND LITERATURE
- ENGLIT 0630 - SEXUALITY AND REPRESENTATION
- FR 0012 - FRENCH KISS
- GSWS 0200 - SEX, RACE, & POPULAR CULTURE
- GSWS 0600 - GLOBAL LGBTQ LITERATURE
- HIST 1662 - TOPICS IN WOMEN'S HISTORY
- LEGLST 1315 - SEX, LAW AND MARRIAGE
- PSY 0184 - PSYCHOLOGY OF GENDER
- RELGST 1648 - GENDER & THE JEWISH TRADITION
- SOC 0446 - SOCIOLOGY OF GENDER
- SOC 1448 - WORKING WOMEN
  Either GSWS 1900 - INTERNSHIP or GSWS 1901 - INDEPENDENT STUDY may be used to meet an elective requirement, but in this case, the two other courses must each be in different departments. Consult with the GSWS advisor. Special permission from the GSWS advisor required.

Interdisciplinary Course (3 credits)

Choose one advanced GSWS course (three credits); GSWS 0100 and GSWS 0500 (or GSWS 0550) are prerequisites for these courses.

- GSWS 1140 - SPECIAL TOPICS
- GSWS 1150 - GLOBAL FEMINISMS
- GSWS 1170 - QUEER THEORY
- GSWS 1180 - POLITICS OF GENDER AND FOOD
- GSWS 1190 - MASCULINITIES
- GSWS 1235 - LANGUAGE, GENDER AND SOCIETY
- GSWS 1450 - GENDER AND SUSTAINABILITY

Notes

Requirements subject to change. Check with an academic advisor before registering.

Information System Design Certificate

This innovative 18-credit program responds to the increasing industry demand for information system professionals. This multifaceted undergraduate certificate can be completed as a stand-alone continuing education program or serve as preparation for a bachelor's, master's, or doctoral degree. Many of the course options are available in the evenings, on Saturdays, and online.

Who should participate:

- Professionals in another field who wish to enter the information management field
- Individuals working in the technology field who want or need more formal training to progress in their careers
- People wanting to prepare for a master's degree in information sciences

Upon completion of this certificate, participants will be able to:

- Use scientific programming language to introduce information structures such as linked lists, stacks, and queues
- Develop program modules using a current programming language
- Utilize the theories of data structures and programming language design

These competencies may be applied to positions such as system designer, database developer, database manager, interactive system designer, expert system designer, information retrieval specialist, network designer, database marketer, or administrator who advises and implements technology purchases and upgrades.

This certificate is applicable to fields such as banking, healthcare, library science, judicial systems, communication, education, agriculture, private industry, and government.

Admission requirements

Students must meet requirements for admission to the College of General Studies. For admissions guidelines and an application, see www.cgs.pitt.edu. A certificate application form must be completed and returned to the College of General Studies.

Students must complete a college algebra course or its equivalent and INFSCI 0010 - INTRO TO INFORM, SYS & SOCIETY, earning a C grade or better in both courses before progressing to the certificate curriculum.

Obtaining the certificate

To receive the certificate, you must fill out an application with your advisor prior to completing your last term in the program. Check with your advisor for the application filing form and deadline, and be sure all requirements for the certificate have been met. To avoid a late fee, you should complete this process when registering for the term.

Curriculum (18 credits)

Students must complete a total of 18 credits as follows. All courses must be completed with a C or better grade.

- INFSCI 0017 - FUNDAMNTLS OF OBJ-ORIEN PRGMG
- INFSCI 1022 - DATABASE MANAGEMENT SYSTEMS
- INFSCI 1024 - ANALYSIS OF INFORMTN SYSTEMS
- INFSCI 1044 - HUMAN FACTORS IN SYSTEM DESIGN
- INFSCI 1070 - INTRO TO TELCOM & NETWORKS

Choose one elective from the following:

- INFSCI 1014 - GRAPHICS
- INFSCI 1052 - USER CENTERED DESIGN
- INFSCI 1068 - GEOSPATIAL INFO SYSTEMS (GIS)

- INFSCI 1074 - COMPUTER SECURITY

Notes

Requirements subject to change. Check with an academic advisor before registering.

Leadership Certificate

The Certificate in Leadership provides a structured framework of courses and experiences for acquiring the basic practical and analytical skills required of successful public and private sector leaders. Offered by the University of Pittsburgh College of General Studies, this program uses the skills and knowledge of students to help advance their careers further, and take their organizations to the next level.

This 18-credit program is designed for students looking to become a more attractive candidate for a managerial or leadership position in their chosen field, or for those students looking to enter into the business, nonprofit, government, or corporate world.

Who should participate:

The Certificate in Leadership is open to any University of Pittsburgh degree-seeking student, regardless of current school or college, who anticipates moving into a leadership role in business, nonprofit, or other organization.

Upon completion of this certificate, participants will be able to:

- Demonstrate knowledge of leadership theories and models, such as situational, participative, transformational, and servant leadership
- Identify and evaluate the effectiveness of different communicative styles, and communicate clearly and effectively themselves
- Analyze an organization in its cultural, social, historical, developmental, geographic, and/or competitive aspects, and decide which type of leadership style would be most effectivein that situation
- Determine one's fit to the leadership-related challenges of an organization and what one would need to be more effective as a leader in that situation.

Admission requirements

Students wishing to pursue the Certificate in Leadership must be in good academic standing and must submit a certificate application form to the College of General Studies. The form is available through the college's Web site or may be picked up in person.

Obtaining the certificate

To receive the certificate, you must fill out an application with your academic advisor prior to completing your last term in the program. Check with your academic advisor for the application filing form and deadline, and be sure all requirements for the certificate have been met. To avoid a late fee, you should complete this process when registering for the term.

Pre-Requisite Requirements

Because strong communication skills are essential, prior to enrolling in LDRSHP 1200 students must have completed at least one class each in oral and written communication with a C or better.

Recommended Pre-Requisite Courses

- COMMRC 0520 - PUBLIC SPEAKING
  BUSORG 1101 and COMMRC 0500 can be subsituted for COMMRC 0520
- ENGCMP 0400 - WRITTEN PROFESSNL COMMUNICTN

ENGCMP 0420, ENGCMP 0440, and ENGCMP 0450 or ENGWRT 0550 and ENGWRT 0610 can be substituted for ENGCMP 0400.

Co-Curricular Requirement: Emerging Leaders Program

All students must complete the Emerging Leaders Program, a 20 hour non-credit program run by the Cross Culture and Leadership Development Office within the Office of Student Affairs. For more information on the program, please visit www.studentaffairs.pitt.edu/ccldel.

Curriculum (18 credits)

Students must complete their required and elective courses for a total of 18 credits. A grade of C or better is required for all courses in the program. Students also must complete the Emerging Leaders Program. All courses are 3 credits, unless otherwise noted.

Required Courses (6 credits)

Students must complete LDRSHP 1100, the Emerging Leaders Program, and the program pre-requisite requirements listed above prior to registering for LDRSHP 1200. Students may register for the cross-lists of these required courses:PUBSRV 1390 for LDRSHP 1100 and ARTSC 1902 for LDRSHP 1200 .

- LDRSHP 1100 - THEORIES OF LEADERSHIP
- LDRSHP 1200 - LEADERSHIP SEMINAR

Electives (12 credits)

Students must complete at least one course from each of the three designated areas below, and complete 12 credits in all. At least half of the courses must be at the 1000-level.

Area One: Leadership and Ethics

- PHIL 0300 - INTRODUCTION TO ETHICS
- PHIL 0350 - PHILOSOPHY AND PUBLIC ISSUES
- PHIL 1300 - ETHICAL THEORY
- PHIL 1380 - BUSINESS ETHICS
- PUBSRV 0050 - ETHICS AND ACCOUNTABILITY
- PUBSRV 1305 - HEALTH, LAW AND ETHICS
- PUBSRV 1340 - STRATEGIC PLNNG PUBLIC SECTOR
  These may be used as leadership electives for qualified students.
- AFROTC 1014 - AIR FORCE LEADERSHIP STUDIES
- MILS 0021 - LEADERSHP DYNAMCS & APPLICATNS
- PS 1910 - INSTIT POLITICS INTERNSHP/SEM (cross-listed with PUBSRV 1910)

Area Two: Interpersonal Relations

- ANTH 1760 - ANTHROPOLOGY OF LAW
- COMMRC 0300 - COMMUNICATION PROCESS
- COMMRC 0530 - INTERPERSONAL COMMUNICATION
- COMMRC 1102 - ORGANIZATIONAL COMMUNICATION
- COMMRC 1106 - SMALL GROUP COMMUNICATION
- COMMRC 1109 - NONVERBAL COMMUNICATION
- COMMRC 1111 - THEORIES OF PERSUASION
- ECON 0200 - GAME THEORY PRINCIPLES
- ENGCMP 1100 - LANGUAGE OF BUSINSS & INDUSTRY

- ENGCMP 1103 - PUBLIC RELATIONS WRITING
- ENGCMP 1400 - GRANT AND PROPOSAL WRITING
- PSY 0010 - INTRODUCTION TO PSYCHOLOGY
- PSY 0105 - INTRODUCTION TO SOCIAL PSYCH
- PSY 0405 - LEARNING AND MOTIVATION
- PSY 1135 - SOCIAL PERCEPTION & COGNITION
- PSY 1155 - PSYCHOLOGY OF SMALL GROUPS
- PSY 1635 - ORGANIZATIONAL PSYCHOLOGY
- PUBSRV 1335 - ADMINISTRATIVE BEHAVIOR
- SOC 0431 - BUREAUCRACIES

Area Three: Situational Analysis

- ANTH 0701 - CULTURAL ANTHROPLGY: OVERVIEW
- ANTH 0780 - INTRO TO CULTURAL ANTHROPOLOGY
- ANTH 1738 - GENDER PERSPECTIVES IN ANTHRO
- ANTH 1755 - URBAN ANTHROPOLOGY
- ECON 0800 - INTRODUCTION TO ECONOMICS
- HIST 0050 - SOCIAL CHANGE (cross-listed with SOC 0351)
- LING 1235 - LANGUAGE, GENDER AND SOCIETY (cross-listed with GSWS 1235)
- PS 1241 - PUBLIC ADMIN & POLITCL SYSTEM
- SOC 0010 - INTRODUCTION TO SOCIOLOGY
- SOC 0150 - SOCIAL THEORY
- SOC 0432 - WEALTH AND POWER
- SOC 0444 - URBAN SOCIOLOGY
- SOC 1448 - WORKING WOMEN

Note

Students may not use more than one of each of the courses in these groups: 1) ANTH 0701 and 0780; 2) ANTH 1755 and SOC 0444.

Note

Requirements subject to change. Check with an academic advisor before registering.

Managing Health Services Programs and Projects Certificate

Improve your administrative and business skills and earn a Certificate in Managing Health Services Programs and Projects. This 18-credit, interdisciplinary program emphasizes grant and research project management, and is designed to educate health service workers in the areas of sociology, communications, public administration, and management.

The program is applicable to positions such as health project manager, health administration director, health program director, and medical office manager. Students who successfully complete this certificate may apply the credits earned to an undergraduate degree at the University of Pittsburgh College of General Studies (CGS).

Upon completion of this certificate, students will be able to:

- manage health services research projects, grants, contracts, and finances;
- demonstrate the skills necessary to assume an administrative or managerial role in a health care organization;
- apply organizational theory and concepts to health care facilities; and
- analyze how physical, social, and cultural factors may help or hinder communication about health care needs.

Who should enroll:

- Health care workers who have been charged with, or would like to take on, management of grants and research projects
- Public and community health workers who seek an understanding of how physical, social, and cultural factors may help or hinder communication about health care needs
- Health care employees looking to take on leadership roles in the workplace

Admission requirements

Students must meet the requirements for admission to the College of General Studies. A certificate application must be completed and returned to the College of General Studies.

Obtaining the certificate

To receive the certificate, you must fill out an application with your advisor prior to completing your last term in the program. Check with your advisor for the application form and filing deadline, and be sure all requirements for the certificate have been met. To avoid a late fee, you should complete this process when registering for the term.

Additional CGS programs offered in this field:

- Certificate in Community Health Assessment
- Bachelor of Arts in Health Services

Curriculum (18 credits)

For the course schedule and descriptions of most undergraduate classes offered by the College of General Studies, Kenneth P. Dietrich School of Arts and Sciences, and College of Business Administration, visit www.courses.as.pitt.edu.

Required Courses (15 credits)

- BUSERV 1915 - INTRODUCTION TO MANAGEMENT
- COMMRC 1730 - SPECIAL TOPICS IN COMMUNICTN
- HRS 1017 - INTRO TO EPIDEMIOLOGY
- NUR 1829 - CONTEM ISSUES CROS CULTL HLTH
- PUBSRV 0040 - PUBLIC SERVICE TECHNOLOGIES

Electives (3 credits)

Take a minimum of one course.

- HRS 1009 - ORGANIZATIONAL THEORY & BEHAVR
- PUBSRV 1110 - FINANCIAL MGT IN PUBLIC SECTOR
- PUBSRV 1315 - MANAGING PROJECTS & CONTRACTS

Notes

Credits earned at other accredited educational institutions may be eligible for transfer. However, a minimum of nine credits must be earned at the University of Pittsburgh. Students must maintain at least a 2.0 grade point average in all University certificate courses.

Requirements subject to change. Check with an academic advisor before registering.

National Preparedness and Homeland Security Certificate

The Certificate in National Preparedness and Homeland Security (NPHS) is designed to teach current and future emergency professionals to analyze information and make decisions in dynamic and complex crisis environments using new and powerful analytic tools. Through experience-based learning activities, certificate students will develop the skills they need to thrive in homeland security and emergency preparedness careers.

This unique 18-credit certificate incorporates hands-on learning methods. The program features dynamic modeling tools developed at the University of Pittsburgh to plan for and respond to disasters; exercises and simulations that follow protocols established by the U.S. Department of Homeland Security; and tools that use virtual reality, visualization, and Geographic Information Systems (GIS) software to integrate information for crisis decision making.

Who should participate:

- Employees of local, state, and federal entities engaged in emergency preparedness, homeland security, and related fields
- Business people who are charged with risk management and are interested in applying industry tested analytics to developing emergency management and continuity of operations (COOP) plans
- Professionals in organizations with first-responders and first receivers, and those looking to step into such leadership positions
- Veterans interested in building on their expertise in decision-making and crisis leadership
- Career changers and current degree seekers looking to enter a growing and important field that uses a data-driven approach to preparedness activities involving both planning and implementation.

Upon completion of this certificate, participants will be able to:

- Develop and implement organizational risk profiles, COOP plans, business recovery plans, and other risk management activities
- Use knowledge of federal, state, and local agency responsibilities to effectively plan and execute emergency response plans
- Apply incident command protocols and consensus building approaches
- Communicate effectively in a crisis, orally and in writing, and transfer information effectively to obtain positive outcomes
- Plan prevention and preparedness operations and measures that help communities handle efforts related to damage limitation, emergency response, and recovery

Admission requirements

Applicants must have completed at least 60 credits with a grade point average of 2.0. If you are not currently enrolled at the University of Pittsburgh, you must submit official transcripts from all prior institutions with the application. Students must meet requirements for admission to a certificate program in the College of General Studies. For admission guidelines and an application, go to www.cgs.pitt.edu.

NPHS-STEM Undergraduate Scholarship Program

Students interested in pursuing a career in homeland security and emergency preparedness are encouraged to apply for the NPHS-STEM Undergraduate Scholarship program. The program combines course work with real-world experience to help you develop in-demand skills in science, technology, engineering, and math (STEM) while launching a career in information security, emergency management, infrastructure protection, or intelligence analysis, among other options.

Curriculum (18 credits)

The certificate is composed of twelve credits of required core courses, and six credits of elective courses. Core courses cover foundational content and procedures central to national preparedness and emergency response, in addition to analytical tools and approaches. They include a capstone experience in which students will plan, role-play, and report on a complete disaster scenario involving critical infrastructure sectors such as energy, government, transportation, health, and telecommunications. Elective courses allow students to gain further knowledge or experience relevant to their current or intended career paths in such fields as health, information security, and business continuity. All courses are 3 credits, unless otherwise noted.

- No course with a grade below C will be accepted for certificate credit
- To earn the certificate, students must maintain at least a 2.0 grade point average
- All four required core courses must be completed at the University of Pittsburgh to earn the certificate
- A maximum of six credits may be accepted from other institutions for elective courses
- Students should consult with their advisor and/or core course faculty early in their program to identify elective courses appropriate for their career and/or academc interests

Required Courses (12 credits)

Students must have successfully completed at least one other core course prior to registering for the capstone course. The capstone course may be taken concurrently with another core course.

- NPHS 1510 - FEDL/INT'L FRMWRK EMRGY PREP
- NPHS 1520 - STATE/LOCAL FRMWRK EMRGY PREP
- NPHS 1530 - ANAL/DEC TOOLS EMRGY PREPRDNS
- NPHS 1540 - CAPSTONE: EMRGY PREPAREDNESS

Electives (6 credits)

The following list shows a sample of courses already approved as electives:

- ADMJ 1234 - INTRODUCTION TO CYBERCRIME
- ADMJ 1238 - CYBER SECURTY/LAW/MONY LAUNDER
- ADMJ 1245 - TERRORISM
- ADMJ 1252 - CRITICAL INCIDENT MANAGEMENT
- ADMJ 1260 - RESOURCE PROTECTION PLANNING
- ADMJ 1425 - PRINCIPLES HOMELAND SECURITY (cross-listed with PUBSRV 1425 - PRINCIPLES HOMELAND SECURITY)
- CS 1655 - SECURE DATA MGT & WEB APPLCS
- GEOL 0820 - NATURAL DISASTERS
- INFSCI 1068 - GEOSPATIAL INFO SYSTEMS (GIS) or IE 1015 - GEOGRAPHIC INFORMATION SYSTEMS
- INFSCI 1070 - INTRO TO TELCOM & NETWORKS
- INFSCI 1074 - COMPUTER SECURITY
- NPHS 1900 - INTERNSHIP
- NPHS 1901 - INDEPENDENT STUDY
- NUR 1061 - INDEPENDENT STUDY
- NUR 1830 - HEALTH CRE IN AGE OF TERRORISM
- NUR 1865 - FUNDMS DISTR/MASS CASUALTY CRE
- PS 1583 - TOPCS IN INTRNATNAL RELATIONS
- PUBSRV 1320 - GIS IN THE PUBLIC SERVICE

Notes

Students must meet all relevant course prerequisites. NPHS Internship and NPHS Independent Study courses may be repeated for credit with permission.

Requirements subject to change. Check with an academic advisor before registering.

Center for National Preparedness

The Center for National Preparedness (www.cnp.pitt.edu) is an interdisciplinary collaboration of experts and departments at the University of Pittsburgh. It provides research, education, and service aimed at advancing the science, policy and implementation of effective federal, state, and

local preparedness efforts across the public and private sectors. The Center possesses expertise in business continuity, information technology, engineering, medical research, national security policy, and public health.

Nonprofit Management Certificate

The nonprofit field is growing, and so are the demands for the services nonprofits provide. In the last 10 years, 500 new organizations have been established in the Pittsburgh area alone. The growth of nonprofits means that various positions within these organizations will need to be filled by qualified individuals.

The right education is critical to demonstrating your qualifications to prospective employers. A Certificate in Nonprofit Management, alone or coupled with an appropriate bachelor's or advanced degree, will aid in your quest for employment by or promotion within a nonprofit organization.

Students who successfully complete this certificate may apply the credits to an undergraduate degree in public service at the University of Pittsburgh College of General Studies.

Who should enroll:

- Professionals with public relations experience
- Professionals with an interest in fundraising
- Professionals with a background in program development
- Professionals with knowledge of marketing and advertising
- Recent graduates or current students who wish to pursue a careerin the nonprofit field
- Undergraduate degree-seeking students who wish to have an intermediate credential
- Technology workers
- Public service majors
- Entrepreneurs who wish to start a nonprofit

Upon completion of this certificate, participants will be able to:

- organize, manage, or supervise a nonprofit organization;
- hire and train an efficient staff;
- understand the structural and financial issues unique to nonprofits;
- effectively raise revenue through fundraising; and
- write grant proposals.

This certificate is applicable to positions such as grant writers, fundraisers, development officers, accountants, information technology workers, and office managers.

Admission requirements

Students must meet requirements for admission to the College of General Studies. A certificate application must be completed. To avoid a late fee, you should complete this process when registering for courses.

Curriculum (18 credits)

- PUBSRV 0020 - INTRODUCTION TO PUBLIC SERVICE
- PUBSRV 1200 - PRACTICES OF NON-PROFIT MGMNT
- PUBSRV 1210 - FINANCIAL MGT NON-PROFIT ORGNS
- PUBSRV 1220 - HUMN RESORC MGT NPRF ORGNS
- CGS 1900 - CHOOSING YOUR PATH: INTERNSHIP (section: 7715)

Notes

Credits earned at other accredited educational institutions may be eligible for transfer. However, a minimum of nine credits must be earned at the University of Pittsburgh. Students must maintain at least a 2.0 grade point average in all University certificate courses.

Answers to Frequently Asked Questions:

1. Is there an order in which the student must take the required courses for this certificate? The courses can be taken in any order. Normally the internship would be completed last.
2. How many working hours is required for the internship seminar? 120 hours along with registration for the CGS 1900-7715 course. Visit cgs.pitt.edu/academics/internship for details.
3. Can the internship course be divided (i.e., 1 cr in Fall and 2 cr in Spring)? No, this is a 3-credit course; however, the student could work with Brianna McMeekin to see if the 120 hours could be divided over two terms. Brianna McMeekin can be reached at bmm96@pitt.edu.
4. If the student works at the University, does the student need to complete internship hours outside of Pitt or could it be in a different department on campus? The student can talk to Brianna about this.

Requirements subject to change. Check with an academic advisor before registering.

Gainful Employment Information

According to Urban Institute, the number of nonprofits between 2001 and 2011 has increased by 25 percent. Jobs for social and community service managers are expected to grow by 27 percent by 2020. Social and community service managers had a median salary of $57,950 in 2010.

Source: Occupational Outlook Handbook, U.S. Bureau of Labor Statistics

Writing Certificate

The Certificate in Writing is a 21-credit program designed for those who desire to improve their writing skills. In today's world, the skillful use of the written word is fundamental. This program consists of academic courses taught by faculty of the Department of English. Participants may choose electives to focus on a particular style of writing or to obtain an overview of several writing styles. The program also offers internships with local media, including newspapers, magazines, and television.

Who should participate:

- Students already enrolled in a degree program in the College of General Studies who wish to concentrate on the development of writing skills
- Those who already have a degree, but who wish to develop their writing skills for personal or professional advancement
- People seeking to embark upon writing as a profession

Upon completion of this certificate, participants will be able to:

- Write clearly and accurately
- Apply writing skills to both fiction and nonfiction works
- Understand different forms and techniques used in various types of writing

This certificate is applicable to fields such as media, industrial organizations, governmental agencies, community groups, service providers, and businesses. Skilled writers may work in any organization or field.

Admission requirements

Students must meet requirements for admission to the College of General Studies. A certificate application form must be completed and returned to the College of General Studies. To avoid a late fee, you should complete this process when registering for courses. Students must have completed a Seminar in Composition course or its equivalent before registering for any of the following classes.

Obtaining the certificate

To receive the certificate, you must fill out an application with your academic advisor prior to completing your last term in the program. Check with your advisor for the application filing form and deadlines, and be sure all requirements for the certificate have been met. To avoid a late fee, you should complete this process when registering for the term.

Curriculum (21 credits)

In addition to Seminar in Composition, students must complete seven courses (21 credits). These classes should include two English writing courses (6 credits) and five English writing electives (15 credits).

- A minimum of five of the required seven courses must be completed at the University of Pittsburgh.
- No course will be accepted for certificate credit with a grade below C, and no course will be accepted as a prerequisite for a higher-level course if the grade earned is lower than a C

Required Courses (6 credits)

All courses are 3 credits.

- ENGWRT 0520 - INTRO TO FICTION WRITING
- ENGWRT 0610 - INTRO JOURNALISM & NONFICTION

Electives (15 credits)

All courses are 3 credits.

Courses offered vary by term. Choose five additional courses from any combinations of poetry, fiction, and nonfiction. A sampling of courses that can be used to fulfill the certificate requirements include:

Poetry

- ENGWRT 0530 - INTRODUCTION TO POETRY WRITING
- ENGWRT 1210 - POETRY WORKSHOP

Fiction

- ENGWRT 1010 - INTERMEDIATE FICTION
- ENGWRT 1090 - MASTERING POINT OF VIEW
- ENGWRT 1091 - AUTOBIOG & CREATIVE IMPULSE
- ENGWRT 1092 - WRITER'S JOURNALS
- ENGWRT 1094 - READINGS IN CNTMPRY FICTION
- ENGWRT 1095 - TOPICS IN FICTION
- ENGWRT 1710 - SENIOR SEMINAR IN FICTION

Nonfiction

- ENGCMP 1103 - PUBLIC RELATIONS WRITING
- ENGCMP 1104 - CREATIVE CORPORATE WRITING
- ENGWRT 1330 - INTERMEDIATE NONFICTION
- ENGWRT 1340 - ADVANCED NONFICTION
- ENGWRT 1390 - READINGS IN CNTMPRY NON-FICTN

- ENGWRT 1391 - WRITING THE REVIEW
- ENGWRT 1392 - DOCUMENTARY FILM WRITING
- ENGWRT 1393 - SPORTS WRITING
- ENGWRT 1394 - SCIENCE WRITING
- ENGWRT 1399 - TOPICS NON-FICTION: NEWSPAPER
- ENGWRT 1401 - TOPICS NON-FICTION: MAGAZINE
- ENGWRT 1403 - TOPC NON-FCTN:ELECTRNC MEDIA
- ENGWRT 1405 - BROADCAST WRITING
- ENGWRT 1900 - INTERNSHIP: WRITING

Notes

Requirements subject to change. Check with an academic advisor before registering.

Writing for the Professions Certificate

In today's business climate, employees have discovered that the ability to research, organize, and write various kinds of documents is a critical component of many positions, including those that are primarily technical in nature. Organizations expect employees to communicate clearly and effectively with both colleagues and non-expert stakeholders.

This 18-credit certificate provides participants with a strong foundation for developing these vital writing skills. You will learn techniques that are critical for producing clearly written documents-critiquing, analyzing, and researching-as well as the practical applications that build on this groundwork.

Who should participate:

Individuals for whom writing will be a major component of their job responsibilities, e.g., broadcasters, legal professionals, or reporters.

Upon completion of this certificate, participants will be able to:

- Identify and analyze audience traits and perspectives
- Determine a specific goal and/or purpose of a document, then organize and develop clearly written prose in support of that purpose
- Apply concentrated knowledge of a specialized communication topic

This certificate is applicable to such fields as print and online writing professions, health professions, and nonprofit organizations.

Admission requirements

Students must meet requirements for admission to the College of General Studies. A certificate application form must be completed and returned to a College of General Studies academic advisor. To avoid a late fee, you should complete this process when registering for courses.

Obtaining the certificate

To receive the certificate, you must fill out an application with your academic advisor prior to completing your last term in the program. Check with your academic advisor for the application filing form and deadline, and be sure all requirements for the certificate have been met. To avoid a late fee, you should complete this process when registering for the term.

Curriculum (18 credits)

Many courses are offered in the evenings and at off-campus locations. Not all courses are offered every term. All courses are three credits unless otherwise noted. Please check course descriptions for prerequisites.

Credits earned at other accredited educational institutions may be eligible for transfer. However, a minimum of 9 credits must be earned at the University of Pittsburgh. Students must maintain at least a 2.0 grade point average in all University certificate courses.

For most undergraduate classes offered by the College of General Studies, the Kenneth P. Dietrich School of Arts and Sciences, and the College of Business Administration, visit www.courses.as.pitt.edu.

Required Courses (9 credits)

- ENGWRT 0610 - INTRO JOURNALISM & NONFICTION
- ENGCMP 0400 - WRITTEN PROFESSNL COMMUNICTN
  And choose one of the following courses:
- COMMRC 0320 - MASS COMMUNICATION PROCESS
- ENGWRT 1330 - INTERMEDIATE NONFICTION

Electives (9 credits)

Choose three courses from the following:

- COMMRC 1730 - SPECIAL TOPICS IN COMMUNICTN
- COMMRC 1732 - SPECIAL TOPICS IN MASS COM
- ENGCMP 0410 - WRITING IN THE LEGL PROFESSNS
- ENGCMP 0420 - WRITING FOR THE PUBLIC
- ENGCMP 0520 - INTEGRATING WRITING AND DESIGN
- ENGCMP 0550 - TOPICS IN PUBLC/PROFESSNL WRIT
- ENGCMP 0560 - WRITING ARGUMENTS
- ENGCMP 0600 - INTRO TO TECHNICAL WRITING
- ENGCMP 1103 - PUBLIC RELATIONS WRITING
- ENGCMP 1112 - PROF USES OF SOCIAL MEDIA
- ENGCMP 1400 - GRANT AND PROPOSAL WRITING
- ENGWRT 1370 - JOURNALISM BOOT CAMP:WRITE NOW
- ENGWRT 1391 - WRITING THE REVIEW
- ENGWRT 1393 - SPORTS WRITING
- ENGWRT 1399 - TOPICS NON-FICTION: NEWSPAPER
- ENGWRT 1401 - TOPICS NON-FICTION: MAGAZINE
- ENGWRT 1403 - TOPC NON-FCTN:ELECTRNC MEDIA

Notes

Requirements subject to change. Check with an academic advisor before registering.

Kenneth P. Dietrich School of Arts and Sciences

The Kenneth P. Dietrich School of Arts and Sciences is the oldest and largest academic unit within the University of Pittsburgh, with more than 10,000 students and over 600 faculty from around the world. The Dietrich School offers a competitive liberal arts education within the setting of a comprehensive research university and a dynamic urban setting.

The Dietrich School instructional programs provide a liberal arts curriculum designed to prepare students for the world of work, research, professional schools, and graduate programs. This education helps students cultivate the skills and knowledge that provide a foundation for lifelong learning, and educates students so that they can become perceptive, reflective, and intellectually self-conscious citizens of the world. The main elements of the Dietrich School general education are: an acquaintance with great works of art, literature, and philosophy; an understanding of basic social institutions and processes; a sense of history and familiarity with the richness and variety of human cultural achievements; an awareness of the main ideas of contemporary natural science and mathematics; and engagement with languages and cultures other than one's own.

The Dietrich School curriculum spans the humanities, natural sciences, and social sciences. Students are encouraged to pursue a broad range of academic subjects. Through one-on-one academic advising, students may choose from over 55 majors, 30 minors, and 20 certificate programs, including dual degrees and pre-professional preparation. The broad range of academic programs includes areas that are unique and cutting-edge, such as the major in Mathematical Biology or the Geographic Information Systems Certificate. Programs such as English writing and philosophy are nationally recognized as centers of excellence. With each academic program, the school's faculty from across the disciplines consistently builds the Dietrich School curriculum to reflect current research, so that our students are poised to meet today's expectations in their various academic pursuits.

In addition to the majors, minors, and certificates, Dietrich School students are encouraged to participate in enriching experiences outside the classroom. These opportunities include undergraduate research with top research faculty and participation in academic internships with reputable corporate and nonprofit institutions. Students may also pursue study abroad in approximately 45 countries, including summer study abroad with Dietrich School humanities and social sciences faculty. Leadership development is encouraged through participation in student organizations and governance, serving in honorary societies, and assisting a faculty member as an undergraduate teaching assistant.

Contact Information

University of Pittsburgh
Kenneth P. Dietrich School of Arts and Sciences
Undergraduate Studies
140 Thackeray Hall
Pittsburgh, PA 15260
412-624-6480
Fax: 412-624-8265
undergraduate@as.pitt.edu
www.asundergrad.pitt.edu

Admission through the Office of Admissions and Financial Aid

The following students are admitted to Dietrich School by the Office of Admissions and Financial Aid. These students should see the Application for Admission section of this bulletin for general admissions information.

- Freshmen (see Pittsburgh campus Freshman Admissions for general admissions information).
- Transfer students who have previously enrolled at a college or university other than the University of Pittsburgh. These include former University of Pittsburgh students who have since earned college credits at another institution and now wish to return to the Dietrich School.
- Continuing education students: Adults who wish to begin or continue to work toward an undergraduate degree by taking a full- or part-time load of day classes should apply as new or transfer students through the Office of Admissions and Financial Aid.
- Students who have previously earned a bachelor's degree from an institution other than the University of Pittsburgh and now wish to earn a second undergraduate degree.
- International students should refer to admission guidelines on the Web site for the Office of Admissions and Financial Aid (www.oafa.pitt.edu).

Admission through the Dietrich School of Arts and Sciences

The following students must apply directly to the Dietrich School for admission:

Transfers from Other University of Pittsburgh Schools at the Pittsburgh campus

To transfer to the Dietrich School from another school at the Pittsburgh campus, students should request that the other Pittsburgh campus school send their records to the Dietrich School in 140 Thackeray Hall. The Dietrich School will review the student records and send letters of acceptance to students who are eligible to transfer into the Dietrich School. To qualify, students must have a minimum overall GPA of 2.0 and have completed their basic skills requirements in composition and algebra according to Dietrich School guidelines. In addition, students enrolled in the College of General Studies (CGS) must earn at least 24 credits through CGS before applying for transfer to the Dietrich School.

Upon acceptance into the Dietrich School, students will receive evaluations of their previous course work, acknowledging the courses that have fulfilled Dietrich School skills and general education requirements. To graduate with a degree from the Dietrich School, students are required to earn their last 30 credits while enrolled in the Dietrich School and to earn at least half of the credits for their majors, minors, and certificates while enrolled in the Dietrich School.

Transfers from University of Pittsburgh Regional Campuses

1. For students seeking guaranteed transfer relocation who have earned credits only from one of the regional campuses, the normal requirement is for completion of 45 credits at the specific regional campus, with a minimum GPA of 2.5.
2. For students seeking guaranteed transfer relocation who have earned 30 or more credits at the specific regional campus and a total of 60 credits overall, a minimum GPA of 3.0 in all courses is required.
3. For students seeking transfer relocation who have between 15 and 30 credits at the specific regional campus and a total of 60 credits overall, a minimum GPA of 3.0 is required in all courses, and the normal requirements of the Dietrich School of Arts and Sciences for external transfer students must be met. For these students, relocation is not guaranteed. Students must complete at least 15 credits at the regional campus to transfer to the Pittsburgh campus.
4. Students with a 3.0 GPA, who would have been directly admissible to the Pittsburgh campus as freshmen, may be considered for relocation with fewer than the above number of college credits.

Students Seeking a Second University of Pittsburgh Degree

Students who have earned a bachelor's degree in any University of Pittsburgh school or campus and wish to earn a second undergraduate degree in the Dietrich School should apply directly to the Dietrich School. Applicants should note the following:

- Course work for the second degree will continue to be recorded on the original University of Pittsburgh undergraduate transcript.
- All appropriate course work from the first degree will apply to the second degree, up to a maximum of 90 credits. These credits will be indicated on the academic record during the student's first term of enrollment as a seconddegree student. Students must earn a minimum of 30 new credits and at least half of the credits for the second major toward the second degree while enrolled in the Dietrich School.
- The cumulative GPA and credit total will be based on all credits from the first degree and all new course work taken that applies to the second degree.

Students Seeking Reinstatement

The following students must apply for reinstatement through the Dietrich School of Arts and Sciences in 140 Thackeray Hall:

- Dietrich School students who have not enrolled for three consecutive terms (one calendar year);
- Dietrich School students who have completed their suspension periods and wish to continue their studies; and

- students who last attended another school at the Pittsburgh campus but have not enrolled in classes for three consecutive terms (one calendar year), have not attended another institution, and wish to be admitted to the Dietrich School.

*Students who are returning after completing their suspension period will be reinstated on probation.

The deadline for reinstatement is August 15 for the fall term, December 15 for the spring term, and one week before the beginning of classes in the summer term or sessions. An application fee of $45 is required. Students who last attended another University of Pittsburgh school on the Pittsburgh campus or who attended a regional campus must meet the admissions requirements for transfer to the Dietrich School. Students' academic standing upon reinstatement will be that attained at the end of their last term in residence.

Students who are reinstated for a particular term but do not enroll for that term must apply for reinstatement again if they wish to attend for a later term. Students who have been away from the University for two or more years will be subject to the requirements of the school and of their major in force at the time of their reinstatement, rather than those in force at the time of their last attendance.

Guest Students

Qualified degree-seeking students at other institutions may be admitted to the College of General Studies for the fall or spring term to earn credits for transfer to their home school for use toward graduation. Applicants must be in good academic standing at their home institution, with a minimum 2.5 cumulative GPA, and must certify that the home school will accept the courses for transfer. A one-time application fee of $45 is required, and admission is only valid for one term. Students desiring enrollment for subsequent terms must resubmit certification from the home school.

For summer guest student admission information, please visit www.cgs.pitt.edu.

Post-baccalaureate Students

Students who have completed an undergraduate degree and wish to take additional undergraduate courses on a non degree-seeking basis may apply directly to the College of General Studies. Most post-baccalaureate students take courses in order to facilitate a career change, as prerequisites for a graduate program, or for personal enrichment. Students must submit proof of the undergraduate degree received (either a copy of the diploma or a transcript showing the degree and the date it was awarded). The application deadline is two weeks before the start of classes. A one-time application fee of $45 is required, and admission is valid for one calendar year.

Accelerated High School Students

Accelerated High School students are high school juniors and seniors, age 16 years or older, who take up to six regular undergraduate college credits on campus while continuing their high school programs. Qualified students become part-time, non-matriculated students in the Kenneth P. Dietrich School of Arts and Sciences. They attend regular on-campus classes with college undergraduates and are not identified in the classroom as high school students.

The Director of College in High School and Accelerated High School has the authority to set requirements for admission to Accelerated High School. The application includes permission sections that must be completed by parents or guardians and school officials and must be submitted with other application materials.

Applications must be submitted to the Accelerated High School office. The deadline is two weeks before the first day of classes. There is a one-time application fee of $35, and admission is valid for one term only. Students must resubmit certain specified application materials for subsequent terms. Depending on the course(s) selected, students may be required to take a placement test prior to registration. For more detailed information, contact Accelerated High School in 208B Thackeray Hall at 412-624-7428.

College in High School (CHS) Program

The College in High School Program offers qualified high school students throughout Pennsylvania the opportunity to earn University of Pittsburgh credits on their own high school campuses. Participating schools now offer approved University of Pittsburgh courses in chemistry, communications, computer science, French, German, Latin, mathematics, statistics, physics and political science. The courses are taught by experienced teachers who have been certified through the appropriate University of Pittsburgh departments. All University regulations governing course registration, withdrawal, resignation, and tuition payment are enforced.

The Director of College in High School and Accelerated High School has the authority to set requirements for admission to College in High School.

Students' grades are based on their performance on University examinations and recorded on University transcripts. Although the CHS program cannot govern the transfer credit policies of other institutions, the vast majority of CHS students receive advanced standing, elective credits, or both as a result of their successful participation in the program. For more information, contact the College in High School office in 208B Thackeray Hall at 412-624-6828.

Academic Integrity

As members of the University of Pittsburgh community, Dietrich School students are expected to meet their obligation to exhibit honesty and to respect the ethical standards of the University community and of their chosen field of study in carrying out academic assignments. Dietrich School students are therefore expected to familiarize themselves with the published rules and regulations governing academic integrity. For specific information, see Student Rights and Responsibilities (www.studentaffairs.pitt.edu/drsrightsresonsibilities).

The Dietrich School maintains an Academic Integrity Board, consisting of both faculty and students, for adjudication of grievances from faculty about student behavior and from students about faculty behavior. For more information, contact the Dietrich School Academic Integrity office, 140 Thackeray Hall.

Grading Systems

The Student Records Office, located in the Office of the Associate Dean for Undergraduate Studies in 140 Thackeray Hall, maintains the records of all Dietrich School undergraduates and oversees graduation, transfer credit, internal and external transfers, and Dean's List, and answers routine questions about a variety of matters including general education requirements, course withdrawal procedures, and grade options. Contact Student Records at 412-624-6776.

Letter Grade Option

The Dietrich School adheres to the following University letter grade system without exception:

A+		Superior
A	4.00	
A-	3.75	
B+	3.25	Meritous
B	3.00	
B-	2.75	
C+	2.25	Adequate
C	2.00	
C-	1.75	
D	1.25	Minimal
D+	1.00	

D-	0.75	
F	0.0	Failure

S/NC Grade Option

The Dietrich School offers both a standard letter-grade option and the Satisfactory/No-Credit (S/NC) option for students enrolled in most Dietrich School courses. Under this option, a student who does satisfactory work (a grade of C or better) in a course receives the grade of S. If the student's work is not satisfactory (a grade of C- or lower), the grade of NC (for no credit) is given. Courses for which an S is earned are counted toward graduation but are not computed in the GPA. Courses in which an NC is earned are not counted toward graduation or the GPA, since the NC designates that no credit has been earned. In order to take a class for the S/NC grade, a student must select the S/NC option by the deadline by completing a Grade Option/Audit Request form in the Dietrich School of Arts and Sciences Dean's Office, 140 Thackeray Hall. Deadlines are printed each term on the Dietrich School undergraduate calendar (www.asundergrad.pitt.edu/calendars.html) and in the Time Schedule of Classes Guide (www.registrar.pitt.edu/schedule_of_classes.html).

Note: There are some formal limitations to a student's choice of grading systems; he or she should check with an academic advisor before deciding to take a course S/NC.

Audit (N Grade)

Students may choose to take a Dietrich School course on an audit basis and receive an N grade on their transcript rather than a letter grade. Students who wish to audit a course must register for the course as usual then process a Grade Option/Audit Request form in the Dietrich School Dean's Office by the deadline. Deadlines are printed on the Dietrich School undergraduate calendar (www.asundergrad.pitt.edu/calendars.html). Courses in which N grades are earned do not count toward graduation and are not included in a student's GPA.

G Grades

A G grade may be awarded when students who have been attending a course and making regular progress are prevented from completing the course due to extenuating personal circumstances. Students who are assigned a G grade are required to complete course requirements no later than one year after the term or session in which the course was taken. After that year, the G grade will remain on the record, and the student will be required to reregister for the course if it is needed to fulfill requirements for graduation. The Dietrich School encourages students with G grades to work with their instructors to complete the requirements for the course by the end of the following term.

I Grades

An I grade indicates that the work of the course for which the grade is awarded has not been completed due to the nature of the course, clinical work, or incomplete research. An I grade is awarded only to students who have been doing the regular work of the course but who need more time than the term allows. That is, the extenuating circumstances ought to arise from the nature of the course work rather than from the student's personal difficulties (in which case a G grade is appropriate). The student should complete the course requirements within one calendar year after the I grade is given.

Academic Honors

Outstanding students in the Dietrich School are recognized for their academic achievement in several ways:

Dean's List

Early each (fall and spring) term, Dietrich School students whose grades in the preceding term indicate outstanding academic achievement are recognized on the Dean's List. To be placed on the Dean's List, a student must have earned at least 12 letter grade credits (not including courses taken on the Satisfactory/No-Credit option) with a term GPA of at least 3.50 and no grade lower than a C.

Scholarships, Prizes, and Awards

Please check with your major advisor for information about departmental scholarships, prizes, and awards.

Graduation Honors

Those members of a Dietrich School graduating class who have attained an outstanding scholastic record and have taken at least 60 letter-graded credits while a resident in the Dietrich School are graduated with honors. See Graduation with Honors section for other specific requirements.

Departmental Honors

Many departments offer an honors major. Successful completion of the honors major as well as normal graduation requirements leads to the awarding of the bachelor's degree with departmental honors. For detailed information, contact individual departments or see the departmental academic program information in this bulletin.

Honors Societies

In addition to the following honors societies, Dietrich School departmental clubs and academic organizations offer opportunities for leadership, fellowship, service, and scholarship. For a complete listing of all clubs and academic organizations, please visit the online database of the Student Organization Resource Center at http://www.studentaffairs.pitt.edu/sorchome.

National Society of Collegiate Scholars

The mission of National Society of Collegiate Scholars (NSCS) is honoring and inspiring academic excellence and engaged citizenship for a lifetime. NSCS recognizes outstanding academic achievement and provides opportunities for members to enhance their collegiate experience. Benefits of membership include recognition, networking and career resources, the opportunity to apply for scholarships, leadership development, and social and service activities on campus.

Golden Key

Golden Key is an international academic honor society that recognizes and encourages scholastic achievement and excellence among college students from all academic disciplines. It provides campus and community service opportunities enabling personal growth and leadership development as well as interaction with university faculty and administrators to develop and maintain high standards of education. Golden Key rewards its members through different scholarship and award programs, and members access exclusive career opportunities and assistance through Golden Key's partnerships with businesses and graduate programs.

Phi Eta Sigma

The purpose of the Phi Eta Sigma honorary society is to promote a higher standard of learning and to encourage high scholastic attainment among freshmen in the University. Phi Eta Sigma members offer free, on-campus tutoring. Outstanding Dietrich School students are recognized for their academic achievement.

Academic Alert, Probation, Suspension, Dismissal

The Dietrich School is committed to the success of its students and has guidelines in place to connect students with the appropriate resources at the earliest sign of academic difficulty. A student's academic standing is comprised of three factors: term GPA, cumulative GPA, and progress toward a degree. Students in the Dietrich School are expected to maintain a cumulative GPA and term GPA of 2.00 or above for each term of enrollment. In addition, full-time students are expected to successfully complete a minimum of 9 credits during each term of enrollment. Part-time students are expected to successfully complete a minimum of 3 credits during each term of enrollment.

Students are placed on **Academic Alert** if they earn a term GPA below a 2.00; a cumulative GPA between a 2.00 and a 2.25; or they fail to satisfy the algebra and/or composition requirements within the first two terms of full-time enrollment.

Students are placed on **Academic Probation** after earning a GPA between a 1.50 and a 1.99 over two consecutive terms or have one semester at or below a 1.49 cumulative GPA. Students may also be placed on Academic Probation if they fail to make progress toward their degree (e.g. failing to earn any academic credits).

Students currently on Academic Probation who earn a term GPA below a 2.00 or fail to make progress toward their degree will be subject to **Academic Suspension**. After being suspended, students are not eligible to re-enroll for one calendar year. Following suspension, students are required to apply for reinstatement at the Dietrich School Undergraduate Dean's Office in 140 Thackeray Hall. Students returning from academic suspension are reinstated on academic probation and are required to develop an academic success plan upon their return. Reinstated students are reviewed after each subsequent term of enrollment.

Students who have been reinstated from Academic Suspension must earn at least a 2.00 GPA for each term that they enroll until they have achieved a cumulative GPA of a 2.0 or above. If a student fails to earn a 2.00 term GPA, they are subject to **Academic Dismissal** from the University. Dismissed students are not eligible for reinstatement.

Note: Students on Academic Probation or Suspension are not eligible to earn credits at another institution toward a Dietrich School degree.

Probation and Eligibility for Financial Aid

The Office of Admissions and Financial Aid (OAFA) monitors financial aid eligibility. Students on probation should contact OAFA in Alumni Hall at 412-624-7488 for more information.

Credit System

The following section details the Dietrich School's rules regarding allowable credits and courses for students earning a degree in the Dietrich School.

Advanced Placement (AP) Credits

See Allowable Credits (Credit and Course Limitations).

Career Development and Noncredit Courses

Career development courses offered by the College of General Studies (numbered in the 6000s) and noncredit courses (numbered in the 4000s) may not be counted for credit toward a degree in the Dietrich School.

College Level Examination Program (CLEP) Testing

The Dietrich School does not accept CLEP general examination credits.

Courses Taken Elsewhere

Dietrich School students in good academic standing (cumulative GPA of at least 2.00) may attend a summer or special session of another accredited institution in order to supplement their program, provided they receive prior approval from the Dietrich School office. Students should fill out the

summer approval form and bring the appropriate course descriptions to the Dietrich School Student Records Office in 140 Thackeray Hall. Students will not receive credit for courses taken without advance approval. Upper-class students (60 or more credits) may not take courses at two-year schools. Courses taken elsewhere are subject to the 18 non-Dietrich School credit limitation and may not be a repeat of any course taken (passed or failed) before. A maximum of two courses (no more than 8 credits) may be taken in a single period of enrollment elsewhere. Summer course approval forms are available in the Student Records Office in 140 Thackeray Hall.

Credit by Examination

Each test for credit by examination must be arranged with the department teaching the course for which credit is desired. The examination must be in a specific course offered by the Dietrich School. Departments set their own policies as to the specific courses for which students may request credit by examination, the time and type of examination, and the number of courses among those required for the major for which credit may be earned by examination. Normally, the examinations are administered during the first three weeks of the term.

Students wishing to earn credit by examination should first consult with the department in which the course is given and then obtain the requisite form from the associate dean's office in 140 Thackeray Hall. There is a $10 per credit fee payable to the Student Payment Center, to be submitted once the form is completed. This fee is nonrefundable. Credit by examination is open to all students. Questions should be directed to the departments which offer and administer the exams.

Departmental Credits

No more than 60 credits may be taken in one department, and normally no more than 40 in a single department are considered desirable in a well-balanced program.

Duplication of Course Content

With few exceptions, a Dietrich School course may be taken for credit only once, unless the student did not pass the course and the student takes the course again for a passing grade. Students may not earn graduation credit for courses that substantially duplicate the content of courses taken previously. For example, credit cannot be earned for the following:

- Both a regular version of a course and an honors version of that course.
- Courses that are cross listed with a course the student has already taken.
- Courses taken under a new number if already taken under an old number.
- Certain specific courses that duplicate material and for which additional credit cannot be earned. For example MATH 0120 and MATH 0220 or STAT 0200 or STAT 1000 .

Students with questions about this policy should meet with their academic advisors.

English Language Institute Courses

The following courses from the English Language Institute do not count toward a Dietrich School degree: 0004, 0005, and 0006. LING 0007, LING 0008 , and LING 0009 courses count toward the degree but are not counted toward a linguistics major.

Enrollment in Graduate Courses

Dietrich School students who demonstrate exemplary competencies and proficiencies may take advantage of the rich variety of graduate courses offered by the Dietrich School. Credits earned in graduate courses may count toward the degree. Students should consult with both their academic advisor and instructor of a course before registering.

Independent Study, Directed Research, Directed Reading, Internships, and Undergraduate Teaching

Dietrich School students may earn up to 24 credits of independent study, directed reading, directed research, undergraduate teaching, and internships as part of the 120 credits required for a degree. Ordinarily, no more than six credits may be earned in any term in a single directed reading, directed research, or internship. Under certain conditions, students in good standing may register for a block of 15 credits of independent study. These credits are to be earned for work done within one academic term. A student may register for a 15-credit independent study term only once during his or her college career. This needs to be approved by a dean prior to registration.

Learning Agreement forms for independent study, directed research, directed reading, and internships, as well as specific information about eligibility, procedures, and guidelines, are available from academic advisors and from the Office of Undergraduate Research, Scholarship, and Creative Activity in 209 Thackeray Hall.

Paid (non-academic) internships may not count towards academic credit.

International Baccalaureate

The Dietrich School recognizes the International Baccalaureate (IB) Higher-Level Examinations and may grant advanced standing and/or credit for various fields for scores on the Higher-Level Examinations, which range from five to seven. Advanced standing is determined individually by subject according to departmental policy. Students should send the results of their IB examinations directly to the Student Records Office in 140 Thackeray Hall. No credit will be given for Subsidiary-Level Examinations.

Lower-Level Courses

Credit cannot be earned for courses taken after more advanced course work in the same field has been successfully passed with a C or higher if that advanced course work presumes the competence acquired in the more elementary courses. For example, credit cannot be earned for an algebra course taken after the successful completion of a calculus course.

Non-Dietrich School Courses

A student may take no more than 18 credits of the 120 required for graduation in other University of Pittsburgh schools, such as the College of General Studies. This rule does not apply to graduate courses offered in the Dietrich School of Arts and Sciences. Restrictions on non-Dietrich School courses apply also to courses taken by cross registration. The student who has doubts about the status of any course should check with their academic advisor before registering.

Normal Credit Load

A normal credit load is 12 to 17 credits per academic term (e.g. fall and spring). Any program in excess of 18 credits per term requires the recommendation of your academic advisor and dean's approval; please call 412-624-6480 to make an appointment to appeal to a dean. Students who enroll for more than 18 credits in an academic term will be charged additional tuition per credit.

Physical Education

Students are not required to take any courses in physical education, but they may do so. Up to four credits of courses offered by the School of Education's Department of Health, Physical, and Recreation Education may be counted toward a Dietrich School degree.

Reserve Officer Training Corps (ROTC)

Credits earned in aerospace science (Air Force ROTC), military science (Army ROTC), or naval science (Navy ROTC through cross registration at Carnegie Mellon University [CMU]) are not accepted toward a Dietrich School degree. The Dietrich School will grant up to four credits toward graduation for the following military science courses in lieu of physical education and recreation courses: AFROTC 0001, AFROTC 0002, AFROTC 0003, and AFROTC 0004; MILS 0012, MILS 0022, 0032, and 0042. Any four credits of Navy ROTC courses from CMU will count in lieu of physical education and recreation courses.

Special Note about Transfer Students/Transfer Credits

Previous course work for transfer students is evaluated by the Dietrich School Student Records Office with respect to general education requirements. Before initial registration, transfer students receive an Undergraduate Degree Requirement Evaluation indicating which requirements they have satisfied and which ones must be completed in order to complete their degree in the Dietrich School. Transfer students may be required to complete one or more placement tests to determine if certain requirements have been met.

Courses from other colleges and universities are evaluated according to the following guidelines:

- Courses must be passed with a grade of C or better and must be earned at an institution accredited by the appropriate regional accrediting association. Courses that have reasonable counterparts in the Dietrich School curriculum are eligible for transfer. Non-Dietrich School credit is granted when there is no comparable course in the Dietrich School, but there is an equivalent course in another undergraduate school at the University of Pittsburgh. Only 18 non-Dietrich School credits will count toward a Dietrich School degree. When requested, students are responsible for supplying descriptions for courses taken elsewhere.
- A maximum of 60 credits can be accepted from accredited community colleges and two-year junior colleges. A maximum of 90 credits can be accepted from accredited four-year institutions. At least 50 percent of the credits required in a Dietrich School major must be earned while enrolled in the Dietrich School.
- The number of credits granted for a given course cannot exceed the number awarded for the course on the transcript of the school where the course was taken or the number earned for the corresponding course in the Dietrich School. Credits earned on the quarter system will be converted into semester credits. A quarter credit is equal to two-thirds of a semester credit (e.g., five quarter-system credits equal three semester credits, and three quarter-system credits equal two semester credits).
- The Dietrich School accepts credits, but not grades, for transfer. Consequently, any courses that are accepted for transfer will be used as credit toward graduation, but will not be calculated into the student's GPA at the University of Pittsburgh.

Please contact the Dietrich School Student Records Office at 412-624-6776 for information about transfer credit evaluation. Please note: All transfer credits are subject to re-evaluation when a student transfers from one school to another within the University of Pittsburgh.

Statute of Limitations

All of the credits required for a degree, whether earned in residence or transferred from another institution, must have been earned within 12 years prior to the date on which the degree is awarded. However, when given evidence that the previous courses still provide adequate preparation for courses yet to be taken and still represent a reasonable part of the total academic program, this limitation may be waived. In such cases, the waiver is for a specific period during which the program must be completed.

PittOnline (formerly External Studies Program)

Dietrich School students may take a maximum of two PittOnline courses toward their degree. For more information about PittOnline courses, contact the College of General Studies (www.cgs.pitt.edu).

Adding and Dropping Courses

Generally, students enrolled in the Dietrich School are not required to have their academic advisor sign their add/drop forms. However, Student Support Services (SSS) students and student athletes must see their academic advisor before processing an add/drop. Additionally, all freshmen are strongly urged to consult their academic advisor before adding or dropping a course. See Adding and Dropping Courses for more information.

Withdrawal from Courses

Freshmen are required to see their academic advisor before withdrawing from any course. In addition, any student considering withdrawing from a basic skills course must first see an assistant dean. Withdrawing from a course or courses may impact s student's financial aid status. Please call 412-624-6480 to make an appointment to see an assistant dean. Withdrawal from a course should be done by the withdrawal deadline, posted in the Dietrich School calendar (www.asundergrad.pitt.edu/calendars html) and on the Web site for the Office of the University Registrar (www.registrar.pitt.edu).

Dietrich School Advising

Academic advising in the Dietrich School is divided roughly into two halves: the freshman/sophomore years and the junior/senior years. All freshmen and sophomores, including new transfer students, are assigned to an advisor in the Advising Center, 201 Thackeray Hall. Students in the Student Support Services program receive additional advisement in the Academic Resource Center. (See Academic Resource Center section for contact information.) All advisors have been specifically trained to work with beginning college students. They are familiar with and ready to discuss all Dietrich School requirements, regulations, procedures, and academic majors and programs, as well as University-wide sources of support and assistance. In addition to answering questions and discussing academic plans, options, opportunities, course selection, and academic-related problems/issues (e.g., whether or not to add, drop, or withdraw from a course), advisors must sign students' registration forms before they can be processed.

Dietrich School students who have not declared a major (generally speaking, freshmen and sophomores) must see an academic advisor at least twice each term by appointment: once to review their progress, to discuss their academic plans and concerns, and to begin thinking about the next term; and a second time to actually select and register for their next term's courses. The first of these two meetings is scheduled at group sessions held the third week of September and January. Each student is responsible for arranging meetings with his or her advisor each term. Dietrich School students traditionally declare their majors near the end of their sophomore year and are then assigned to an advisor in the department of their major. Departmental advisors have the necessary information and in-depth knowledge to advise students in the intricacies of their major and their post-graduation plans.

Contact Information

University of Pittsburgh
Advising Center
201 Thackeray Hall
Pittsburgh, PA 15260
412-624-6444
Fax: 412-624-3707
www.asundergrad.pitt.edu/advising/

Bachelor Degree Program Goals

The goal of the Dietrich School is to provide liberal arts and pre-professional education for undergraduate students that is grounded in scholarly excellence and that gives students the knowledge, understanding, analytical tools, and communication skills that they need to become reflective citizens within a diverse and rapidly changing world.

The Dietrich School faculty believe that these educational goals for the students are best achieved through a process that involves two elements-the General Education Requirements offer an introduction to the broad range of subject matters and modes of thought and analysis found across the humanities, social sciences, and natural sciences, and this broad introduction is then complemented by in-depth studies in one or more major fields of disciplinary or interdisciplinary study, selected from amongst the programs of study devised, offered, and supervised by one of our department or interdisciplinary programs.

The General Education Curriculum is designed to allow students to pursue their own interests at the same time that they are introduced to contemporary and diverse views of a broad range of human cultures, modes of thought, and bodies of knowledge. It is also designed to ensure that as many of the General Education courses as feasible are truly courses within the disciplines (or at intellectually rich interdisciplinary interfaces) that draw on the unique resources of a research university. Courses taken in the first few years at the University also, however, have an important role in the development of skills needed for work in the major or for post-baccalaureate life, work, and study, and the curriculum begins with requirements that are primarily designed to ensure that each student acquires such skills.

Bachelor Degree Requirements

The following sections describe the general requirements for all majors offered by the Dietrich School:

Graduation Requirements

To graduate from the Dietrich School, students must earn at least 120 degree credits with a minimum 2.00 GPA. In addition, students must achieve a 2.00 GPA both in the major and in the minor or related area. Within the 120 credits, students must fulfill the Dietrich School's curriculum requirements which are of three types: skills, general education, and requirements for a major and minor or related area (see Skills Requirements, General Education Requirements, and Requirements for Major sections below). Furthermore, students must earn at least half of the credits for their major(s), minor(s), and certificates(s) and the final 30 credits toward the Dietrich School degree while enrolled as a Dietrich School student.

Graduation Application

Students must file an application for graduation in the Students Records office, 140 Thackeray Hall, by a specified deadline prior to the term during which they expect to complete all requirements (i.e., a student who expects to graduate at the end of the spring term must apply before the end of the immediately preceding fall term; see the Dietrich School undergraduate calendar (www.asundergrad.pitt.edu/calendars) each term for application deadline dates). This permits student records to make a complete appraisal of the student's record before the student begins the work of the final term. Any deficiency discovered during the evaluation will be communicated to the student in writing, and should be promptly corrected either in conference with the major advisor at registration or during the add/drop period in the final term. The caps, gowns, and hoods for use in commencement exercises are purchased through the University of Pittsburgh Book Center.

Candidates for graduation are expected to appear in person at commencement exercises to receive their degrees; however, diplomas may be mailed.

Skills Requirements

Skills requirements help ensure that all students attain appropriate levels of competence in writing, algebra, and quantitative and formal reasoning. Skills requirements must be completed within the first year of enrollment. Students are placed in or exempted from skills requirements based on certain achievement test scores, University of Pittsburgh Placement Test scores, or course work completed at other colleges and universities. Skills requirements are outlined below:

Composition Requirement

- Students who earn 500 or above on SAT Verbal (Critical Reading) are placed into Seminar in Composition (or equivalent course).
- Students who earn below 500 on SAT Verbal (Critical Reading) will be placed into a Workshop in Composition course.
- Recommendations for ENGCMP 0201 or ENGCMP 0151 (tutorials) will be based on class diagnostic writing during add/drop period.
- English as a Second Language students will be placed into appropriate courses based on English language proficiency.

Students must pass foundational composition courses with a grade of C- or better to fulfill the requirement, and students must complete the requirement by the end of their first two terms of full-time enrollment.

Writing-Designated Courses (W Courses)

After completion of a Seminar in Composition course, each student must complete two courses that are designated as writing intensive (W-courses) or one W-course and a second English composition course. W-courses are designed to promote writing within a discipline through the use of writing assignments spread over the course of a term. If this is done through a term paper the student will be required to produce a draft for discussion and revision no later than a month before the end of the course; all W-courses require a minimum of 20-24 pages of written work that has been through at least one cycle of revision. Each student must satisfy one element of those requirements within his or her major field of study.

Algebra

The mathematical proficiency of all incoming students will be assessed. Students who need additional mathematical preparation will be required to complete the preparation by the end of the first two terms of full-time enrollment. Preparation includes, but is not limited to earning a grade of C- or better in a course in algebra. Students will be exempt from the mathematics proficiency test if:

- they have achieved a satisfactory grade on the Advanced Placement examination in calculus in high school;
- they have earned a C- or better in calculus through College in High School;
- they have completed an approved equivalent of Algebra or another approved course; or
- they have scored 600 or better on the Math SAT.

Quantitative and Formal Reasoning

Mathematics is well described as the queen of sciences, providing the universal language of measurement, quantitative analysis and quantitative reasoning, and providing that predictive power that is the base of our science and our technology. All students are required to take and pass with a grade of C- or better at least one course in university mathematics (other than trigonometry) for which algebra is a prerequisite, or an approved course in statistics or mathematical or formal logic in a department of the Dietrich School.

A student who has demonstrated proficiency in mathematics adequate for placement in an upper-level course in mathematics is exempt from this requirement.

Placement Tests

Placement tests are used primarily to determine skills requirements and to ensure that students are placed in appropriate courses. The tests are administered on campus during PittStart, and some are administered at various off-campus locations prior to orientation. Since most of the tests determine the number of skills courses students will need to take, students should review and prepare as much as possible. A sample placement exam in algebra is available at www.asundergrad.pitt.edu/advising/placement-exams.html.

Following are brief descriptions of Dietrich School of Arts and Sciences placement tests taken by students:

Algebra Placement Exam

Students who have a 600 mathematical reasoning score on the SAT I are exempt from this exam. This exam is designed to determine whether students have acquired the algebraic skills considered by the Department of Mathematics to be sufficient preparation for college-level quantitative courses. Students are strongly urged to review for this exam by reviewing algebra textbooks. These exams takes about 90 minutes to complete.

Trigonometry Placement Exam

The Department of Mathematics requires a specific trigonometry score for placement into calculus and other courses requiring trigonometric functions. This exam takes about 25 minutes to complete.

Second language Placement Exam(s)

Second language placement exams are used to decide placement into second language courses for those students who have not satisfied the second language requirement while in high school or those who plan to continue study of a second language in their first term of enrollment in the Dietrich School. The language departments encourage students to prepare for the exams by reviewing first- and second-year second language texts. These exams take about 60 minutes to complete.

Music Theory Exam

Students considering a major or minor in music should take this test. A sufficient score will exempt them from the required Preparation for Music Theory class. This exam takes about 60 minutes to complete.

General Education Requirements

All students graduating from the Dietrich School must satisfy 14 general education requirements covering prominent areas in the liberal arts such as second language, literature, music, art, philosophy, social science, history, natural science, and foreign culture/international courses. In the process of satisfying these requirements, students select from a broad range of approved courses. Descriptions of the general education requirements are available in the Advising Center, 201 Thackeray Hall.

Requirements for the Major

Student preparing to graduate from the Dietrich School must fulfill particular requirements for an academic major of their choice. The Dietrich School offers over 55 majors in 31 departments. Some departments offer more than one major. Each department specifies the particular courses needed to fulfill its major(s). The requirements for each major are summarized below. Handouts are available in the Advising Center, 201 Thackeray Hall, and in the departments provide up-to-date and detailed information about each major.

Note: Transfer students receive an evaluation of their previous course work indicating the equivalent University of Pittsburgh courses for which advanced-standing credits have been awarded. Equivalent Dietrich School courses will meet requirements for the major where appropriate. Students who believe that a previous course not equivalent to a Dietrich School course should meet a requirement for a major may petition the department to review that course.

Related Area

Students must also earn at least 12 Dietrich School credits (with a minimum GPA of 2.00) in a related area specified by the department of their major. The major department may choose to approve these 12 credits in a single department, thematic cluster, geographic grouping, or some other combination. Completion of the requirements for a certificate program usually fulfills the Dietrich School requirements for a related area, at the discretion of the major department. The algebra and writing requirements may not be used as part of a related area. Students should check with their advisor for any approvals required to pursue a planned related area of study.

Minors

Dietrich School students may substitute an approved structured minor for the related area. Students must complete the minor with a 2.00 GPA and indicate the minor on the application for graduation. Students who complete an approved minor will have it listed on their transcript, provided that the minor is indicated on the application for graduation. Half of the credits earned for the minor must be earned at the University of Pittsburgh main campus.

For specific information about these minors, please contact the department offering the minor, the Advising Center in 201 Thackeray Hall, or check the individual minor listings in this bulletin.

Special Undergraduate Majors/Advanced Study Opportunities

In addition to the individual majors detailed under Major and Minor Descriptions by Department, Dietrich School students may choose to pursue a variety of academic programs leading to multiple majors, majors within more than one department, or majors that either prepare students for or offer advanced admission to graduate or professional programs at the University of Pittsburgh.

Double and Triple Majors

Students who meet the major requirements of two or three departments may declare, and have recorded on their transcript, a double or triple major, but they will earn only one degree. If one major leads to the BA degree and another to the BS degree, students must decide at graduation which degree they wish to receive. A maximum of six credits can overlap from one major to another.

Joint Departmental Majors

Several joint majors, constructed from the offerings of two departments, are available to qualified Dietrich School students. Current joint majors include:

- Politics and philosophy, leading to a BA degree;
- Mathematics and economics, leading to a BS degree;
- Mathematics and philosophy, leading to a BS degree; and
- Africana studies and English literature, leading to a BA degree.

For requirements, see Major and Minor Descriptions by Department.

Double Degrees

Dietrich School students may choose to simultaneously pursue more than one undergraduate degree, either within the Dietrich School (i.e., both a BA and a BS) or in another undergraduate school of the University. The Dietrich School also offers a joint degree program with the Swanson School of Engineering. In general, earning two degrees requires a minimum of 150 credits and completion of the curriculum requirements of both schools. Detailed information about these options is available in the Advising Center, 201 Thackeray Hall.

Combined Degree Options

Some students may qualify for a professional school option, in which students who have satisfied the following requirements may receive a bachelor's degree from the Dietrich School upon successful completion of the first year of graduate study:

- Completion of 90 or more credits in the Dietrich School,
- Satisfaction of all skills and general education requirements, and
- Acceptance to a graduate professional school at the University of Pittsburgh (such as the School of Dental Medicine).

Students going on to other graduate schools (such as the Graduate School of Public Health) who have earned 96 or more credits in the Dietrich School and have been accepted into a graduate program may receive a bachelor's degree upon completion of the specified amount of graduate study. Detailed information about these options is available in handouts in the Advising Center, 201 Thackeray Hall.

Dietrich School of Arts and Sciences/College of Business Administration Dual Major Program

Qualified students may apply for admission to a dual Dietrich School of Arts and Sciences/College of Business Administration major. This dual major permits students to pursue an undergraduate Dietrich School major and a business major simultaneously. Students may apply to the program after their first year at the University of Pittsburgh. Specific information about requirements and applications are available in the Advising Center (201 Thackeray Hall) and the College of Business Administration (2100 Sennott Square). See your academic advisor for more information.

Preparation for Professional Programs of Study

Students interested in spending their junior and senior years in the University of Pittsburgh's professional Schools of Social Work, Health and Rehabilitation Sciences, Information Sciences, or Pharmacy normally spend two years in the Dietrich School taking necessary prerequisite courses and electives in preparation for professional study. Although freshmen are accepted directly into the Schools of Engineering, Nursing, and the College of Business Administration (CBA), it is possible for students who begin in the Dietrich School to transfer into those schools after one or two years. Detailed information is available in handouts in the Advising Center, 201 Thackeray Hall.

Preparation for Graduate Professional Studies

Although the Dietrich School does not offer specific majors in prelaw, premedical, predental, or education, it is possible for students in the Dietrich School to complete all the necessary prerequisites for entry into these graduate professional schools while fulfilling their Dietrich School degree requirements. Details are available in handouts in the Advising Center, 201 Thackeray Hall.

Accelerated Law Admissions Program (ALAP)

The Accelerated Law Admissions Program (ALAP), open to any student enrolled in the Dietrich School grants admission to the University of Pittsburgh's School of Law to those students who meet the ALAP's requirements. Students who enter the program complete their undergraduate major in three years, applying for admission to the School of Law during their junior year, and then go on to law school for another three years.

Students interested in the program are encouraged to declare a major early at the end of the first year in order to allow them to complete their undergraduate Dietrich School major(s) by the end of their third year. Also, interested students are encouraged to take summer classes during their second year in order to reduce the credits to be completed in their third year. The requirements for the ALAP are as follows:

- Students must complete 102 credits by the end of their junior year.
- Students must take three writing-designated courses (rather than two) beyond the freshman writing requirement.
- The Dietrich School requirement of 12 credits in a related area is waived for students in the ALAP.
- Students must take the Law School Admissions Test (LSAT) by the fall of their junior year. This would include the June, October, or December test.

Acceptance into the program is competitive, and only those students with above-average grades and competitive LSAT scores should apply.

Five-Year Programs

- BS in statistics and an MA or MS in applied statistics: This program is intended to give outstanding students interested in statistics the opportunity to progress quickly toward their educational objectives. Contact the Department of Statistics for details.
- BS in computer science and an MS in computer science: Exceptional students can earn an MS in computer science in five years and also can participate in a variety of experiential educational activities. Contact the Department of Computer Science for details.

Special Academic Opportunities/Programs

The following special programs are available to Dietrich School students:

Academic Resource Center

The Academic Resource Center (ARC) seeks to increase the admission, retention, and graduation of undergraduate students in the Dietrich School by providing counseling, academic advising, University orientation course, study skills, tutoring, peer mentoring, and monitoring of student performance. The ARC offers the following services:

- Tutoring is available for introductory calculus and statistics courses through both individual and group programs.
- The ARC offers Study Skills Workshops, Individualized Study Skills, and various Study Skills Mini-Workshops for students who want to develop more efficient and effective ways of studying. Topics include suggestions for improving textbook reading, lecture note taking, memory, time management, and test-taking skills.
- Student Support Services (SSS) provides a holistic approach to student development and academic achievement. SSS counselors assist students with financial aid and registration procedures and academic and career planning. SSS offers tutoring by faculty and upper class students in mathematics and science, and 1-credit courses to help students maximize their learning potential. SSS is funded by the U.S. Department of Education.

For more information on the Academic Resource Center, please call 412-648-7920 or visit http://www.asundergrad.pitt.edu/offices/arc/index.html.

In addition to the services offered by the ARC, the departments of English and Mathematics host resource centers - the Writing Center and the Math Assistance Center (MAC), both located in the O'Hara Student Center. For more information, visit their Web sites at: www.composition.pitt.edu/writingcenter/index. html and www.mathematics.pitt.edu/resources/mac-center.php

Office of Freshman Programs

Introduction to the Arts and Sciences (FP 0001)

This one-credit course provides incoming freshmen in the Dietrich School of Arts and Sciences an extended orientation to academic life and its relation to life goals by exploring the nature and value of a liberal arts and sciences education. The small class size enables the students, instructor, and undergraduate teaching assistant to discuss many of the issues that will have an impact on a successful college experience, such as negotiating the transition from high school to college, learning and study skills, academic integrity, computer-system use and library orientation, and educational and career goals. Students often participate as a class in University and citywide cultural events, which gives students the opportunity to socialize beyond the classroom in a way that is valuable to their overall academic experience. For more information about Freshman Programs, visit http://www.asundergrad.pitt.edu/offices/freshman-programs/index.html.

Office of Undergraduate Research, Scholarship, and Creative Activity

The Dietrich School of Arts and Sciences Office of Undergraduate Research, Scholarship, and Creative Activity is a clearinghouse for students interested in earning academic credit for undergraduate research. While classroom and academic components are necessities to earning a college degree, experiential learning helps students to apply what they have been learning in school to real-world situations. By diversifying their education through experiential learning, students maximize their opportunities for the future. For further information, please contact the Office of Undergraduate Research in 209 Thackeray Hall or at http://www.asundergrad.pitt.edu/offices/experientiallearning/index.html.

Study Abroad

Dietrich School students are encouraged to add an international dimension to their undergraduate education through study abroad. Credit may be earned toward the Dietrich School degree through participation in one of several University of Pittsburgh programs or consortia-sponsored programs including Konan Year in Japan, the Denmark International Studies Program, and studies at the Universidad de las Americas in Puebla, Mexico, or the Universities of Sheffield and Sussex in England, to name a few. Students may study in virtually any part of the world in these programs or others sponsored by most American or international institutions.

Before study abroad is undertaken, approval for credit must be obtained. The study abroad advisor provides program approval, and the advisor in the department in which credit is sought and the Dietrich School Advising Center must approve the course selections and credits. Students should have at least a 2.75 GPA before seeking permission from the Dietrich School Advising Center to study abroad. In most cases, registration must be completed in the Dietrich School Advising Center, 201 Thackeray Hall. Call the Study Abroad Office in Room 802 William Pitt Union at 412-648-7413 or see www.abroad.pitt.edu for more information.

Dietrich School Certificate Programs

Certificates are earned in addition to a major and may be used to satisfy the related area requirement, depending upon the major department chosen. Certificates typically require 18-24 credits. See below for summary information about certificate programs available to students through A&S. Other undergraduate certificate programs are available through the Swanson School of Engineering and the University Center for International Studies (UCIS); Dietrich School students are encouraged to consider those certificates, too. Detailed descriptions of these programs are available in handouts in the Dietrich School Advising Center, 201 Thackeray Hall.

- American Sign Language Certificate
- Arabic Language and Linguistics Certificate
- Children's Literature Certificate
- Conceptual Foundations of Medicine Certificate
- Certificate in Gender, Sexuality, and Women's Studies
- Geographic Information Systems (GIS) Certificate
- German Language Certificate
    - German Language Certificate - German for Liberal Arts Track
    - German Language Certificate - German for Professional Purposes Track
- Jewish Studies Certificate
- Life Sciences Research Certificate
- Medieval and Renaissance Studies Certificate

- Undergraduate Certificate in Nanoscience and Engineering (joint with the Swanson School of Engineering)
- Photonics Certificate
- Public and Professional Writing Certificate
- Undergraduate Certificate in Sustainability

Honors and Awards

Numerous scholarships, prizes, and awards are given annually to Dietrich School students for outstanding academic performance. For more information about an honor or award, contact the office, department, or program listed in parentheses following the honor or award title.

- A.J. Schneider Award (Studio Arts)
- A.J. Schneider Memorial Study Abroad Scholarship (History)
- Alfred d'Auberge Scholarship (Music)
- Abraham Pais Award (English)
- ACS Award (Chemistry)
- Alfred Moye Information Technology Initiative Summer Research Experience (Computer Science)
- Alison Bentley Kephart Memorial Fund in the Biological Sciences (Biological Sciences)
- Alliance Française Scholarship Fund (French and Italian Languages and Literatures)
- American Institute of Chemists Award (Chemistry)
- Anthony and Concetta Ambrosio Internship Award (Office of Undergraduate Research)
- Asher Isaacs Memorial Prize (Economics)
- Barry M. Goldwater Scholarship (University Honors College)
- Bernard J. Wein Fund for Undergraduate Research (Office of Undergraduate Research)
- Betty Blockstein Levine Memorial Award (Studio Arts)
- Carol Kay Award (English)
- Chancellor's Undergraduate Merit Scholarships (University Honors College)
- Children's Literature Program Undergraduate Paper Prize (Children's Literature)
- Chinese Language Study Abroad Scholarships (East Asian Languages and Literatures)
- Christine J. Toretti Endowed Fund for Undergraduate Research (Office of Undergraduate Research)
- Composition Program Writing Contest (English)
- Dante Alighieri Society Scholarship Fund (French and Italian Languages and Literatures)
- David Schenker Student Prize(Economics)
- Department of Studio Arts Achievement Award (Studio Arts)
- Dietrich School of Arts and Sciences Undergraduate Research Fund (US Steel) (Office of Undergraduate Research)
- East Asian Languages and Literatures Merit Awards (East Asian Languages and Literatures)
- Esther and Tobias Dunkleberger Scholarship (Chemistry)
- Edwin O. Ochester Undergraduate Poetry Award (English)
- Ella P. Stewart Award (Biological Sciences)
- Emil Sanielevici Undergraduate Research Scholarship (Physics and Astronomy)
- Environmental Studies Field Experience/Study Abroad Scholarship (Geology and Planetary Science)
- Excellence in Research Award (Neuroscience)
- Fil Hearn Award for Study Abroad (History of Art and Architecture)
- Film Studies Undergraduate Writing Award (Film Studies)
- French and Italian Student Scholarship Fund (French and Italian Languages and Literatures)
- Freshman Chemistry Achievement Award (Chemistry)
- Friends of the Frick Fine Arts Undergraduate Writing Award (History of Art and Architecture)
- Halliday Award for Excellence in Undergraduate Research (Physics and Astronomy)
- Maria S. and Herbert G. Constant Fund (French and Italian Languages and Literatures)
- Ira A. Messer Award (Chemistry)
- JK and Gertrude Miller Award (English)
- James E. Bradler Award for Excellence in Undergraduate Research (Neuroscience)

- James Snead Memorial Essay Award (English)
- James V. Harrison Fund (Office of Undergraduate Research)
- Jennifer and Eric Spiegel Book Award (Communication)
- Jerome C. Wells Award (Economics)
- John F. Haskins Award (History of Art and Architecture)
- Dr. John Knox Hall, Jr. Scholarship ((Psychology)
- Julie Thompson Award for Excellence in Undergraduate Writing (Physics and Astronomy)
- Koloc Award (English)
- Larson O'Brien Prize for Excellence in Professional Writing (English)
- Leonard Baxt Fund (Office of Undergraduate Research)
- Leonard S. and Mildred E. Gerlowski Student Award in the Department of Music (Music)
- Lilly Summer Research Fellowship (Chemistry)
- Lore B. Foltin Memorial Prize (Germanic Languages and Literatures)
- M.M. Culver Memorial Fund (Mathematics)
- Marlee and James Myer Award (English)
- Martin Richard and Susan Baer Gluck Award (Music or Studio Arts)
- Mary Louise Theodore Prize (Chemistry)
- Mary M. Masco Memorial Fund (Dietrich School Undergraduate Studies)
- Mellon Jazz Scholarship (Music)
- Merck Award (Chemistry)
- Michael and Susan Ford Scholarship Award (Economics)
- Montgomery Culver Prize for Fiction (English)
- Nationality Room Scholarships (Nationality Rooms)
- Norman K. Flint Memorial Field Geology Scholarship (Geology and Planetary Science)
- Dr. Norman H. Horowitz Award (Biological Sciences)
- Oberbeck Scholarship for Student Research (Dietrich School Undergraduate Studies)
- Oratory Competition Awards (Communication)
- Ossip Writing Awards (English)
- Outstanding Freshman Scholar Award (Biological Sciences)
- Outstanding Undergraduate Student Award (Computer Science)
- Peter F. M. Koehler Sophomore/Junior Level Academic Achievement Award (Physics and Astronomy)
- Peter F. M. Koehler Junior/Senior Level Academic Achievement Award (Physics and Astronomy)
- Phillips Medal (Chemistry)
- Prize for Excellence in Writing for the Public Interest (English)
- Richard F. Zarilla Award (Chemistry)
- Richard T. Hartman Fund (Biological Sciences)
- Rita R and David A Rossi Scholarship (Chemistry)
- Robert W. Avery Award for Undergraduate Excellence in Sociology (Sociology)
- Ruth L. M. Kuschmierz "Pitt in Germany" Scholarship Fund (German)
- SACP College Award (Chemistry)
- Samuel B. Frazier Undergraduate Book Scholarship (Geology and Planetary Science)
- Samuel D. Colella Award (Biological Sciences)
- Silverman Award (Chemistry)
- Taube Award for Fiction (English)
- Teplitz Memorial Scholarship (Chemistry)
- Theodora C. Diamantopulos Endowed Fund for Student Resources (Dietrich School Undergraduate Studies)
- Thomas-Lain Scholarship (Physics and Astronomy)
- Tung-Li and Hui Hsi Yuan Prize in Arts and Sciences (Dietrich School Undergraduate Studies)
- Turow-Kinder Award for Fiction (English)
- Undergraduate Award in Analytical Chemistry (Chemistry)
- Undergraduate Film Studies Writing Award (Film Studies)

- University Scholarships (Admissions and Financial Aid)
- Valspar Award (Chemistry)
- Women's Studies Paper Prize (Women's Studies)
- Women's Studies Student Research Fund (Women's Studies)

Dietrich School Faculty

Dietrich School of Arts and Sciences Faculty

Declaring a Major

All students are required to complete a major or other upper-class option in addition to the skills and general education requirements. Students declare their major by filling out an Undergraduate Academic Program Change form available in the Dietrich School Advising Center, 201 Thackeray Hall. Students normally declare their major during their fourth term of full-time study.

Program and Course Offerings

Department of Africana Studies

Africana studies is the study, research, interpretation, and dissemination of knowledge concerning African American, African, and Caribbean affairs and culture. Using the tools of the social sciences and humanities, Africana studies examines the structure, organization, problems, and perspectives of Blacks in Africa and the African Diaspora. Africana studies also stresses analytical interpretations and policy prescriptions for social change in African American communities and in various African and Caribbean nations. The term Africana incorporates the three-tier interdisciplinary thrust of the department: African, African American, and Caribbean social sciences and humanities.

Africana studies prepares social science majors for advanced graduate studies in international affairs, education, social work, social policy studies, and legal and professional training. In the humanities, preparation in the creative arts and literature gears students to practical development in such fields as communication, teaching, theater, and dance. Africana studies occupies a central role in understanding modern American life and African and Caribbean linkages. As an interdisciplinary major, Africana studies offers intellectual paradigms for the multicultural approach to historical, political, and economic reality. It is also critical and corrective of the inadequacies, omissions, and distortions of mainstream American education leading into the 21st century. Africana studies is committed to producing liberally educated women and men with a lifetime dedication to working on African American, African, and Caribbean affairs. For more information on the major and the Department of Africana Studies, see the department's Web site at www.africanastudies.pitt.edu.

Major

Africana Studies, BA

Africana Studies is the study, research, interpretation, and dissemination of knowledge concerning African American, African, and Caribbean affairs and culture. Using the tools of the social sciences and humanities, Africana Studies examines the structure, organization, problems, and perspectives of Blacks in Africa and the African Diaspora. Africana Studies also stresses analytical interpretations and policy prescriptions for social change in African American communities and in various African and Caribbean nations. The term Africana incorporates the three-tier interdisciplinary thrust of the department: African, African American, and Caribbean social sciences and humanities.

Africana Studies prepares social science majors for advanced graduate studies in international affairs, education, social work, social policy studies, and legal and professional training. In the humanities, preparation in the creative arts and literature gears students to practical development in such fields as communication, teaching, theater, and dance. Africana Studies occupies a central role in understanding modern American life and African and Caribbean linkages. As an interdisciplinary major, Africana Studies offers intellectual paradigms for the multicultural approach to historical,

political, and economic reality. It is also critical and corrective of the inadequacies, omissions, and distortions of mainstream American education leading into the 21st century. Africana Studies is committed to producing liberally educated women and men with a lifetime dedication to working on African American, African, and Caribbean affairs. For more information on the major and the Department of Africana Studies, see the department's Web site at www.africanastudies.pitt.edu.

Major Requirements

Students are urged to meet with the departmental advisor no later than the beginning of the junior year to confirm a plan of study. The Africana studies major requires:

A total of 30 credits with a focused area of study in either humanities or social science. A 2.0 grade point average in all Africana Studies courses is required for graduation. The department does not permit courses for the major to be taken on an S/NC basis.

All majors, regardless of concentration, are required to take the following three core courses.

- AFRCNA 0031 - INTRODUCTION TO AFRCNA STUDIES
- AFRCNA 1768 - AFRCNA SENIOR RESEARCH SEMINAR
- AFRCNA 1900 - INTERNSHIP

Humanities Concentration

Seven courses as follows; see the lists below for specific courses.

- Two lower level AFRCNA humanities courses
- Three upper level AFRCNA humanities courses
- One lower level AFRCNA social science course
- One upper level AFRCNA social science course

Social Sciences Concentration

Seven courses as follows; see the lists below for specific courses.

- Two lower level AFRCNA social science courses
- Three upper level AFRCNA social science courses
- One lower level AFRCNA humanities course
- One upper level AFRCNA humanities course

Lower-level courses

Humanities courses

- AFRCNA 0150 - AFRICAN AMERICAN LITERATURE
- AFRCNA 0212 - WEST AFRICAN DANCE
- AFRCNA 0242 - AFRICANA URBAN WOMAN
- AFRCNA 0316 - INTRO AFRICAN AMERICAN THEATER
- AFRCNA 0352 - AFRICAN AMERICAN DANCE
- AFRCNA 0454 - MAN/WOMAN LITERATURE
- AFRCNA 0517 - INTRO TO AFRCN AMERICAN POETRY
- AFRCNA 0522 - INTRODUCTION AFRCN LITERATURE
- AFRCNA 0523 - SWAHILI 1
- AFRCNA 0524 - SWAHILI 2

- AFRCNA 0543 - CONTEM AFRCN AMERICAN DRAMA 1
- AFRCNA 0639 - HISTORY OF JAZZ
- AFRCNA 0788 - CONTEMPORARY AFRICANA FILMS

Social Science courses

- AFRCNA 0120 - AFRICAN AMER EXPERIENCE SPORTS
- AFRCNA 0127 - INTRODUCTION TO AFRICA
- AFRCNA 0311 - INTRO TO AFRCN AMERICAN FAMILY
- AFRCNA 0313 - THE BLACK CHURCH
- AFRCNA 0318 - HISTORY OF AFRICA BEFORE 1800
- AFRCNA 0385 - CARIBBEAN HISTORY
- AFRCNA 0434 - PSYCHLGCL EXPRN AFRN AMER FEML
- AFRCNA 0515 - AFRICAN AMERICAN POLITICS
- AFRCNA 0535 - ANTEBELLUM BLCK WOMEN'S HISTRY
- AFRCNA 0536 - 20THC AFRICAN AMER WOMAN HIST
- AFRCNA 0586 - EARLY AFRICAN CIVILIZATIONS
- AFRCNA 0628 - AFRO-LATIN AMERICA
- AFRCNA 0629 - AFRO-AMERICAN HISTORY 1
- AFRCNA 0630 - AFRO-AMERICAN HISTORY 2
- AFRCNA 0684 - RACE,CLSS,ETHNY:CARIB EXPRN
- AFRCNA 0787 - BLACK CONSCIOUSNESS

Upper-level courses

Humanities courses

- AFRCNA 1033 - AFRCN AMERICANS AND MASS MEDIA
- AFRCNA 1043 - CONTEM AFRCN AMERICAN DRAMA 2
- AFRCNA 1046 - AFRICAN POETRY
- AFRCNA 1103 - FEMALE PLAYWRIGHTS BEFORE 1959
- AFRCNA 1145 - AFRICAN AMERICAN RHETORIC
- AFRCNA 1150 - CONTEM AFRCN AMERICAN WRITING
- AFRCNA 1240 - AFRICAN LITERATURE AND SOCIETY
- AFRCNA 1306 - WORLD LITERATURE IN ENGLISH
- AFRCNA 1334 - MUSIC IN AFRICA
- AFRCNA 1335 - AFRICAN-AMERICAN MUSIC IN U.S.
- AFRCNA 1347 - FRANCOPHONE AFRCNA LITERATURE
- AFRCNA 1349 - CONTEM CARIBBEAN LITERATURE
- AFRCNA 1353 - COMPARATIVE DANCE EXPRESSION
- AFRCNA 1383 - CONCEPTS IN AFRCN AMER THEATER
- AFRCNA 1555 - AFRO CARIBBEAN DANCE
- AFRCNA 1605 - AUGUST WILSON DRAMAS
- AFRCNA 1616 - AFRICAN AMERICAN WOMEN WRITERS
- AFRCNA 1620 - AFRICAN AMERICAN LIT CRITICISM
- AFRCNA 1644 - THE AFRICAN NOVEL
- AFRCNA 1704 - AFRICANA WORLD LITERATURE

Social Science courses

- AFRCNA 1011 - THE RISE MOD PAN-AFRCN MOVEMNT
- AFRCNA 1012 - EARLY 20THC BLK SOCL MOVMNT
- AFRCNA 1021 - HISTORY OF THE AFRCN DIASPORA
- AFRCNA 1030 - AFRICAN POLITICS
- AFRCNA 1039 - HISTORY OF CARIBBEAN SLAVERY
- AFRCNA 1108 - AFRICAN AMERICAN FOLK CULTURE
- AFRCNA 1137 - 19TH CENTURY AFRICAN AMER HIST
- AFRCNA 1223 - PERSNL GROWTH THRGH PSYCHODRAM
- AFRCNA 1309 - WOMN OF AFRC & AFRCN DIASPORA
- AFRCNA 1310 - CULTURES OF AFRICA
- AFRCNA 1331 - AFRICAN LIBERATION MOVEMENTS
- AFRCNA 1402 - LRNG PARDGMS AFRC-AM CHLD DVLP
- AFRCNA 1522 - SEX AND RACISM
- AFRCNA 1538 - HISTORY OF BLACK PITTSBURGH
- AFRCNA 1656 - HISTORY OF AFRICA SINCE 1800
- AFRCNA 1661 - POLITICAL ECONOMY OF AFRICA
- AFRCNA 1710 - AFRICAN AMERICAN HEALTH ISSUES
- AFRCNA 1711 - THE CITY IN AFRICA

Additional requirements

For the Dietrich School required related area outside the major, students might consider completing the related area in a single department as it may lead to the option of a double major.

Students must complete one of their required writing-intensive (W) course in the major.

Minor

Africana Studies Minor - African American Culture Option

Minor Requirements

Option 1:

- AFRCNA 0031 - INTRODUCTION TO AFRCNA STUDIES
- two lower-level courses from the subset
- and two upper-level courses from the subset

(15 Credits Total)

Lower level courses

- AFRCNA 0150 - AFRICAN AMERICAN LITERATURE
- AFRCNA 0311 - INTRO TO AFRCN AMERICAN FAMILY
- AFRCNA 0313 - THE BLACK CHURCH
- AFRCNA 0352 - AFRICAN AMERICAN DANCE
- AFRCNA 0454 - MAN/WOMAN LITERATURE
- AFRCNA 0515 - AFRICAN AMERICAN POLITICS
- AFRCNA 0517 - INTRO TO AFRCN AMERICAN POETRY

- AFRCNA 0543 - CONTEM AFRCN AMERICAN DRAMA 1
- AFRCNA 0629 - AFRO-AMERICAN HISTORY 1
- AFRCNA 0639 - HISTORY OF JAZZ
- AFRCNA 0787 - BLACK CONSCIOUSNESS
- AFRCNA 0788 - CONTEMPORARY AFRICANA FILMS

Upper level courses

- AFRCNA 1011 - THE RISE MOD PAN-AFRCN MOVEMNT
- AFRCNA 1012 - EARLY 20THC BLK SOCL MOVMNT
- AFRCNA 1033 - AFRCN AMERICANS AND MASS MEDIA
- AFRCNA 1108 - AFRICAN AMERICAN FOLK CULTURE
- AFRCNA 1145 - AFRICAN AMERICAN RHETORIC
- AFRCNA 1335 - AFRICAN-AMERICAN MUSIC IN U.S.
- AFRCNA 1402 - LRNG PARDGMS AFRC-AM CHLD DVLP
- AFRCNA 1522 - SEX AND RACISM
- AFRCNA 1605 - AUGUST WILSON DRAMAS
- AFRCNA 1616 - AFRICAN AMERICAN WOMEN WRITERS
- AFRCNA 1704 - AFRICANA WORLD LITERATURE
- AFRCNA 1710 - AFRICAN AMERICAN HEALTH ISSUES

Africana Studies Minor - African Culture Option

Minor Requirements

Option 2:

- AFRCNA 0031 - INTRODUCTION TO AFRCNA STUDIES
- two lower-level courses from the subset
- and two upper-level courses from the subset

(15 Credits Total)

Lower level courses

- AFRCNA 0127 - INTRODUCTION TO AFRICA
- AFRCNA 0212 - WEST AFRICAN DANCE
- AFRCNA 0242 - AFRICANA URBAN WOMAN
- AFRCNA 0318 - HISTORY OF AFRICA BEFORE 1800
- AFRCNA 0522 - INTRODUCTION AFRCN LITERATURE
- AFRCNA 0586 - EARLY AFRICAN CIVILIZATIONS
- AFRCNA 0787 - BLACK CONSCIOUSNESS
- AFRCNA 0788 - CONTEMPORARY AFRICANA FILMS

Upper level courses

- AFRCNA 1011 - THE RISE MOD PAN-AFRCN MOVEMNT
- AFRCNA 1030 - AFRICAN POLITICS
- AFRCNA 1240 - AFRICAN LITERATURE AND SOCIETY

- AFRCNA 1309 - WOMN OF AFRC & AFRCN DIASPORA
- AFRCNA 1310 - CULTURES OF AFRICA
- AFRCNA 1331 - AFRICAN LIBERATION MOVEMENTS
- AFRCNA 1334 - MUSIC IN AFRICA
- AFRCNA 1347 - FRANCOPHONE AFRCNA LITERATURE
- AFRCNA 1644 - THE AFRICAN NOVEL
- AFRCNA 1655 - AFRICAN CINEMAS/SCREEN GRIOTS
- AFRCNA 1656 - HISTORY OF AFRICA SINCE 1800
- AFRCNA 1661 - POLITICAL ECONOMY OF AFRICA

Africana Studies Minor - Multidisciplinary Option

Minor Requirements

Option 3:

- AFRCNA 0031 - INTRODUCTION TO AFRCNA STUDIES
- one lower-level course from the humanities subset
- one lower-level course from the social sciences subset
- one upper-level course from the humanities subset
- and one upper-level course from the social sciences subset

(15 Credits Total)

Lower level courses

Humanities

- AFRCNA 0212 - WEST AFRICAN DANCE
- AFRCNA 0316 - INTRO AFRICAN AMERICAN THEATER
- AFRCNA 0352 - AFRICAN AMERICAN DANCE
- AFRCNA 0543 - CONTEM AFRCN AMERICAN DRAMA 1

Social Science

- AFRCNA 0120 - AFRICAN AMER EXPERIENCE SPORTS
- AFRCNA 0313 - THE BLACK CHURCH
- AFRCNA 0385 - CARIBBEAN HISTORY
- AFRCNA 0515 - AFRICAN AMERICAN POLITICS
- AFRCNA 0630 - AFRO-AMERICAN HISTORY 2
- AFRCNA 0684 - RACE,CLSS,ETHNY:CARIB EXPRN

Upper level courses

Humanities

- AFRCNA 1033 - AFRCN AMERICANS AND MASS MEDIA
- AFRCNA 1145 - AFRICAN AMERICAN RHETORIC

- AFRCNA 1240 - AFRICAN LITERATURE AND SOCIETY
- AFRCNA 1306 - WORLD LITERATURE IN ENGLISH
- AFRCNA 1347 - FRANCOPHONE AFRCNA LITERATURE
- AFRCNA 1349 - CONTEM CARIBBEAN LITERATURE
- AFRCNA 1353 - COMPARATIVE DANCE EXPRESSION
- AFRCNA 1555 - AFRO CARIBBEAN DANCE
- AFRCNA 1620 - AFRICAN AMERICAN LIT CRITICISM
- AFRCNA 1655 - AFRICAN CINEMAS/SCREEN GRIOTS

Social Science

- AFRCNA 1021 - HISTORY OF THE AFRCN DIASPORA
- AFRCNA 1039 - HISTORY OF CARIBBEAN SLAVERY
- AFRCNA 1538 - HISTORY OF BLACK PITTSBURGH
- AFRCNA 1656 - HISTORY OF AFRICA SINCE 1800
- AFRCNA 1711 - THE CITY IN AFRICA

Joint Major

Africana Studies - English, BA

The joint major offers an especially coherent experience in interdisciplinary learning by bringing together Africana Studies and English in two interrelated ways. Students get a rich and rigorous exposure to African and African Diaspora literature written in English through literature produced in the United States, Africa, Canada, Great Britain, and the Caribbean. Additionally, students examine some of the significant relationships between African and African Diaspora works and a range of English-language literary traditions.

The major is designed to expose students to important questions and traditions in literary interpretation and to offer them political, social, and cultural contexts for the literature they will be reading. Like most liberal arts majors, it helps students learn to think analytically and to make and assess arguments, skills that are important in many jobs and courses of graduate study. The major is also useful for prospective teachers who would be interested in developing and teaching curricula that include African Diaspora literature within other English-language traditions. Students who complete the joint major will have fulfilled most of the School of Education's undergraduate requirements for secondary education certification in English.

The Africana Studies-English joint major requires 45 credits distributed as follows: four core courses, four literature courses from the Department of Africana Studies, three literature courses from the Department of English, and four electives, one of which must be a history course in the Department of Africana Studies. No more than two upper-division courses can count toward the major before a student has completed the introductory courses, and three of the required courses in each department excluding the core courses must be taken before a student enrolls in a senior seminar.

Joint Major Requirements

Required Core Courses (12 credits)

- AFRCNA 0031 - INTRODUCTION TO AFRCNA STUDIES
- ENGLIT 0500 - INTRO TO CRITICAL READING
- ENGLIT 1900 - PROJECT SEMINAR

One of the following:

- AFRCNA 1068 - AFRICANA SENIOR RESEARCH SEMINAR
- ENGLIT 1909 - SENIOR SEMINAR

- ENGLIT 1910 - SENIOR SEMINAR

Africana Studies Courses (12 credits)

Students must take four of the following:

- AFRCNA 0016 - INTRODUCTION TO AFRICAN AMERICAN THEATER
- AFRCNA 0022 - INTRODUCTION TO AFRICAN LITERATURE
- AFRCNA 0050 - INTRODUCTION TO AFRICANA-AMERICAN LITERATURE
- AFRCNA 1004 - AFRICANA WORLD LITERATURE
- AFRCNA 1006 - WORLD LITERATURE IN ENGLISH
- AFRCNA 1020 - AFRICANA AMERICAN LITERARY CRITICISM
- AFRCNA 1044 - THE AFRICAN NOVEL
- AFRCNA 1049 - CONTEMPORARY CARIBBEAN LITERATURE

English Literature Courses (9 credits)

Students must take three of the following:

- ENGLIT 1125 - MASTRPCS OF RENAISSNC LIT
- ENGLIT 1150 - ENLIGHTENMENT TO REVOLUTION
- ENGLIT 1175 - 19TH CENTURY BRITSH LITERATURE
- ENGLIT 1200 - AMERICAN LITERATURE TO 1860
- ENGLIT 1220 - CVL WAR TO WW1 IN AMER LIT
- ENGLIT 1325 - MODERNISM
- ENGLIT 1380 - WORLD LITERATURE IN ENGLISH

Elective Courses (12 credits)

- Students must take four electives, choosing from courses in the departments of Africana Studies and English. One of these electives must be a history course offered by the Department of Africana Studies. Students might also use electives to pursue more extensive work in particular areas of study, such as African, African American, British, Caribbean, or U.S. literature.
- Students interested in careers in education should pay particular attention to courses required by various School of Education certification programs.
- In light of the interdisciplinary and international character of the joint major, it would also be appropriate for students to petition to have a closely related course taught in a foreign language (for example, a course on Francophone-Caribbean literature in the Department of French and Italian Languages and Literatures) count as one of the electives toward the joint major.

Department of Anthropology

Anthropology is concerned with how humans and human societies evolve, with the differences and similarities among human cultures, and with the cultural and biological basis for human behavior. Anthropology integrates a wide range of perspectives on human behavior, culture, and society. Students become familiar with the basic concerns of four subgroups of anthropology:

- Archaeology offers courses covering many geographic regions (Latin America, North America, and China), techniques of analysis, and issues in prehistory. Museum collections, internships in cultural resource management, and a summer field school provide opportunities for student involvement in archaeological work.
- Physical anthropology offers classes on evolutionary theory; human genetics; osteoarchaeology; and human and nonhuman primate evolution, anatomy, morphology, and behavior.

- Cultural anthropology offers a wide variety of courses on cultural areas including the Pacific, Latin America, China, Japan, South Asia, Eastern Europe, and the United States. Classes provide cross-cultural studies of topics such as medical anthropology, food, social and political organization, gender roles, kinship, ethnicity and nationalism, folklore, religion, and conflict and violence.
- Anthropological linguistics offers courses on the nature of languages around the world, focusing on the relationship of language to other aspects of culture and society. Among the courses offered are Gypsy Language and Culture and Writing Systems of Ancient Mesoamerica.

For more information on the major and the Department of Anthropology, visit www.pitt.edu/~pittanth.

Major

Anthropology, BA

Major Requirements

The anthropology major requires the following:

A total of 30 credits including the following required core courses:

- ANTH 0582 - INTRODUCTION TO ARCHEOLOGY
- ANTH 0680 - INTRO PHYSICAL ANTHROPOLOGY
- ANTH 0780 - INTRO TO CULTURAL ANTHROPOLOGY

The core courses satisfy prerequisites for most upper-level courses

The core courses satisfy prerequisites for most upper-level courses and are generally taken during the freshman and sophomore years.

- ANTH 1750 or one of the other designated under-graduate seminars.
- An additional 18 credits in any anthropology courses will complete the major. A student may choose to concentrate in one of the four subgroups listed above. One of the courses must be a writing (W) course offered within the department. Linguistics and quantitative analysis courses, though not required for the major, are highly recommended.

Note:

The requirements of the program make it possible to pursue a double major in many disciplines such as biology, psychology, religious studies, history, and geology. Students who declare anthropology as a second major should consult with the anthropology advisor as soon as possible to ensure fulfillment of anthropology requirements.

A major in anthropology also combines well with a variety of area studies certificate programs as well as with certificates in women's studies, global studies, geographic information systems, and historic preservation.

Students with an overall GPA of 3.25 or above and a GPA in anthropology courses of 3.50 or above will be graduated from the department with honors, pending the submission and acceptance of a paper representing substantial student research. The honors paper may be an expanded version of a paper from a course or may result from independent research. The successful completion of a linguistics course is recommended.

Department of Biological Sciences

Biological Sciences

The biological sciences major is intended for the biology student who wishes to develop an individualized combination of courses at the advanced level. The student is free to plan a curriculum of great breadth or to choose an area of specialization not offered as a major by the department. Most of

the undergraduates in our department choose the biological sciences major. This major is suitable for those planning a career in which general familiarity with biological topics is desirable, such as jobs in scientific journalism, biological and pharmaceutical supply industries, biological or medical research, scientific libraries and museums, or in any industry where the products or by-products have potential biological impact. Completing the biological sciences major fulfills the basic science requirements for admission to medical, dental, and other health professional schools and to graduate biology programs.

Bioinformatics

Bioinformatics is the theory, application and development of computing tools to solve problems and create hypotheses in all areas of biological sciences. Biology in the post-genome world has been and continues to be transformed from a largely laboratory-based science to one that integrates experimental and information science. Bioinformatics has contributed to advances in biology by providing tools that handle datasets too large and/or complex for manual analysis. Examples of some of these tools include assembly of DNA sequences of entire genomes, gene finding algorithms, microarray expression analysis, molecular system modeling, and biomarker discovery from mass spectra. Computational tools are central to the organization, analysis, and harvesting of biological data at the level of macromolecules, cells, and systems. Consequently, there is a growing need for trained professionals who understand the languages of biology and computer science. Biologists trained in more traditional programs may not have a working knowledge of statistics and algorithms, whereas computer scientists trained in more traditional programs may not have a working knowledge of the chemistry and biology required in the field.

Ecology and Evolution

The field of ecology explores the interactive web of organisms and the environment. Studies in evolution consider the processes by which modern organisms have developed from ancestral ones. The ecology and evolution major is a good choice for students interested in the fundamental questions of the evolutionary origins of organisms and how they survive, or don't survive, in their changing habitats. Within this major, students have the opportunity for in-depth study of the morphological and physiological adaptations of a variety of animals, plants, and microorganisms to a changing world; the ecological relationship of organisms from the individual to the global scale; and the mechanisms that drive evolutionary change.

Employment opportunities in the ecological sciences have increased greatly in recent years. There continues to be a demand for well-trained professionals at all levels (BS, MS, and PhD). Government environmental agencies, commercial consulting and testing firms, waste management industries, research laboratories, and natural history and science museums are just a few of the career opportunities. Graduate departments of ecology, evolution, environmental sciences, genetics, botany, public policy, and public health are actively seeking well-qualified students. The required chemistry, physics, and mathematics courses incorporate the requirements for admission to medical, dental, and other health professional schools. An ecology and evolution major could also serve as a springboard to a career in law.

Microbiology

Microbiology is the study of the biology of microscopic organisms: bacteria, viruses, algae, fungi, and protozoa. The methods used to study and manipulate these minute and mostly unicellular organisms differ from those used in most other biological investigations. Recombinant DNA technology uses microorganisms, particularly bacteria and viruses, to amplify DNA sequences and generate the encoded products. Moving genes from one microorganism to another permits application of microbial skills to solve medical and environmental problems. Many microorganisms are unique among living things in their ability to use gaseous nitrogen from the air or to degrade complex and resistant macromolecules in such materials as wood. By rearranging the genes that control these and other processes, scientists seek to engineer microorganisms that will process wastes, fertilize agricultural land, produce desirable biomolecules, and solve other problems inexpensively and safely.

Microbiologists pursue careers in many fields, including agricultural, environmental, food, and industrial microbiology; public health; resource management; basic research; education; and pharmaceuticals. Jobs in all these fields are available at the BS level as well as the MS and PhD levels. The microbiology major also incorporates the requirements expected for admission to medical, dental, and other health professional schools and to graduate schools in microbiology, molecular biology, biochemistry, and related disciplines.

Molecular Biology

Molecular biology emphasizes the study of molecules that make up an organism and the forces operating among these molecules. Increasingly, molecular biologists can also explore the genetic control of these molecules and thus define the developmental, cellular, and subcellular changes that occur during the dynamic processes of life. Virtually every question, whether in biochemistry, cell biology, developmental biology, or some other

biological discipline, applies molecular biology, often as the prime approach, in its solution. Biochemical and molecular developments have revolutionized biological research, fueling the explosive growth in the biotechnology industry and rapid increase of molecular medicine.

The molecular biology major, with its two tracks (biochemistry or cell and developmental biology) provides a strong background for many science careers. Both tracks incorporate the requirements expected for admission to medical, dental, and other health professional schools and to graduate schools in biochemistry, cell and molecular biology, and related disciplines. Positions for molecular biologists at the BS, MS, and PhD levels are available in the biotechnology industries as well as in universities, medical schools, hospitals, government laboratories, research institutes, and public health institutions.

For more information on the Department of Biological Sciences and the majors it offers, see www.biology.pitt.edu.

Major

Bioinformatics, BS

General Requirements

Students in all five majors within the Department of Biological Sciences must follow general rules and fulfill certain general requirements in addition to those in their specific major:

- A total of 32 credits in biology must be taken (see specific course requirements for each major below). All biology courses taken for the major must be completed with a C or better. If a C- or lower is earned in a biology elective course that is not repeated, the course will be used in calculating the overall GPA in the major but will not be counted as part of the 32 credits required for the major.
- Co-requisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including
- CHEM 0110 and CHEM 0120 General Chemistry 1 and 2, which includes the labs,
    - CHEM 0310, CHEM 0320, and CHEM 0345 Organic Chemistry 1 and 2 lecture and lab,
    - MATH 0220 Analytic Geometry and Calculus 1,
    - Either MATH 0230 Analytic Geometry and Calculus 2 or STAT 1000 Applied Statistical Methods, and
    - Either the algebra-based physics, PHYS 0110 and 0111 Introduction to Physics 1 and 2, or the calculus-based physics, PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2.
- A minimum GPA of 2.00 must be maintained in all biology courses and in the combined co-requisite courses. The S/NC option (formerly the S/N option) may be used for only one biology course and for any of the co-requisite courses.
- The Dietrich School required related area is fulfilled by the co-requisite courses in chemistry. Departmental writing (W) courses may be selected once the major is declared and count towards the 32 biology credits for the major
- Opportunities for faculty-sponsored directed research and internship experiences are available and strongly encouraged. Academic credit awarded from the departmental W, directed research, and internship courses count as credit toward graduation, but not in determining the 32 biology credits required for the major. Students interested in departmental honors should contact department advisors for information.
- University Honors College equivalents for any of the above courses are accepted. Credit by examination is available only through appropriate AP scores for equivalents to BIOSC 0150, 0050, 0160, and 0060 Foundations of Biology 1 and 2 and labs.

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.biology.pitt.edu.

Corequisite courses

Corequisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including

- CHEM 0110 - GENERAL CHEMISTRY 1 which includes the lab
- CHEM 0120 - GENERAL CHEMISTRY 2 which includes the lab
- CHEM 0310 - ORGANIC CHEMISTRY 1
- CHEM 0330 - ORGANIC CHEMISTRY LABORATORY 1
- CHEM 0320 - ORGANIC CHEMISTRY 2
- CHEM 0340 - ORGANIC CHEMISTRY LABORATORY 2
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2 or
- STAT 1000 - APPLIED STATISTICAL METHODS

- PHYS 0110 - INTRODUCTION TO PHYSICS 1 and
- PHYS 0111 - INTRODUCTION TO PHYSICS 2
  or
- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

Note:

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.pitt.edu/~biology.

Requirements

The undergraduate bioinformatics degree program at the University of Pittsburgh is operated jointly by the departments of biological sciences (www.biology.pitt.edu) and computer science (www.cs.pitt.edu). This program offers training that builds a solid foundation in chemistry, biology, computer science, mathematics, and statistics. The training will enable students to communicate fluently with experts across these disciplines and to have the skills necessary to apply computing tools to address contemporary problems in biology and medicine. It will enhance the professional opportunities for undergraduates to pursue careers in pure or applied research in academia, government, pharmaceutical, medical, or biotechnology sectors.

Advising for Bioinformatics majors is housed in both the Department of Biology and the Department of Computer Science. For information, contact one of the advisors.

Core courses (42 credits)

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOSC 0350 - GENETICS
- BIOSC 1810 - MACROMOLECULAR STRUCT & FUNCTN
- CHEM 0310 - ORGANIC CHEMISTRY 1 *
- CHEM 0320 - ORGANIC CHEMISTRY 2
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- STAT 1000 - APPLIED STATISTICAL METHODS
- STAT 1221 - APPLIED REGRESSION
- CS 0401 - INTRMEDT PROGRMMING USING JAVA **
- CS 0445 - DATA STRUCTURES
- CS 0441 - DISCRETE STRUCTURES FOR CS
- CS 1501 - ALGORITHM IMPLEMENTATION

Note:

* CHEM 0110 - GENERAL CHEMISTRY 1 and CHEM 0120 - GENERAL CHEMISTRY 2 are pre-requisites to taking CHEM 0310.

** Students without a background in programming will be encouraged to take CS 0007 - INTRO TO COMPUTER PROGRAMMING prior to taking CS 0401.

Upper Level Courses (22 credits)

- BIOSC 1540 - COMPUTATIONAL BIOLOGY

- BIOSC 1640 - BIOINFORMATICS SOFTWARE DESIGN or
- CS 1640 - BIOINFORMATICS SOFTWARE DESIGN

- BIOSC 1901 - INDEPENDENT STUDY (total of four credits)* or
- CS 1950 - DIRECTED RESEARCH (total of four credits)*

Electives (12 credits)

Electives (12 credits) to be chosen from an approved list of courses in Statistics, Chemistry, Biological Sciences and/or Computer Science. With the approval of the Bioinformatics Program Committee, the student may take electives in other departments.

Note:

* Undergraduate Research is taken over multiple terms for variable credit. Four credits of undergraduate research are required for the major. Research can begin as early as the sophomore year and must be approved by Kirk Pruhs in the Department of Computer Science, or Paula Grabowski in the Department of Biological Sciences.

Capstone experience

BIOSC 1640 and CS 1640 satisfy the bioinformatics major capstone experience requirement. Capstone request must be made to Kirk Pruhs in the Department of Computer Science.

Additional requirements and restrictions

- Bioinformatics majors who have completed CS 0401 may not enroll in CS 0004, CS 0007 or CS 0110
- BIOSC 1000 cannot be substituted for BIOSC 1810.
- CHEM 1810 can only be substituted for BIOSC 1810 if it is not possible for the student to schedule BIOSC 1810
- Students must complete at least one W-course in the major
- A grade of C or better is required in each of the core and upper level courses that are to count toward the major.
- This requirement also satisfies the Dietrich School requirement of a minimum GPA of 2.0 in major courses
- Elective courses for the major must be completed with a grade of C or better. If a C-or lower is earned in an elective course for the major and is not repeated, the course will be used to calculate the overall GPA but will not be counted toward the 32 credits required for the major.
- Students must earn a minimum GPA of 2.0 in the required chemistry and mathematics courses.
- No Bioinformatics major courses may be taken on an S/NC basis
- Due to its interdisciplinary nature, the Bioinformatics major does not require a related area

Honors major requirements

Honors in Bioinformatics is granted if, in addition to fulfilling all requirements for the major, the student:

- completes three semesters (3 x 2 credits) or the equivalent (summer counts as a semester equivalent) of undergraduate research together with a written honors thesis presented in the last semester of the senior year;
- maintains a GPA of 3.5 or above in all Bioinformatics major courses; and
- maintains an overall GPA of 3.25 or above.

Approved elective course list

Biological Sciences

- BIOSC 1500 - CELL BIOLOGY
- BIOSC 1545 - THE MATHEMATICS OF BIOLOGY
- BIOSC 1820 - METBLC PATHWAYS & REGULATION
- BIOSC 1830 - BIOCHEMISTRY LABORATORY
- BIOSC 1940 - MOLECULAR BIOLOGY
- BIOSC 1950 - MOLECULAR GENETICS LABORATORY

Computer Science

- CS 1510 - ALGORITHM DESIGN
- CS 1515 - SCIENTIFIC COMPUTATION
- CS 1520 - PRGMG LANG FOR WEB APPLCTNS
- CS 1555 - DATABASE MANAGEMENT SYSTEMS
- CS 1566 - INTRODUCTION COMPUTER GRAPHICS
- CS 1571 - INTRO TO ARTIFICL INTELLIGENCE
- CS 1645 - INTRO HIGH PERF COMPTNG SYSTMS

Chemistry

- CHEM 0250 - INTRO ANALYTICAL CHEMISTRY
- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CHEM 1420 - PHYSICAL CHEMISTRY 2

Statistics

- STAT 1301 - STATISTICAL PACKAGES
- STAT 1311 - APPLIED MULTIVARIATE ANALYSIS
- STAT 1321 - APPLIED TIME SERIES

Biological Sciences, BS

General Requirements

Students in all five majors within the Department of Biological Sciences must follow general rules and fulfill certain general requirements in addition to those in their specific major:

- A total of 32 credits in biology must be taken (see specific course requirements for each major below). All biology courses taken for the major must be completed with a C or better. If a C- or lower is earned in a biology elective course that is not repeated, the course will be used in calculating the overall GPA in the major but will not be counted as part of the 32 credits required for the major.
- Co-requisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including
- CHEM 0110 and CHEM 0120 General Chemistry 1 and 2, which includes the labs,
    - CHEM 0310, CHEM 0320, and CHEM 0345 Organic Chemistry 1 and 2 lecture and lab,
    - MATH 0220 Analytic Geometry and Calculus 1,
    - Either MATH 0230 Analytic Geometry and Calculus 2 or STAT 1000 Applied Statistical Methods, and
    - Either the algebra-based physics, PHYS 0110 and 0111 Introduction to Physics 1 and 2, or the calculus-based physics, PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2.
- A minimum GPA of 2.00 must be maintained in all biology courses and in the combined co-requisite courses. The S/NC option (formerly the S/N option) may be used for only one biology course and for any of the co-requisite courses.
- The Dietrich School required related area is fulfilled by the co-requisite courses in chemistry. Departmental writing (W) courses may be selected once the major is declared and count towards the 32 biology credits for the major

- Opportunities for faculty-sponsored directed research and internship experiences are available and strongly encouraged. Academic credit awarded from the departmental W, directed research, and internship courses count as credit toward graduation, but not in determining the 32 biology credits required for the major. Students interested in departmental honors should contact department advisors for information.
- University Honors College equivalents for any of the above courses are accepted. Credit by examination is available only through appropriate AP scores for equivalents to BIOSC 0150, 0050, 0160, and 0060 Foundations of Biology 1 and 2 and labs.

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.biology.pitt.edu.

Corequisite courses

Corequisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including

- CHEM 0110 - GENERAL CHEMISTRY 1 which includes the lab
- CHEM 0120 - GENERAL CHEMISTRY 2 which includes the lab
- CHEM 0310 - ORGANIC CHEMISTRY 1
- CHEM 0330 - ORGANIC CHEMISTRY LABORATORY 1
- CHEM 0320 - ORGANIC CHEMISTRY 2
- CHEM 0340 - ORGANIC CHEMISTRY LABORATORY 2
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2 or
- STAT 1000 - APPLIED STATISTICAL METHODS

- PHYS 0110 - INTRODUCTION TO PHYSICS 1 and
- PHYS 0111 - INTRODUCTION TO PHYSICS 2
  or
- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

Note:

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.pitt.edu/~biology.

Biology Course Requirements

Completion of the biological sciences major requires a total of 32 credits in biology, including

17 credits of required courses:

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2

- BIOSC 0350 - GENETICS or
- BIOSC 0355 - UHC GENETICS

- BIOSC 0370 - ECOLOGY or
- BIOSC 1130 - EVOLUTION

- BIOSC 1000 - BIOCHEMISTRY *

A minimum of 15 credits of upper-division courses

A minimum of 15 credits of upper-division courses, which must include two labs or one lab and one field course or one lab and BIOSC 1545 - THE MATHEMATICS OF BIOLOGY. Students may begin to take elective courses when they have completed the appropriate prerequisite courses; for example, some upper-division courses have only 0150 and 0160 as prerequisites whereas others have additional requirements. As part of these electives, students who declare a major in Biological Sciences on or after September 14, 2009 must complete one higher-level 3-credit BIOSC lecture class, defined as a course with prerequisites beyond BIOSC 0150 and BIOSC 0160.

Ecology and Evolution, BS

General Requirements

Students in all five majors within the Department of Biological Sciences must follow general rules and fulfill certain general requirements in addition to those in their specific major:

- A total of 32 credits in biology must be taken (see specific course requirements for each major below). All biology courses taken for the major must be completed with a C or better. If a C- or lower is earned in a biology elective course that is not repeated, the course will be used in calculating the overall GPA in the major but will not be counted as part of the 32 credits required for the major.
- Co-requisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including
- CHEM 0110 and CHEM 0120 General Chemistry 1 and 2, which includes the labs,
    - CHEM 0310, CHEM 0320, and CHEM 0345 Organic Chemistry 1 and 2 lecture and lab,
    - MATH 0220 Analytic Geometry and Calculus 1,
    - Either MATH 0230 Analytic Geometry and Calculus 2 or STAT 1000 Applied Statistical Methods, and
    - Either the algebra-based physics, PHYS 0110 and 0111 Introduction to Physics 1 and 2, or the calculus-based physics, PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2.
- A minimum GPA of 2.00 must be maintained in all biology courses and in the combined co-requisite courses. The S/NC option (formerly the S/N option) may be used for only one biology course and for any of the co-requisite courses.
- The Dietrich School required related area is fulfilled by the co-requisite courses in chemistry. Departmental writing (W) courses may be selected once the major is declared and count towards the 32 biology credits for the major
- Opportunities for faculty-sponsored directed research and internship experiences are available and strongly encouraged. Academic credit awarded from the departmental W, directed research, and internship courses count as credit toward graduation, but not in determining the 32 biology credits required for the major. Students interested in departmental honors should contact department advisors for information.
- University Honors College equivalents for any of the above courses are accepted. Credit by examination is available only through appropriate AP scores for equivalents to BIOSC 0150, 0050, 0160, and 0060 Foundations of Biology 1 and 2 and labs.

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.biology.pitt.edu.

Corequisite courses

Corequisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including

- CHEM 0110 - GENERAL CHEMISTRY 1 which includes the lab
- CHEM 0120 - GENERAL CHEMISTRY 2 which includes the lab
- CHEM 0310 - ORGANIC CHEMISTRY 1
- CHEM 0330 - ORGANIC CHEMISTRY LABORATORY 1
- CHEM 0320 - ORGANIC CHEMISTRY 2
- CHEM 0340 - ORGANIC CHEMISTRY LABORATORY 2
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2 or
- STAT 1000 - APPLIED STATISTICAL METHODS

- PHYS 0110 - INTRODUCTION TO PHYSICS 1 and

- PHYS 0111 - INTRODUCTION TO PHYSICS 2
  or
- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

Note:

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.pitt.edu/~biology.

Biologicaly Course Requirements

Completion of the ecology and evolution major requires a total of 32 credits in biology, including

26 credits of required courses:

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2

- BIOSC 0350 - GENETICS or
- BIOSC 0355 - UHC GENETICS

- BIOSC 0370 - ECOLOGY
- BIOSC 0390 - ECOLOGY LABORATORY
- BIOSC 1000 - BIOCHEMISTRY
- BIOSC 1130 - EVOLUTION
- BIOSC 1320 - POPULATION BIOLOGY
- BIOSC 1550 - ECOLOGY AND EVOLUTION SEMINAR

- BIOSC 0391 - ECOLGY LABORATORY WRITING PRAC or
- BIOSC 1551 - ECOL & EVOLT SEMNR WRITNG PRAC

A 3-credit upper-division field course

A 3-credit upper-division field course offered during the summer at the Pymatuning Laboratory of Ecology (PLE) or an equivalent site pre-approved by the department.

An additional 3 credits of upper-division elective courses

Microbiology, BS

General Requirements

Students in all five majors within the Department of Biological Sciences must follow general rules and fulfill certain general requirements in addition to those in their specific major:

- A total of 32 credits in biology must be taken (see specific course requirements for each major below). All biology courses taken for the major must be completed with a C or better. If a C- or lower is earned in a biology elective course that is not repeated, the course will be used in calculating the overall GPA in the major but will not be counted as part of the 32 credits required for the major.
- Co-requisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including
- CHEM 0110 and CHEM 0120 General Chemistry 1 and 2, which includes the labs,
    - CHEM 0310, CHEM 0320, and CHEM 0345 Organic Chemistry 1 and 2 lecture and lab,
    - MATH 0220 Analytic Geometry and Calculus 1,
    - Either MATH 0230 Analytic Geometry and Calculus 2 or STAT 1000 Applied Statistical Methods, and
    - Either the algebra-based physics, PHYS 0110 and 0111 Introduction to Physics 1 and 2, or the calculus-based physics, PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2.
- A minimum GPA of 2.00 must be maintained in all biology courses and in the combined co-requisite courses. The S/NC option (formerly the S/N option) may be used for only one biology course and for any of the co-requisite courses.
- The Dietrich School required related area is fulfilled by the co-requisite courses in chemistry. Departmental writing (W) courses may be selected once the major is declared and count towards the 32 biology credits for the major
- Opportunities for faculty-sponsored directed research and internship experiences are available and strongly encouraged. Academic credit awarded from the departmental W, directed research, and internship courses count as credit toward graduation, but not in determining the 32 biology credits required for the major. Students interested in departmental honors should contact department advisors for information.
- University Honors College equivalents for any of the above courses are accepted. Credit by examination is available only through appropriate AP scores for equivalents to BIOSC 0150, 0050, 0160, and 0060 Foundations of Biology 1 and 2 and labs.

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.biology.pitt.edu.

Corequisite courses

Corequisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including

- CHEM 0110 - GENERAL CHEMISTRY 1 which includes the lab
- CHEM 0120 - GENERAL CHEMISTRY 2 which includes the lab
- CHEM 0310 - ORGANIC CHEMISTRY 1
- CHEM 0330 - ORGANIC CHEMISTRY LABORATORY 1
- CHEM 0320 - ORGANIC CHEMISTRY 2
- CHEM 0340 - ORGANIC CHEMISTRY LABORATORY 2
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2 or
- STAT 1000 - APPLIED STATISTICAL METHODS

- PHYS 0110 - INTRODUCTION TO PHYSICS 1 and
- PHYS 0111 - INTRODUCTION TO PHYSICS 2
  or
- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

Note:

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.pitt.edu/~biology.

Biologicaly Course Requirements

Completion of the microbiology major requires a total of 32 credits in biology, including

26 credits of required courses:

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2

- BIOSC 0350 - GENETICS or
- BIOSC 0355 - UHC GENETICS

- BIOSC 0370 - ECOLOGY or
- BIOSC 1130 - EVOLUTION

- BIOSC 1000 - BIOCHEMISTRY or
- BIOSC 1810 - MACROMOLECULAR STRUCT & FUNCTN and
- BIOSC 1820 - METBLC PATHWAYS & REGULATION

- BIOSC 1570 - MICROBIOLOGY SEMINAR
- BIOSC 1850 - MICROBIOLOGY
- BIOSC 1860 - MICROBIOLOGY LABORATORY
- BIOSC 1865 - MICROBIAL PHYSIOLOGY

One of the following:

- BIOSC 1291 - EXPRML GENETC ENGRG WRTNG PRAC
- BIOSC 1571 - MICROBIOLGY SEMNR WRITING PRAC
- BIOSC 1741 - VIROLOGY LAB WRITING PRACTICUM
- BIOSC 1861 - MICROBIOLOGY LAB WRITING PRAC

In addition, seven BIOSC credits must be taken

In addition, seven BIOSC credits must be taken. If one of these courses is a field course, then only six credits are required. These are chosen from a selected list of microbiology electives, including at least one lab or field course. Students may begin to take elective courses when they have completed the appropriate prerequisite courses.

Molecular Biology - Biochemistry Track, BS

General Requirements

Students in all five majors within the Department of Biological Sciences must follow general rules and fulfill certain general requirements in addition to those in their specific major:

- A total of 32 credits in biology must be taken (see specific course requirements for each major below). All biology courses taken for the major must be completed with a C or better. If a C- or lower is earned in a biology elective course that is not repeated, the course will be used in calculating the overall GPA in the major but will not be counted as part of the 32 credits required for the major.
- Co-requisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including
- CHEM 0110 and CHEM 0120 General Chemistry 1 and 2, which includes the labs,
    - CHEM 0310, CHEM 0320, and CHEM 0345 Organic Chemistry 1 and 2 lecture and lab,
    - MATH 0220 Analytic Geometry and Calculus 1,
    - Either MATH 0230 Analytic Geometry and Calculus 2 or STAT 1000 Applied Statistical Methods, and
    - Either the algebra-based physics, PHYS 0110 and 0111 Introduction to Physics 1 and 2, or the calculus-based physics, PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2.
- A minimum GPA of 2.00 must be maintained in all biology courses and in the combined co-requisite courses. The S/NC option (formerly the S/N option) may be used for only one biology course and for any of the co-requisite courses.

- The Dietrich School required related area is fulfilled by the co-requisite courses in chemistry. Departmental writing (W) courses may be selected once the major is declared and count towards the 32 biology credits for the major
- Opportunities for faculty-sponsored directed research and internship experiences are available and strongly encouraged. Academic credit awarded from the departmental W, directed research, and internship courses count as credit toward graduation, but not in determining the 32 biology credits required for the major. Students interested in departmental honors should contact department advisors for information.
- University Honors College equivalents for any of the above courses are accepted. Credit by examination is available only through appropriate AP scores for equivalents to BIOSC 0150, 0050, 0160, and 0060 Foundations of Biology 1 and 2 and labs.

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.biology.pitt.edu.

Corequisite courses

Corequisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including

- CHEM 0110 - GENERAL CHEMISTRY 1 which includes the lab
- CHEM 0120 - GENERAL CHEMISTRY 2 which includes the lab
- CHEM 0310 - ORGANIC CHEMISTRY 1
- CHEM 0330 - ORGANIC CHEMISTRY LABORATORY 1
- CHEM 0320 - ORGANIC CHEMISTRY 2
- CHEM 0340 - ORGANIC CHEMISTRY LABORATORY 2
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2 or
- STAT 1000 - APPLIED STATISTICAL METHODS

- PHYS 0110 - INTRODUCTION TO PHYSICS 1 and
- PHYS 0111 - INTRODUCTION TO PHYSICS 2
  or
- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

Note:

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.pitt.edu/~biology.

Biologicaly Course Requirements

Completion of the molecular biology major requires a total of 32 credits in biology, including

20 credits of required courses:

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2

- BIOSC 0350 - GENETICS or
- BIOSC 0355 - UHC GENETICS

- BIOSC 1810 - MACROMOLECULAR STRUCT & FUNCTN
- BIOSC 1820 - METBLC PATHWAYS & REGULATION

- BIOSC 1940 - MOLECULAR BIOLOGY

In addition, students select one upper-division elective

In addition, students select one upper-division elective (either BIOSC 0370 - ECOLOGY or any BIOSC course numbered above 1010) and complete the course work in one of the following two tracks:

Biochemistry Track

- BIOSC 1470 - BIOPHYSICAL CHEMISTRY or
- CHEM 1410 - PHYSICAL CHEMISTRY 1 and
- CHEM 1420 - PHYSICAL CHEMISTRY 2

- BIOSC 1580 - BIOCHEMISTRY SEMINAR
- BIOSC 1830 - BIOCHEMISTRY LABORATORY
- BIOSC 1950 - MOLECULAR GENETICS LABORATORY

- BIOSC 1581 - BIOCHMSTRY SEMNR WRITING PRAC or
- BIOSC 1831 - BIOCHEMISTRY LAB WRITING PRAC or
- BIOSC 1951 - MOLEC GENETCS LAB WRITING PRAC (Biochemistry)

Molecular Biology - Cell and Developmental Biology Track, BS

General Requirements

Students in all five majors within the Department of Biological Sciences must follow general rules and fulfill certain general requirements in addition to those in their specific major:

- A total of 32 credits in biology must be taken (see specific course requirements for each major below). All biology courses taken for the major must be completed with a C or better. If a C- or lower is earned in a biology elective course that is not repeated, the course will be used in calculating the overall GPA in the major but will not be counted as part of the 32 credits required for the major.
- Co-requisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including
- CHEM 0110 and CHEM 0120 General Chemistry 1 and 2, which includes the labs,
    - CHEM 0310, CHEM 0320, and CHEM 0345 Organic Chemistry 1 and 2 lecture and lab,
    - MATH 0220 Analytic Geometry and Calculus 1,
    - Either MATH 0230 Analytic Geometry and Calculus 2 or STAT 1000 Applied Statistical Methods, and
    - Either the algebra-based physics, PHYS 0110 and 0111 Introduction to Physics 1 and 2, or the calculus-based physics, PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2.
- A minimum GPA of 2.00 must be maintained in all biology courses and in the combined co-requisite courses. The S/NC option (formerly the S/N option) may be used for only one biology course and for any of the co-requisite courses.
- The Dietrich School required related area is fulfilled by the co-requisite courses in chemistry. Departmental writing (W) courses may be selected once the major is declared and count towards the 32 biology credits for the major
- Opportunities for faculty-sponsored directed research and internship experiences are available and strongly encouraged. Academic credit awarded from the departmental W, directed research, and internship courses count as credit toward graduation, but not in determining the 32 biology credits required for the major. Students interested in departmental honors should contact department advisors for information.
- University Honors College equivalents for any of the above courses are accepted. Credit by examination is available only through appropriate AP scores for equivalents to BIOSC 0150, 0050, 0160, and 0060 Foundations of Biology 1 and 2 and labs.

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.biology.pitt.edu.

Corequisite courses

Corequisite courses must be taken in chemistry, physics, and mathematics and/or statistics, including

- CHEM 0110 - GENERAL CHEMISTRY 1 which includes the lab
- CHEM 0120 - GENERAL CHEMISTRY 2 which includes the lab
- CHEM 0310 - ORGANIC CHEMISTRY 1
- CHEM 0330 - ORGANIC CHEMISTRY LABORATORY 1
- CHEM 0320 - ORGANIC CHEMISTRY 2
- CHEM 0340 - ORGANIC CHEMISTRY LABORATORY 2
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2 or
- STAT 1000 - APPLIED STATISTICAL METHODS

- PHYS 0110 - INTRODUCTION TO PHYSICS 1 and
- PHYS 0111 - INTRODUCTION TO PHYSICS 2
  or
- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

Note:

Updated information about the department, major requirements, and course offerings is available on the department's Web site, www.pitt.edu/~biology.

Biologicaly Course Requirements

Completion of the molecular biology major requires a total of 32 credits in biology, including

20 credits of required courses:

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2

- BIOSC 0350 - GENETICS or
- BIOSC 0355 - UHC GENETICS

- BIOSC 1810 - MACROMOLECULAR STRUCT & FUNCTN
- BIOSC 1820 - METBLC PATHWAYS & REGULATION
- BIOSC 1940 - MOLECULAR BIOLOGY

In addition, students select one upper-division elective

In addition, students select one upper-division elective (either BIOSC 0370 - ECOLOGY or any BIOSC course numbered above 1010) and complete the course work in one of the following two tracks:

Cell and Developmental Biology Track

- BIOSC 1500 - CELL BIOLOGY
- BIOSC 1520 - DEVELOPMENTAL BIOLOGY

- BIOSC 1560 - CELL & DEVELM BIOLOGY SEMINAR

- BIOSC 1511 - CELL BIOLOGY LAB WRITING PRAC or
- BIOSC 1531 - DEVELM BIOLGY LAB WRITING PRAC or
- BIOSC 1561 - CELL DEVELM BIOL SEM WRIT PRAC or
- BIOSC 1831 - BIOCHEMISTRY LAB WRITING PRAC or
- BIOSC 1951 - MOLEC GENETCS LAB WRITING PRAC (Cell and Developmental Biology)

Two laboratories selected from among

- BIOSC 1510 - CELL BIOLOGY LABORATORY
- BIOSC 1530 - DEVELOPMNTAL BIOLGY LABORATORY
- BIOSC 1830 - BIOCHEMISTRY LABORATORY
- BIOSC 1950 - MOLECULAR GENETICS LABORATORY

Certificate

Life Sciences Research Certificate

The goals of this certificate program are to enable students to: understand and apply key concepts in designing and performing authentic experimental research; learn and practice good science communication, ethics and responsible conduct in research; develop research practices and critical thinking skills needed for a career in research; and compile evidence of rigorous training in research for applicants to jobs and graduate programs. Students must complete four terms of inquiry-based research in lab or field settings under faculty mentorship, overseen by Research Certificate Oversight Committee, two courses about research methods, three courses focusing on quantitative skills, one course in history and philosophy of science, and written and oral presentations of their research.

Application Requirements

Prerequisites

1. Introductory Biology. Completed **two** terms of introductory biology, with a grade of **C** [not C-] or above. Transfers or students with AP/IB credit may be exempt from part of this requirement.
2. Completed 2 credits of mentored research in a Certificate-approved faculty laboratory (one term; min. 140 hrs.; BIOSC 1903/BIOSC 1904 or NROSCI 1901/NROSCI 1961 or equivalent) **and** have a letter of support from the faculty sponsor.
3. GPA. If students have a cumulative GPA of 2.75 or lower after completing the initial term of research, the faculty sponsor must comment in their letter of support on whether the student is likely to meet the rigorous demands of the Certificate.

Bio 1: Choose one (each totals 4 cr.)

- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1 or
- BIOSC 0057 - FDS OF BIOLOGY RESEARCH LAB 1
  and
- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1 or
- BIOSC 0715 - UHC FOUNDATIONS OF BIOLOGY 1

- BIOSC 0190 - INTRO TO BIOLOGICAL WORLD 1

Bio 2: Choose one (each totals 4 cr.)

- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2 or

- BIOSC 0067 - FOUNDTNS OF BIOL RES LAB 2
  and
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2 or
- BIOSC 0716 - UHC FOUNDATIONS OF BIOLOGY 2

- BIOSC 0191 - INTRO TO BIOLOGICAL WORLD 2

Requirements to Complete the Certificate

Mentored Research in Life Sciences

- Components of mentored research projects: Formulation of hypotheses, experimental design, data collection, data interpretation, drawing conclusions supported by the data. Presentation of research findings, understanding the pertinent scientific literature, developing new knowledge, and development of a path towards research independence.
- Research credit requirements: Three additional terms (each term; min. 140 hours.; BIOSC 1903/BIOSC 1904 or NROSCI 1901/NROSCI 1961 or equivalent.) of research for a total of at least 8 credits or credit equivalents. BIOSC 1903/BIOSC 1904 and NROSCI 1901 /NROSCI 1961 must be approved and credits awarded according to departmental procedures. The final 2 terms of research must be with the same faculty mentor. Research equivalents must be approved by the RCOC.
- Pre-planning and Reporting for each Term: Pre-planning and Reporting: In the last week of classes before the next term of research (see B above), students must submit a 1-2 page report and prospectus summarizing accomplishments and aims for the next term. RCOC determines whether the research can count towards the Certificate before the end of the add/drop period. Oversight: Reporting documents must be co-signed by the faculty sponsor (and co-sponsor if any).
- Choice of Research Faculty: Research-active faculty in the Departments of Biological Sciences or Neuroscience may sponsor students for research in their labs. Faculty sponsors in other A&S departments or other University of Pittsburgh schools must be approved by RCOC.
- Optional Off-campus Research Term: One term of off-campus research may be approved (e.g. summer fellowship or study abroad). Submit in advance a 1-page description to RCOC of the project and the research environment plus a letter from the research advisor confirming commitment to the ≥140 hours of research activity.

Quantitative Skills Courses - Statistics and Mathematics

Complete three courses from this list (9 credits).

- BIOSC 1545 - THE MATHEMATICS OF BIOLOGY
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0280 - INTRO TO MATRICES & LINEAR ALG
- MATH 0290 - DIFFERENTIAL EQUATIONS
- MATH 1380 - MATH BIOLOGY
- STAT 1000 - APPLIED STATISTICAL METHODS
- STAT 1221 - APPLIED REGRESSION
- STAT 1211 - APPLD CATEGORICAL DATA ANLYSIS
- STAT 1231 - APPLIED EXPERIMENTAL DESIGN
- STAT 1241 - APPLIED SAMPLING
- STAT 1311 - APPLIED MULTIVARIATE ANALYSIS
- STAT 1321 - APPLIED TIME SERIES

Graduate level options for the certificate:

- BIOST 2041 - INTRODUCTION TO STATISTICAL METHODS 1
- BIOST 2011 - PRINCIPLES OF STATISTICAL REASONING
- BIOST 2012 - BAYESIAN & EMPIRICAL BAYES STAT

History and Philosophy of Science Courses

Complete one course from this list (3 credits).

- HPS 0427 - MYTH AND SCIENCE
- HPS 0437 - DARWINISM AND ITS CRITICS
- HPS 0430 - GALILEO & CREATN MDRN SCIENCE

- HPS 0515 - MAGIC, MEDICINE AND SCIENCE or
- HIST 0089 - MAGIC, MEDICINE AND SCIENCE

- HPS 0611 - PRINCPL OF SCIENTIFIC REASNING
- HPS 1620 - PHILOSOPHY OF BIOLOGY
- HPS 1625 - PHILOSOPHY OF MEDICINE
- HPS 1508 - CLASSICS IN HISTORY OF SCIENCE
- HPS 1653 - INTRO TO PHILOSOPHY OF SCIENCE
- HPS 1670 - PHILOSOPHY OF NEUROSCIENCE
- HPS 1800 - SPEC TOPICS HIST & PHIL OF SCI

Research Methods Courses

- Complete two Research Methods courses, one in research communication and one in research mechanics. It is recommended that the research courses be in the student's major department.
- Be enrolled in the Certificate and performing research in a Certificate-approved lab during the same term as enrolled in these courses. Courses may be taken in any order. Substitution of other Research Methods courses must be pre-approved by RCOC.
- BIOSC 1906 - RESEARCH COMMUNICATION
- BIOSC 1907 - RESEARCH DECONSTRUCTION
- NROSCI 2014 - SPEAKING OF SCIENCE

Presenting Research

The student must present their research at two scientific meetings or symposia, at least one venue must be outside of major and research Departments. Ex.: Honors College Research Fair, Science20xx, Duquesne Summer Undergraduate Research Symposium, regional or national scientific meeting. Presentation and abstract must be designed and delivered by the student and approved by the research faculty advisor and RCOC. The research abstract and a copy of poster or talk must be submitted to RCOC.

Research paper

The student will submit a manuscript describing the research completed in the final research experience spanning at least two consecutive terms. This will be in the form of a research manuscript. The paper must be submitted to the faculty sponsor and the RCOC by the last week of classes before finals week. The paper must be approved by the faculty sponsor and RCOC. The same final research paper may be considered for satisfying both Departmental Honors and the Research Certificate, provided it fulfills other requirements of the Department.

Portfolio Documentation

Upon registration for the Certificate, students must start (and regularly update) their electronic Portfolio, documenting their progress towards Certificate completion. Each proposal, presentation, research report, and other Certificate-related materials must be collated in the Portfolio. The Portfolio allows students, faculty, and advisors to review progress towards the Certificate, and provides coherent documentation of research proficiency when applying for employment or graduate school admission.

GPA Requirements

The student must remain in good academic standing (minimum cumulative GPA 2.00); if students have a cumulative GPA of 2.75 or lower after completing the initial term of research, the faculty sponsor for that research must comment in writing their letter of support on whether the student is likely to meet the rigorous demands of the Certificate.

Advising

Majors in the Departments of Biological Sciences or Neuroscience will be advised through their departments. Students outside of these majors will be assigned an advisor within one of these majors.

Students conducting research with a faculty member who does not work in the Departments of Biological Sciences or Neuroscience must have their research faculty sponsor complete a Faculty Mentor Application unless they are a CNUP faculty member. Students must submit the faculty mentor application with their application for the certificate.

Department of Chemistry

Chemistry, as a central science, is involved in natural processes occurring in living things, the earth, the oceans, and the atmosphere. The chemical industry provides materials to feed, clothe, and house mankind; drugs to combat disease; and processes to provide energy. Chemistry plays a role in high technology fields such as molecular biology, microelectronics, drug design, and ceramics.

The American Chemical Society (ACS)-certified chemistry degree includes core chemistry courses and electives. Special options are available for students with specific interests in combining chemistry with other subjects, such as bioscience, business, communication, computer science, education, and polymer science. These options allow students to take additional courses that provide an in-depth introduction to the subject of choice and are directly relevant to individual career goals.

The Bachelor of Science degree in chemistry prepares students for a career in business or industry or for advanced study in chemistry. Combined with core biology courses, the chemistry major is frequently selected as the preferred major for admission to the graduate health professions, including medical and dental school. In combination with an education option, the chemistry major prepares students for a certification program leading to a career in secondary science teaching. Chemists at all levels of training have a wide variety of industrial and corporate career opportunities in agricultural chemistry, food chemistry, environmental science, petrochemicals, pharmaceuticals, semiconductors and electronics, and fine chemicals, as well as in basic research. Many opportunities are available for chemistry majors with skills in business (sales, technical marketing, management), communications (technical writing, journalism), and computer science (programming, database management, information science). For more information on the ACScertified degree and degree options as well as the Department of Chemistry, see www.chem.pitt.edu.

Major

Chemistry, BS

Major Requirements

The requirements for the ACS-certified major in chemistry are as follows:

These chemistry courses must be taken:

- CHEM 0110 - GENERAL CHEMISTRY 1 and
- CHEM 0120 - GENERAL CHEMISTRY 2
  or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1 and
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

- CHEM 0250 - INTRO ANALYTICAL CHEMISTRY
- CHEM 0260 - INTRO ANALYTICAL CHEMISTRY LAB

- CHEM 0310 - ORGANIC CHEMISTRY 1 and
- CHEM 0320 - ORGANIC CHEMISTRY 2
  or
- CHEM 0730 - UHC ORGANIC CHEMISTRY 1 and
- CHEM 0740 - UHC ORGANIC CHEMISTRY 2

- CHEM 0345 - ORGANIC LABORATORY
- CHEM 1130 - INORGANIC CHEMISTRY
- CHEM 1140 - ADVANCED INORGANIC LABORATORY
- CHEM 1250 - INSTRUMENTAL ANALYSIS
- CHEM 1255 - INSTRUMENTAL ANALYSIS LAB
- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CHEM 1420 - PHYSICAL CHEMISTRY 2
- CHEM 1430 - PHYSICAL CHEMSTRY LABORATORY 1
- CHEM 1440 - PHYSICAL CHEMSTRY LABORATORY 2

Corequisite courses must be taken in math and physics:

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG

For ACS certification, the elective course must be a course in biochemistry

- BIOSC 1000 - BIOCHEMISTRY or
- BIOSC 1810 - MACROMOLECULAR STRUCT & FUNCTN

At least 2 credits must be selected from an approved list of chemistry or science electives

The chemistry major must earn a 2.00 GPA in all departmental courses

The chemistry major must earn a 2.00 GPA in all departmental courses. Chemistry majors may use the S/NC option in all required physics and mathematics courses and in CHEM 0110 - GENERAL CHEMISTRY 1 and CHEM 0120 - GENERAL CHEMISTRY 2.

Note:

Students who complete the requirements of the chemistry major automatically complete the requirements for a related area in mathematics. To graduate with departmental honors, the student must have an overall GPA of at least 3.00, have a GPA of at least 3.25 in required chemistry courses, earn 2 credits in CHEM 1710 - UNDERGRADUATE RESEARCH, and earn 1 credit in CHEM 1711 - UNDGR RESEARCH WRITING PRACTCM.

The chemistry department offers options in bioscience, business, communications, photonics, education, and material science. Each chemistry option allows for a waiver of CHEM 1440 - PHYSICAL CHEMSTRY LABORATORY 2, CHEM 1140 - ADVANCED INORGANIC LABORATORY, and the 2-credit science elective required for the ACS-certified degree. Specific information on the options program is available from the department.

Minor

Chemistry Minor

Requirements

Due to the integral role that chemistry plays in many other majors (including life sciences, physical sciences, and engineering), students wishing to receive formal recognition of their work in chemistry may choose to pursue the official minor as outlined below:

18-19 Credits

- CHEM 0110 - GENERAL CHEMISTRY 1
- CHEM 0120 - GENERAL CHEMISTRY 2
  or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1
- CHEM 0720 - UHC GENERAL CHEMISTRY 2
  or
- CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
- CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
  or
- CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
- CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2

Three of the following LECTURE courses:

- CHEM 0250 - INTRO ANALYTICAL CHEMISTRY
- CHEM 0310 - ORGANIC CHEMISTRY 1
- CHEM 0320 - ORGANIC CHEMISTRY 2
- CHEM 1130 - INORGANIC CHEMISTRY
- CHEM 1250 - INSTRUMENTAL ANALYSIS
- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CHEM 1420 - PHYSICAL CHEMISTRY 2

- BIOSC 1000 - BIOCHEMISTRY or
- BIOSC 1810 - MACROMOLECULAR STRUCT & FUNCTN

Two credits of the following LABORATORY courses:

- CHEM 0345 - ORGANIC LABORATORY
- CHEM 0260 - INTRO ANALYTICAL CHEMISTRY LAB
- CHEM 1140 - ADVANCED INORGANIC LABORATORY
- CHEM 1255 - INSTRUMENTAL ANALYSIS LAB
- CHEM 1430 - PHYSICAL CHEMSTRY LABORATORY 1
- CHEM 1440 - PHYSICAL CHEMSTRY LABORATORY 2

Department of Classics

Classics is an interdisciplinary program devoted to the study of the ancient Greek and Roman civilizations. Students may focus on the classics language track or the classical civilization track. Besides the sequences in the Greek, Latin, and Sanskrit languages, the department offers courses in Greek and Roman literature (including comparative literature), mythology, linguistics, history, culture, and philosophy.

The classics language track requires study of texts in the original languages, while the classical civilization track makes use of these same texts in English translations. Both classics tracks qualify graduates for appropriate careers in teaching, but can also be used as preparation for nonclassical academic and professional disciplines such as business, law, and medicine. The study of classics provides a background for the study of Romance and other languages, assists in the proper use of English, and underlies any understanding of Western civilization. For more information on the major and the Department of Classics, see http://www.classics.pitt.edu/.

Major

Classics - The Classical Civilization Track, BA

Major Requirements

The requirements for the major, specific to the major track chosen, are:

The Classical Civilization Track

Required courses for this track are offered by, or cross listed with, the classics department. The courses for the major will be distributed as follows:

- Two courses in Greek, Latin, or both;
- Two survey courses in Greek and Roman civilizations;
- One course from each of three different areas, chosen from archaeology and art, culture, history, language, literature, philosophy, religion, and science; and
- Three courses in an approved area of concentration.

The general rules and requirements for the classics major, regardless of the track chosen, are as follows:

- The classics major requires a minimum of 30 credits with an overall 2.00 GPA in courses counting toward the major. A maximum of two courses may be taken toward the language track major under the S/NC option (formerly the S/N option). Students in the civilization track major may take a maximum of four courses under the S/NC option (formerly the S/N option).
- Except for placement by examination in the language sequences, credit by examination is generally not granted, but the department will consider students with special circumstances.
- Students may either enroll in one of the W courses offered by the department or arrange with the instructor of an upper-level course for the addition of one credit of writing practicum.
- For the A&S-required related area, the classics department recommends other departments' courses in ancient Greek and Roman archaeology and art, history, linguistics, literature, philosophy, religion, and science.

Students have combined a major in classics with a second major or certificate such as anthropology, biology, communication, computer science, history, history of art and architecture, history and philosophy of science, nonclassical languages and literatures, psychology, and women's studies. Students planning graduate study in classics may be required to obtain reading competency in German, French, or Italian. Such study might begin during the course of completing the undergraduate major or may be undertaken in graduate school.

Majors who have reached the end of the junior year with a GPA in departmental courses of 3.50 or higher may, in conjunction with a senior-level course, write an honors essay. Acceptance of the essay by the department will qualify the student for graduating with departmental honors in classics or classical civilization.

Classics - The Classics Language Track: Greek and Latin, BA

Major Requirements

The requirements for the major, specific to the major track chosen, are:

The Classics Language Track: Greek and Latin

Thirty credits in language courses are required, including either GREEK 1700 - GREEK PROSE COMPOSITION or LATIN 1700 - LATIN PROSE COMPOSITION and at least 6 credits in Greek or Latin courses numbered 1300 or above. Classics majors may emphasize one language more than the other if they wish, but every student is required to take at least one year of Greek and at least one year of Latin. The department recommends courses offered by classics and other departments in ancient archaeology, art, history, language, literature, philosophy, religion, and science, as well as courses in later cultures (medieval, Renaissance, or modern) influenced by the classical tradition.

The general rules and requirements for the classics major, regardless of the track chosen, are as follows:

- The classics major requires a minimum of 30 credits with an overall 2.00 GPA in courses counting toward the major. A maximum of two courses may be taken toward the language track major under the S/NC option (formerly the S/N option). Students in the civilization track major may take a maximum of four courses under the S/NC option (formerly the S/N option).
- Except for placement by examination in the language sequences, credit by examination is generally not granted, but the department will consider students with special circumstances.
- Students may either enroll in one of the W courses offered by the department or arrange with the instructor of an upper-level course for the addition of one credit of writing practicum.
- For the A&S-required related area, the classics department recommends other departments' courses in ancient Greek and Roman archaeology and art, history, linguistics, literature, philosophy, religion, and science.

Students have combined a major in classics with a second major or certificate such as anthropology, biology, communication, computer science, history, history of art and architecture, history and philosophy of science, nonclassical languages and literatures, psychology, and women's studies. Students planning graduate study in classics may be required to obtain reading competency in German, French, or Italian. Such study might begin during the course of completing the undergraduate major or may be undertaken in graduate school.

Majors who have reached the end of the junior year with a GPA in departmental courses of 3.50 or higher may, in conjunction with a senior-level course, write an honors essay. Acceptance of the essay by the department will qualify the student for graduating with departmental honors in classics or classical civilization.

Minor

Classics Minor - Classical Civilization Track (minimal languages)

Minor Requirements

The department offers two types of minor tracks, one in classics (Greek and/or Latin), and one in classical civilization. The classics minor consists exclusively of courses in Greek and/or Latin. For the classical civilization minor, no language courses are required, although language courses may be counted if the student wishes.

For advice on alternative plans, please consult with the undergraduate advisor.

Classical Civilization Track (minimal languages)

Fifteen credits in classics, Greek, or Latin courses, including at least one survey course in Greek civilization or history (3 credits), one survey course in Roman civilization or history (3 credits), and one course with a literary or textual component (3 credits). Any Greek or Latin course may count toward the literary/textual requirement.

Classics Minor - Classics Track

Minor Requirements

The department offers two types of minor tracks, one in classics (Greek and/or Latin), and one in classical civilization. The classics minor consists exclusively of courses in Greek and/or Latin. For the classical civilization minor, no language courses are required, although language courses may be counted if the student wishes.

For advice on alternative plans, please consult with the undergraduate advisor.

Classics Track

- LATIN 0011 - BEGINNING LATIN 1
- LATIN 0021 - BEGINNING LATIN 2
- LATIN 0210 - INTERMEDIATE LATIN: PROSE
- LATIN 0220 - INTERMEDIATE LATIN: VERSE
  or
- GREEK 0011 - BEGINNING ANCIENT GREEK 1
- GREEK 0021 - BEGINNING ANCIENT GREEK 2
- GREEK 0210 - INTERMEDIATE GREEK: PROSE
- GREEK 0220 - INTERMEDIATE GREEK: VERSE

Department of Communication

The study of communication is one of the oldest but still most contemporary of disciplines. The field examines important questions about society, communication, and persuasion in a way that combines the best of the ancient liberal arts tradition with the critical attention to the newest media technologies. In courses such as persuasion, argument, interpersonal communication, political rhetoric, rhetoric of science, nonverbal communication, history of media, media criticism, and television and society, our faculty offer diverse views on the roles of communication, media, and rhetoric in our lives.

A degree in communication is not vocational in design, although many of the Department of Communication's graduates hold important positions in industry, education, the media, government, law, and various other professions. An understanding of communication as a human activity, as defined above, makes the department's graduates attractive candidates when seeking employment or obtaining admission to graduate programs. For more information on the major or the Department of Communication, see www.comm.pitt.edu.

Major

Communication, BA

Major Requirements

The communication: rhetoric and communication major requires the completion of 33 credits with a grade of C or better in each course (if the course is to count toward the major). The distribution of courses is

1. Three core courses (all required). Each is a prerequisite for a specific upper-level course.

- COMMRC 0300 - COMMUNICATION PROCESS
- COMMRC 0310 - RHETORICAL PROCESS
- COMMRC 0320 - MASS COMMUNICATION PROCESS

2. Two skills courses

- COMMRC 0520 - PUBLIC SPEAKING

one of the following:

- COMMRC 0500 - ARGUMENT
- COMMRC 0510 - DEBATE
- COMMRC 0530 - INTERPERSONAL COMMUNICATION
- COMMRC 0540 - DISCUSSION
- COMMRC 0550 - SPEECH COMPOSITION

3. Six upper-level courses that focus on specific topics or contexts of communication

Since these courses require substantive research and writing components, completion of the composition requirement is a prerequisite.

- COMMRC 1101 - EVIDENCE
- COMMRC 1102 - ORGANIZATIONAL COMMUNICATION
- COMMRC 1103 - RHETORIC AND CULTURE
- COMMRC 1104 - POLITICAL COMMUNICATION
- COMMRC 1105 - TELEVISION AND SOCIETY
- COMMRC 1106 - SMALL GROUP COMMUNICATION
- COMMRC 1109 - NONVERBAL COMMUNICATION
- COMMRC 1110 - THEORIES OF INTERPERSONAL COM
- COMMRC 1111 - THEORIES OF PERSUASION
- COMMRC 1112 - THEORIES OF RHETORIC
- COMMRC 1113 - AFRCN AMERICANS AND MASS MEDIA
- COMMRC 1114 - FREEDOM OF SPEECH AND PRESS
- COMMRC 1115 - AFRICAN AMERICAN RHETORIC
- COMMRC 1116 - RHET OF AMER COUNTRCULT
- COMMRC 1117 - 21ST CENTURY PUBLIC ARGUMENT
- COMMRC 1118 - PRESIDENTIAL RHETORIC 1
- COMMRC 1119 - PRESIDENTIAL RHETORIC 2
- COMMRC 1120 - RHETORIC OF COLD WAR
- COMMRC 1121 - HISTORY OF MASS MEDIA
- COMMRC 1122 - MEDIA CRITICISM
- COMMRC 1123 - RHETORICAL CRITICISM
- COMMRC 1125 - MEDIA THEORY
- COMMRC 1126 - MEDIA AND CONSUMER CULTURE
- COMMRC 1142 - THEORIES OF MODERN RHETORIC
- COMMRC 1143 - KNOWLEDGE, POWER, & DESIRE
- COMMRC 1145 - THE HISTORY OF RHETORIC
- COMMRC 1147 - THE RHETORIC OF SCIENCE
- COMMRC 1148 - RHETORIC AND HUMAN RIGHTS
- COMMRC 1730 - SPECIAL TOPICS IN COMMUNICTN
- COMMRC 1731 - SPECIAL TOPICS IN RHETORIC
- COMMRC 1732 - SPECIAL TOPICS IN MASS COM
- LING 1000 - INTRODUCTION TO LINGUISTICS
- LING 1263 - CROSS-CULTURAL COMMUNICATION
- CSD 1020 - NATURE OF LANGUAGE *

Note:

*This course is offered by the School of Health and Rehabilitation Science

The major also has the following rules and requirements:

- The Department of Communication offers three special project courses (not required). COMMRC 1710 - SENIOR THESIS IN COMMUNICATION requires a GPA of 3.00 for enrollment and can be counted toward the major; COMMRC 1900 - COMMUNICATION INTERNSHIP requires a GPA of 2.75, and COMMRC 1901 - INDEPENDENT STUDY requires a GPA of 3.00. These two courses can fulfill elective credits.
- Although any department could be a related area, past majors often have selected political science, sociology, business, English writing, psychology, anthropology, or history. Students who plan to do graduate work in communication are advised to do additional work in a second language.

Department of Computer Science

The Department of Computer Science (CS) of the University of Pittsburgh was established in 1966, which makes it one of the oldest such departments in the country. The Bachelor of Science degree program was begun in 1974 with the following objectives: to provide an opportunity for students to focus their educational efforts on computer science as a discipline; to prepare students for employment and positions of responsibility in an increasingly computer-oriented world; and to prepare students for graduate study in computer science.

The curriculum for the BS degree program is dependent on a set of required core courses followed by elective advanced courses. Five core courses provide an introduction to the fundamental areas and to the basic concepts of computer science. These courses include the study of modern languages such as Java. Also included is a careful investigation of fundamental problem-solving techniques used to solve a variety of computational problems. In addition, the computer science major is required to complete eight upper-level courses, three of which are required. The remaining five courses are selected by the student from major areas such as theory, programming, languages, systems programming, artificial intelligence, and software engineering. Finally, three courses in mathematics are required; these courses provide a level of mathematical maturity that is essential to the study of computer science. In addition to the required coursework Computer Science majors must complete a capstone experience, consisting of an internship, directed study, co-op, or designated project course. For more information on the major or the Department of Computer Science, see www.cs.pitt.edu.

The department also offers the scientific computing major jointly with the Department of Mathematics (see Department of Mathematics listing for information on this major) the Bioinformatics major jointly with the Department of Biological Sciences, and the computer engineering major jointly with the Swanson School of Engineering's Department of Electrical Engineering (see Swanson School of Engineering section for more information on this major).

Co-op Program

Through the assistance of the Swanson School of Engineering's Office of Cooperative Education, formal arrangements are established with industry that permit students to rotate four-month terms between the workplace and the classroom. At the University of Pittsburgh, this rotation begins after the completion of the sophomore year and extends into the senior year, with the co-op student completing at least two four-month work periods. These employment sessions, which are typically with the same employer, allow job duties to increase as the knowledge and skills of the student progress. During the co-op sessions, students earn competitive salaries, thus making this program financially rewarding. The co-op credit does not count toward the 40 computer science credits needed for the completion of the computer science program. It does, however, satisfy the capstone graduation requirement.

Major

Computer Science, BS

Major Requirements

The computer science major requires 40 credits in computer science courses and an additional 11-12 credits in mathematics and/or statistics as detailed below:

1. A minimum of 16 credits must be satisfactorily completed in the following five core courses:

- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0441 - DISCRETE STRUCTURES FOR CS
- CS 0445 - DATA STRUCTURES
- CS 0447 - COMPUTR ORGZTN & ASSMBLY LANG
- CS 0449 - INTRO TO SYSTEMS SOFTWARE

Note:

Students should have some programming experience (usually acquired in high school) before taking CS 0401. Any high school course that includes the writing of several Pascal, C++, or Java programs would be sufficient. It is also possible to take one of the department's service courses, such as CS 0007 - INTRO TO COMPUTER PROGRAMMING, as preparation.

2. Nine credits in these three upper-level required courses:

- CS 1501 - ALGORITHM IMPLEMENTATION
- CS 1502 - FORMAL METHODS IN COMPUTER SCI
- CS 1550 - INTRO TO OPERATING SYSTEMS

3. Fifteen additional credits in upper-level courses (numbered 1000) must also be completed

Internships, directed studies, CS 1680, CS 1590 and co-op courses (see below) may not be used to satisfy this requirement.

4. A minimum of 12 credits in mathematics must be completed as follows:

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2

- STAT 1000 - APPLIED STATISTICAL METHODS or
- STAT 1100 - STAT & PROBLTY FOR BUS MGT or
- STAT 1151 - INTRODUCTION TO PROBABILITY

Note:

Students should complete their required mathematics courses early. Typically, MATH 0220 would be completed in the freshman year. Strong students may elect also to take MATH 1180 - LINEAR ALGEBRA 1.

Additional rules and requirements for the major in computer science are as follows:

- A grade of C or better in all computer science and mathematics, and statistics courses is required for graduation. All computer science courses for the major must be taken for a letter grade, while required mathematics courses may be taken with the S/NC option.
- Some computer science courses that fulfill the departmental writing (W course) requirement will be offered each term.
- A 12-credit related area may be completed in approved mathematics and/or statistics courses. Other options include economics, business, chemistry, physics, psychology, or philosophy.
- To graduate with honors, a computer science major must complete one additional upper-level course and have a GPA of at least 3.50 in major courses, as well as an overall GPA of at least 3.25.

Computer Science, BS/MS

The BS degree in computer science requires 120 credits of course work, including 40 credits in computer science and 11 or 12 credits in mathematics and statistics. Typically, a student completes this degree in four academic years. Well-prepared students may apply for admission to the combined

bachelor's/master's degree program. This accelerated program allows students to begin taking graduate courses in their senior year and complete the combined BS/MS degree in five years. Please contact the Department of Computer Science for additional information.

Minor

Computer Science Minor

Minor Requirements

The requirements for the minor are

- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0445 - DATA STRUCTURES
- CS 1501 - ALGORITHM IMPLEMENTATION

any two of the three courses:

- CS 0441 - DISCRETE STRUCTURES FOR CS
- CS 0447 - COMPUTR ORGZTN & ASSMBLY LANG
- CS 0449 - INTRO TO SYSTEMS SOFTWARE

Note:

The total number of credits is 16. CS 0401 requires programming experience as a prerequisite. A student without any programming background would be advised to take the three credit course CS 0007 as preparation for CS 0401. The minor is essentially five of the six courses that are considered the "core" of the CS major. This is a rigorous minor. This minor is not intended for casual students interested in computer literacy.

Department of East Asian Languages and Literatures

The Department of East Asian Languages and Literatures offers courses in the language, literature, film, linguistics, and culture of China, Japan, and Korea. An undergraduate major is available in either Chinese or Japanese. There is a multiyear sequence of courses in the modern standard languages of China, Japan, and Korea, plus a wide variety of offerings (ranging from introductory to specialized) designed to illuminate various facets of these Asian civilizations. Students whose interests range broadly across the civilization of East Asia may alternatively develop an interdisciplinary studies major or take advantage of the Asian Studies Certificate program. The departmental curriculum is composed of three main categories:

- courses designed to develop competence in the four skills (speaking, listening, reading, writing) of the Chinese, Japanese, or Korean language, plus courses for advanced study in Chinese and Japanese;
- courses taught in English and focused on the mainstream of Chinese, Japanese, and Korean culture as reflected in literature, drama, and film; and
- courses for the advanced study of literature and linguistic analysis.

For more information on the Chinese and Japanese majors, courses in Korean language, or on the Department of East Asian Languages and Literatures, visit the Web site www.deall.pitt.edu/.

Major

Chinese, BA

Requirements for both Japanese and Chinese Majors

Students majoring in either Japanese or Chinese should follow these rules and requirements:

- The first-year language courses may be taken on an S/NC basis, but not the second-year language courses. In the third and fourth years, majors have the option of taking two additional courses S/NC , one of which may be an advanced language course.

Course Requirements

Students majoring in Chinese must take 55.

Language: complete all of the following courses.

- CHIN 0001 - FIRST YEAR CHINESE 1
- CHIN 0002 - FIRST YEAR CHINESE 2
- CHIN 0003 - SECOND YEAR CHINESE 1
- CHIN 0004 - SECOND YEAR CHINESE 2
- CHIN 1020 - THIRD YEAR CHINESE 1
- CHIN 1021 - THIRD YEAR CHINESE 2

Choose one of the following advanced language courses

- CHIN 1040 - LITERARY CHINESE 1 CLASSICAL
- CHIN 1050 - FOURTH YEAR CHINESE 1
- CHIN 1051 - FOURTH YEAR CHINESE 2

Literature, linguistics, culture, and film

Choose one of the following courses.

- CHIN 0070 - EXPLRNG CHINA ROOTS TO BLOOMS
- CHIN 1041 - LITERARY CHINESE 2 CLASSICAL
- CHIN 1047 - CHINESE AND WESTERN POETRY
- CHIN 1083 - MASTERPC OF CHINESE LITERATURE
- CHIN 1087 - INTRO TO CHINESE NARRATIVE
- CHIN 1090 - GREAT MINDS OF CHINA
- CHIN 1562 - CONFUCIANISM: BASIC TEXTS

Choose one of the following courses.

- CHIN 0071 - THMS & TYPS MOD CHIN LIT & CUL
- CHIN 0080 - CITY LIFE & EAST ASIAN CULTURE
- CHIN 0082 - HONG KONG CINEMA
- CHIN 1025 - ASPECTS OF CHINESE LANG
- CHIN 1059 - ADAPTD FOR SCRN: CHIN LIT &FLM
- CHIN 1084 - MASTERPIECES OF CHIN LIT: MDRN
- CHIN 1085 - INTRO TO EAST ASIAN CINEMA
- CHIN 1088 - NEW CHINESE CINEMA

Choose two of the following courses.

- CHIN 0070 - EXPLRNG CHINA ROOTS TO BLOOMS

- CHIN 0071 - THMS & TYPS MOD CHIN LIT & CUL
- CHIN 0080 - CITY LIFE & EAST ASIAN CULTURE
- CHIN 0081 - EAST ASIA IN THE WORLD
- CHIN 0082 - HONG KONG CINEMA
- CHIN 0085 - REVOL/INVLT/IDEN MOD CHIN CULT
- CHIN 1025 - ASPECTS OF CHINESE LANG
- CHIN 1041 - LITERARY CHINESE 2 CLASSICAL
- CHIN 1047 - CHINESE AND WESTERN POETRY
- CHIN 1059 - ADAPTD FOR SCRN: CHIN LIT &FLM
- CHIN 1065 - SOURCES ON EAST ASIA
- CHIN 1070 - Love and Power
- CHIN 1072 - LAW AND LITERATURE IN CHINA
- CHIN 1083 - MASTERPC OF CHINESE LITERATURE
- CHIN 1084 - MASTERPIECES OF CHIN LIT: MDRN
- CHIN 1085 - INTRO TO EAST ASIAN CINEMA
- CHIN 1086 - LOVE IN CHIN AND WESTERN LIT
- CHIN 1087 - INTRO TO CHINESE NARRATIVE
- CHIN 1088 - NEW CHINESE CINEMA
- CHIN 1089 - THE WORLD OF CHINA
- CHIN 1091 - ENCOUNTERING MODERN CHINA
- CHIN 1562 - CONFUCIANISM: BASIC TEXTS

Senior Project should be completed in the last spring term prior to graduation.

- CHIN 1999 - SENIOR PROJECT

Non-departmental course requirements; choose two of the following courses.

- ECON 1630 - ECONOMIC DEVELOPMENT OF CHINA
- HAA 0620 - ART OF CHINA
- HAA 0690 - CHINA: LANDSCAPE PTG & NATURE
- HAA 1605 - EARLY CHINA: POWER & IDENTITY
- HAA 1640 - 20TH CENTURY CHINESE ART
- HIST 1422 - LATE IMPERIAL CHINA
- MUSIC 0354 - CHINESE PERFORMANCE LITERATURE
- PS 1523 - EAST ASIA IN WORLD POLITICS
- Other course(s) with at least 50% China-related content offered in a department other than East Asian Languages and Literatures.

Japanese, BA

Requirements for both Japanese and Chinese Majors

Students majoring in either Japanese or Chinese should follow these rules and requirements:

- The first-year language courses may be taken on an S/NC basis, but not the second-year language courses. In the third and fourth years, majors have the option of taking two additional courses S/NC , one of which may be an advanced language course.

Requirements

The Japanese major requires completion of 54 credits and a minimum GPA of 2.0 in departmental courses. This program includes elements from four categories: courses designed to develop competence in the four skills of the Japanese language; courses taught in English and focused on the mainstream of Japanese culture as reflected in literature, drama, film, and linguistics; courses related to Japan offered in other departments of the Dietrich School; and a capstone experience for graduating seniors.

Language

- JPNSE 0001 - FIRST YEAR JAPANESE 1
- JPNSE 0002 - FIRST YEAR JAPANESE 2
- JPNSE 0003 - SECOND YEAR JAPANESE 1
- JPNSE 0004 - SECOND YEAR JAPANESE 2
- JPNSE 1020 - THIRD YEAR JAPANESE 1
- JPNSE 1021 - THIRD YEAR JAPANESE 2

Advanced courses

- JPNSE 1030 - Readings in Japanese Literature
- JPNSE 1032 - READINGS IN SOCIAL SCIENCE
- JPNSE 1040 - INTRO TO CLASSICAL JAPANESE 1
- JPNSE 1050 - FOURTH YEAR JAPANESE 1

Culture, Literature, and Linguistics

Complete the following course.

- JPNSE 0083 - INTRO TO JAPANESE LITERATURE *

Choose one of the following courses.

- JPNSE 1022 - HISTORY OF JAPANESE LANGUAGE *
- JPNSE 1023 - ASPCTS OF THE JAPNESE LANGUAGE *
- JPNSE 1025 - EXPLORNG THE JPNSE LANG & MIND *
- JPNSE 1035 - PRAGMATICS OF JAPANESE *

Choose two of the following elective courses.

- JPNSE 0007 - JPNSE CULTURE AND CIVILIZATION
- JPNSE 0080 - CITY LIFE & EAST ASIAN CULTURE
- JPNSE 0081 - EAST ASIA IN THE WORLD
- JPNSE 0085 - JAPANESE TALES OF SUPERNATURAL *
- JPNSE 1056 - JAPANESE LITERATURE & THE WEST *
- JPNSE 1057 - JPNSE CULT & SOCTY THRGH CINEM *
- JPNSE 1058 - WESTERNS AND SAMURAI FILMS *
- JPNSE 1059 - JAPANESE LITERATURE ON SCREEN *
- JPNSE 1070 - WORLD OF JAPAN *
- JPNSE 1071 - THE WORLD OF JAPAN *
- JPNSE 1080 - GHOSTS, MASKS AND ACTORS *
- JPNSE 1081 - FORMS OF JAPANESE THEATRE *
- JPNSE 1082 - A TASTE OF JAPAN *
- JPNSE 1085 - INTRO TO EAST ASIAN CINEMA *

- JPNSE 1700 - INTRO THEORY & PRA OF TRANLT

Related Field

Three Japan-related courses offered by departments in the Dietrich School of Arts and Sciences.

Capstone

- JPNSE 1999 - CAPSTONE PROJECT must be taken during the student's last spring term as an undergraduate.

Writing course

Japanese majors must complete JPNSE 1908 - DIRECTED WRITING FOR MAJORS in conjunction with one of the courses marked with an asterisk (*) in the culture, literature, and linguistics section.

Minor

Chinese Minor - Option A

Minor in Chinese

Students pursuing a minor in Chinese must select one of the following options.

Option A

Two years of Chinese language in either the traditional (CHIN 0001 through CHIN 0004) or the basic (CHIN 0025 through CHIN 0128) track, and one Chinese literature or culture course from the following list:

- CHIN 0007 - INTRO TO CHIN CIVLZ & CULTURE
- CHIN 0080 - CITY LIFE & EAST ASIAN CULTURE
- CHIN 0081 - EAST ASIA IN THE WORLD
- CHIN 0082 - HONG KONG CINEMA
- CHIN 0085 - REVOL/INVLT/IDEN MOD CHIN CULT
- CHIN 1025 - ASPECTS OF CHINESE LANG
- CHIN 1041 - LITERARY CHINESE 2 CLASSICAL
- CHIN 1047 - CHINESE AND WESTERN POETRY
- CHIN 1059 - ADAPTD FOR SCRN: CHIN LIT &FLM
- CHIN 1083 - MASTERPC OF CHINESE LITERATURE
- CHIN 1084 - MASTERPIECES OF CHIN LIT: MDRN
- CHIN 1085 - INTRO TO EAST ASIAN CINEMA
- CHIN 1088 - NEW CHINESE CINEMA
- CHIN 1089 - THE WORLD OF CHINA
- CHIN 1090 - GREAT MINDS OF CHINA

Chinese Minor - Option B

Minor in Chinese

Students pursuing a minor in Chinese must select one of the following options.

Option B

One year of Chinese language in either the traditional (CHIN 0001 and CHIN 0002) or the basic (CHIN 0025 and CHIN 0026) track, and the following courses.

One of the following courses.

- CHIN 1041 - LITERARY CHINESE 2 CLASSICAL
- CHIN 1047 - CHINESE AND WESTERN POETRY
- CHIN 1083 - MASTERPC OF CHINESE LITERATURE
- CHIN 1090 - GREAT MINDS OF CHINA

Two of the following courses.

- CHIN 0007 - INTRO TO CHIN CIVLZ & CULTURE
- CHIN 0080 - CITY LIFE & EAST ASIAN CULTURE
- CHIN 0081 - EAST ASIA IN THE WORLD
- CHIN 0082 - HONG KONG CINEMA
- CHIN 0085 - REVOL/INVLT/IDEN MOD CHIN CULT
- CHIN 1025 - ASPECTS OF CHINESE LANG
- CHIN 1059 - ADAPTD FOR SCRN: CHIN LIT &FLM
- CHIN 1084 - MASTERPIECES OF CHIN LIT: MDRN
- CHIN 1085 - INTRO TO EAST ASIAN CINEMA
- CHIN 1088 - NEW CHINESE CINEMA
- CHIN 1089 - THE WORLD OF CHINA

Chinese Minor - Option C

Option C

Four of the following courses.

- CHIN 0007 - INTRO TO CHIN CIVLZ & CULTURE
- CHIN 0080 - CITY LIFE & EAST ASIAN CULTURE
- CHIN 0081 - EAST ASIA IN THE WORLD
- CHIN 0082 - HONG KONG CINEMA
- CHIN 0085 - REVOL/INVLT/IDEN MOD CHIN CULT
- CHIN 1025 - ASPECTS OF CHINESE LANG
- CHIN 1040 - LITERARY CHINESE 1 CLASSICAL
- CHIN 1041 - LITERARY CHINESE 2 CLASSICAL
- CHIN 1047 - CHINESE AND WESTERN POETRY
- CHIN 1059 - ADAPTD FOR SCRN: CHIN LIT &FLM
- CHIN 1083 - MASTERPC OF CHINESE LITERATURE
- CHIN 1084 - MASTERPIECES OF CHIN LIT: MDRN
- CHIN 1085 - INTRO TO EAST ASIAN CINEMA
- CHIN 1088 - NEW CHINESE CINEMA
- CHIN 1089 - THE WORLD OF CHINA

- CHIN 1090 - GREAT MINDS OF CHINA

Two of the following courses.

- ECON 1630 - ECONOMIC DEVELOPMENT OF CHINA
- HAA 0620 - ART OF CHINA
- HAA 0690 - CHINA: LANDSCAPE PTG & NATURE
- HAA 1605 - EARLY CHINA: POWER & IDENTITY
- HAA 1640 - 20TH CENTURY CHINESE ART
- HIST 0401 - MODERN EAST ASIAN CIVILIZATION

- HIST 0755 - RELIGION IN ASIA or
- RELGST 0505 - RELIGION IN ASIA

- HIST 1422 - LATE IMPERIAL CHINA
- MUSIC 0354 - CHINESE PERFORMANCE LITERATURE
- PS 1523 - EAST ASIA IN WORLD POLITICS

Other course(s) with at least 50% China-related content offered in a department other than East Asian Languages and Literature.

Japanese Minor - Japanese Culture Option

Minor in Japanese

Two options are available.

Japanese culture option (15 credits)

Five 3-credit courses from the following list.

- JPNSE 0007 - JPNSE CULTURE AND CIVILIZATION
- JPNSE 0080 - CITY LIFE & EAST ASIAN CULTURE
- JPNSE 0081 - EAST ASIA IN THE WORLD
- JPNSE 0083 - INTRO TO JAPANESE LITERATURE
- JPNSE 0085 - JAPANESE TALES OF SUPERNATURAL
- JPNSE 1022 - HISTORY OF JAPANESE LANGUAGE
- JPNSE 1023 - ASPCTS OF THE JAPNESE LANGUAGE
- JPNSE 1025 - EXPLORNG THE JPNSE LANG & MIND
- JPNSE 1035 - PRAGMATICS OF JAPANESE
- JPNSE 1056 - JAPANESE LITERATURE & THE WEST
- JPNSE 1057 - JPNSE CULT & SOCTY THRGH CINEM
- JPNSE 1058 - WESTERNS AND SAMURAI FILMS
- JPNSE 1059 - JAPANESE LITERATURE ON SCREEN
- JPNSE 1070 - WORLD OF JAPAN
- JPNSE 1071 - THE WORLD OF JAPAN
- JPNSE 1080 - GHOSTS, MASKS AND ACTORS
- JPNSE 1081 - FORMS OF JAPANESE THEATRE
- JPNSE 1082 - A TASTE OF JAPAN

- JPNSE 1085 - INTRO TO EAST ASIAN CINEMA
- JPNSE 1700 - INTRO THEORY & PRA OF TRANLT

Japanese Minor - Japanese Language and Culture Option

Minor in Japanese

Two options are available.

Japanese language and culture option (19 credits)

- JPNSE 0001 - FIRST YEAR JAPANESE 1
- JPNSE 0002 - FIRST YEAR JAPANESE 2

Three 3-credit courses from the following list.

- JPNSE 0080 - CITY LIFE & EAST ASIAN CULTURE
- JPNSE 0081 - EAST ASIA IN THE WORLD
- JPNSE 0083 - INTRO TO JAPANESE LITERATURE
- JPNSE 0085 - JAPANESE TALES OF SUPERNATURAL
- JPNSE 1022 - HISTORY OF JAPANESE LANGUAGE
- JPNSE 1023 - ASPCTS OF THE JAPNESE LANGUAGE
- JPNSE 1025 - EXPLORNG THE JPNSE LANG & MIND
- JPNSE 1035 - PRAGMATICS OF JAPANESE
- JPNSE 1056 - JAPANESE LITERATURE & THE WEST
- JPNSE 1057 - JPNSE CULT & SOCTY THRGH CINEM
- JPNSE 1058 - WESTERNS AND SAMURAI FILMS
- JPNSE 1059 - JAPANESE LITERATURE ON SCREEN
- JPNSE 1070 - WORLD OF JAPAN
- JPNSE 1071 - THE WORLD OF JAPAN
- JPNSE 1080 - GHOSTS, MASKS AND ACTORS
- JPNSE 1081 - FORMS OF JAPANESE THEATRE
- JPNSE 1082 - A TASTE OF JAPAN
- JPNSE 1085 - INTRO TO EAST ASIAN CINEMA
- JPNSE 1700 - INTRO THEORY & PRA OF TRANLT

Korean Minor - Korean for Heritage Learners Option

Minor in Korean

Two options are available.

Option 2: Korean for Heritage Learners (14 credits)

Two four-credit Korean language courses from the following list.

- KOREAN 0003 - SECOND YEAR KOREAN 1 or
- KOREAN 1003 - SECOND YEAR KOREAN 1

- KOREAN 0004 - SECOND YEAR KOREAN 2 or
- KOREAN 1004 - SECOND YEAR KOREAN 2

- KOREAN 0005 - THIRD YEAR KOREAN 1 or
- KOREAN 1005 - THIRD YEAR KOREAN 1

- KOREAN 0006 - THIRD YEAR KOREAN 2 or
- KOREAN 1006 - THIRD YEAR KOREAN 2

Two three-credit course from the following list

- KOREAN 0070 - WORLD OF KOREA: PAST & PRESENT
- KOREAN 0075 - INTRO TO KOREA THROUGH FILMS
- KOREAN 1023 - ASPECTS OF THE KOREAN LANGUAGE
- KOREAN 1060 - LANGUAGE AND SOCIETY IN KOREA

Korean Minor - Korean Option

Minor in Korean

Two options are available.

Option 1: Korean (19 credits)

Four four-credit Korean language courses from the following list.

- KOREAN 0001 - FIRST YEAR KOREAN 1 or
- KOREAN 1001 - FIRST YEAR KOREAN 1

- KOREAN 0002 - FIRST YEAR KOREAN 2 or
- KOREAN 1002 - FIRST YEAR KOREAN 2

- KOREAN 0003 - SECOND YEAR KOREAN 1 or
- KOREAN 1003 - SECOND YEAR KOREAN 1

- KOREAN 0004 - SECOND YEAR KOREAN 2 or
- KOREAN 1004 - SECOND YEAR KOREAN 2

- KOREAN 0005 - THIRD YEAR KOREAN 1 or
- KOREAN 1005 - THIRD YEAR KOREAN 1

- KOREAN 0006 - THIRD YEAR KOREAN 2 or
- KOREAN 1006 - THIRD YEAR KOREAN 2

One three-credit course from the following list

- KOREAN 0070 - WORLD OF KOREA: PAST & PRESENT
- KOREAN 0075 - INTRO TO KOREA THROUGH FILMS
- KOREAN 1023 - ASPECTS OF THE KOREAN LANGUAGE

- KOREAN 1060 - LANGUAGE AND SOCIETY IN KOREA

Department of Economics

A major in economics can be designed to serve a variety of purposes in the general liberal arts and can provide a background for postgraduate study in a number of professional schools. In addition, economics is frequently taken as a dual major with business at the undergraduate level. Among the graduate-level options which can be pursued by economics majors are law, business, professional-level training in economics, public administration, professional health management, hospital administration, urban affairs, and transportation studies. Because the range of interests among economics majors is quite broad, students are encouraged to work out a plan of studies fitting their individual needs with a departmental advisor. For more information on the major, the minor, and the Department of Economics, see www.econ.pitt.edu.

Major

Economics, BA

General Major Requirements

Majors may earn either a Bachelor of Science or a Bachelor of Arts in economics. The general rules and requirements as they apply to both degrees are as follows:

- A minimum overall 2.00 GPA is required in all economics courses for graduation with an economics major.
- A minimum grade of C- is required in ECON 0100 - INTRO MICROECONOMIC THEORY, ECON 0110 - INTRO MACROECONOMIC THEORY, ECON 1100 - INTERMEDIATE MICROECONOMICS, ECON 1110 - INTERMEDIATE MACROECONOMICS, MATH 0120 and MATH 0220.
- No ECON course that counts toward the major may be taken on an S/NC basis.
- Students must complete at least one writing-intensive (W) course in the major.
- Credit by exam is usually not accepted, but students should check with the departmental advisor about the possibility.
- Majors may choose to complete a double major. Frequently chosen double majors include economics with computer science, history, and philosophy. Less frequently chosen are the sciences (notably biology), which could lead to graduate-level options in public health fields. Interested students have the option of completing a joint major with the mathematics department that will prepare students for a quantitatively oriented job in industry or for entering graduate school in applied mathematics, statistics, economics, business, or a related field (see mathematics major). A structured program leading to a joint Dietrich School /business major is available for students interested in combining economics with business (see Nondepartmental Dietrich School Majors for details).
- ECON 0800, ECON 0810, and ECON 0820 are designed for non-majors are therefore do not count toward the major.
- Internship credits do not count toward the major. Students are encouraged to do internships.
- Only three credits of ECON 1901 through ECON 1903 may be applied toward the credits required for the major.
- Honors in economics is granted if, in addition to fulfilling all requirements for the economics major, the student meets the following criteria:
    - Maintenance of a GPA of 3.5 in all economics courses
    - Maintenance of an overall GPA of 3.5 or better
    - Completion of at least 3 credits in the economics proseminar series (ECON 1700-ECON 1730)

Requirements

Students seeking a BA in economics must earn at least 27 credits in economics courses including the following:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY
- ECON 1100 - INTERMEDIATE MICROECONOMICS
- ECON 1110 - INTERMEDIATE MACROECONOMICS
- Two Economics elective courses*

- Two ECON 1000-level elective courses which require ECON 1100 or ECON 1110 as prerequisites
- One ECON 1000-level elective course
- ECON 0900 - ECONS: INT FOR FIELD MAJORS

Note:

* ECON 0800 does not count as an ECON elective course.

Students seeking the BA must also take the following corequisite courses:

One of the following

- MATH 0125 - CALCULUS FOR BUSINESS 1 and
- MATH 0126 - CALCULUS FOR BUSINESS 2

- MATH 0120 - BUSINESS CALCULUS
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

One of the following

- STAT 0200 - BASIC APPLIED STATISTICS
- STAT 1000 - APPLIED STATISTICAL METHODS
- STAT 1100 - STAT & PROBLTY FOR BUS MGT *

Note:

* STAT 1000 or STAT 1100 is required for students pursuing the Economics/Business Dual major. Students pursuing this major are exempted from taking BUSECN 1010 since its equivalent is ECON 1100.

Economics, BS

General Major Requirements

Majors may earn either a Bachelor of Science or a Bachelor of Arts in economics. The general rules and requirements as they apply to both degrees are as follows:

- A minimum overall 2.00 GPA is required in all economics courses for graduation with an economics major.
- A minimum grade of C- is required in ECON 0100 - INTRO MICROECONOMIC THEORY, ECON 0110 - INTRO MACROECONOMIC THEORY, ECON 1100 - INTERMEDIATE MICROECONOMICS, ECON 1110 - INTERMEDIATE MACROECONOMICS, MATH 0120 and MATH 0220.
- No ECON course that counts toward the major may be taken on an S/NC basis.
- Students must complete at least one writing-intensive (W) course in the major.
- Credit by exam is usually not accepted, but students should check with the departmental advisor about the possibility.
- Majors may choose to complete a double major. Frequently chosen double majors include economics with computer science, history, and philosophy. Less frequently chosen are the sciences (notably biology), which could lead to graduate-level options in public health fields. Interested students have the option of completing a joint major with the mathematics department that will prepare students for a quantitatively oriented job in industry or for entering graduate school in applied mathematics, statistics, economics, business, or a related field (see mathematics major). A structured program leading to a joint Dietrich School /business major is available for students interested in combining economics with business (see Nondepartmental Dietrich School Majors for details).
- ECON 0800, ECON 0810, and ECON 0820 are designed for non-majors are therefore do not count toward the major.
- Internship credits do not count toward the major. Students are encouraged to do internships.

- Only three credits of ECON 1901 through ECON 1903 may be applied toward the credits required for the major.
- Honors in economics is granted if, in addition to fulfilling all requirements for the economics major, the student meets the following criteria:
    - Maintenance of a GPA of 3.5 in all economics courses
    - Maintenance of an overall GPA of 3.5 or better
    - Completion of at least 3 credits in the economics proseminar series (ECON 1700-ECON 1730)

Requirements

Students seeking a BS in economics must earn at least 24 credits in economics courses including the following:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 1100 - INTERMEDIATE MICROECONOMICS
- ECON 0110 - INTRO MACROECONOMIC THEORY
- ECON 1110 - INTERMEDIATE MACROECONOMICS
- Two economics elective courses
- Two ECON 1000-level courses that require ECON 1100 or ECON 1110 or their equivalents as prerequisites
- ECON 0900 - ECONS: INT FOR FIELD MAJORS

One of the following

- ECON 1150 - APPLIED ECONOMETRICS 1
- ECON 1180 - MATHEMATICAL ECONOMICS

Note:

*ECON 0800 does not count was an ECON elective course

Students seeking the BS must also take the following corequisite courses:

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

One of the following

- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- STAT 1000 - APPLIED STATISTICAL METHODS

Minor

Economics Minor

Requirements

The set of courses required for the minor in economics provides an introduction to the core theory in economics and explores some of the issues that economists study. The four core theory courses are taught each term, along with a broad range of applied economics courses. The required courses (totaling 15 credits) are as follows:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY

- ECON 1100 - INTERMEDIATE MICROECONOMICS or
- ECON 1110 - INTERMEDIATE MACROECONOMICS

- Two additional ECON courses

Note:

Courses in the 0800 series do not count toward the 15 credits required for the minor in economics, and only 3 credits of ECON 1901 - ECON 1903, directed studies, may be applied toward minor requirements. Other than these restrictions, the two additional courses mentioned above may be any of the courses offered by the department.

Joint Major

Economics-Statistics, BS

The economics-statistics joint major is intended for students who are interested in economics and enjoy modeling and analyzing data. Although the number of such students is not large, there are usually a few each year who express an interest in pursuing both economics and statistics in a depth suitable for a major. More often than not, these students are prime candidates for graduate school, and want to keep their options open as to which field to enter later. Short of completing two bachelor's degrees, their only option now is to major in one subject and minor in the other. If they later decide to attend graduate school in their minor subject, they are likely to be less competitive for admission to the best departments than if they had majored in that subject.

A joint major provides a useful compromise to keep their options open. Additionally, a joint major in economics and statistics can be an excellent training ground for the more quantitative areas of business (such as forecasting, investment management, actuarial planning, and accounting), health management, and public health, without losing the breadth provided by a liberal arts program. Graduates of the joint major who are interested in these areas will have the requisite skills for further training or for immediate entrance into the job market. The curriculum for the joint major consists of eight economics courses and eight statistics courses, along with a statistics writing practicum and three mathematics courses, for a total of 62 credits.

Course Requirements

Economics courses as follows:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY
- ECON 1100 - INTERMEDIATE MICROECONOMICS
- ECON 1110 - INTERMEDIATE MACROECONOMICS
- ECON 1150 - APPLIED ECONOMETRICS 1
- ECON 1200 - GAME THEORY
- One economics elective course*
- One ECON 1000-level courses that requires ECON 1110 or ECON 1110 as a prerequisite

Note:

*ECON 0800 does not count as an ECON elective course.

Statistics courses as follows:

- STAT 1000 - APPLIED STATISTICAL METHODS
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

- STAT 1221 - APPLIED REGRESSION
- STAT 1223 - APPLD REGRESSN WRIT COMPONENT
- Four elective STAT courses, chosen from the 1200 level or above: one of these electives must be from the 1600 level or above, excluding internships and directed study courses.

Note:

Students who plan to study statistics at the graduate level are encouraged to take STAT 1631 - INTERMEDIATE PROBABILITY **and** STAT 1632 - INTERMEDIATE MATHEMATICAL STAT.

Mathematics courses as follows:

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

One of the following

- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2 or
- MATH 0235 - HONORS 1 - VARIABLE CALCULUS

Note:

Students are strongly encouraged to take a course in linear algebra, such as MATH 0280 - INTRO TO MATRICES & LINEAR ALG **or** MATH 1180 - LINEAR ALGEBRA 1 **or** MATH 1185 - HONORS LINEAR ALGEBRA

Due to the interdisiplinary nature of the major, a related area is not required.

Department of English

The Department of English at the University of Pittsburgh offers two different major programs, English literature and English writing. Both majors are responsive to many of the traditional goals of a liberal arts education: they seek to develop a broad critical and historical understanding of influential cultural traditions and to foster a range of reading and writing strategies as well as skills of critical analysis. The majors prepare students fairly directly for careers in teaching or writing. But the skills and knowledge the majors impart are useful in numerous business and professional settings. For example, an English major is highly regarded as a pre-professional major for further training in law, medicine, or business. The director of academic affairs for the Association of American Medical Colleges has said (1986) that English majors have a higher rate of acceptance at medical schools than students who have majored in the biological and physical sciences.

Major

English Literature, BA

The English literature major is designed to develop a critical understanding of literary and cultural traditions in English that is at once informed, skeptical, and appreciative. Some of the distinctive features of the literature curriculum at the University of Pittsburgh are the recurrent concerns from the introductory to the most advanced undergraduate courses with the following: questions of how and why we read and write and participate in cultural activities; the contexts in which a range of literary texts and films are produced, understood, evaluated, and used; and the changing role of art and culture in the contemporary world. The major offers students opportunities to study canonical works of British and American literature from medieval times to the present; often, these texts will be studied in conjunction with historical or philosophical works, with other national literatures in English, and/or with films or works of popular culture. In many courses, students' own writing will be an important object of study.

Major Requirements

The English literature major requires the completion of 36 credits distributed as follows.

- ENGLIT 0505 - HOW TO DO THINGS WITH LIT 1
- ENGLIT 0506 - HOW TO DO THINGS WITH LITERATURE 2

Two period courses chosen from a listing of approved courses

www.englishlit.pitt.edu/undergraduate/major-requirements

Advanced courses

- ENGLIT 1900 - PROJECT SEMINAR
- ENGLIT 1910 - SENIOR SEMINAR

Six elective courses

- At least four of these courses should fall within the designated area of concentration selected by the student. Students may apply for special approval with the director of the Literature program to count an elective not previously listed in a given area of concentration.
- At least three of these courses must be from the 1000-level or above.
- Students may take up to two courses from other programs in the Department of English (Composition, Film, Writing) designated within their area of concentration. Students may apply for special approval with the director of the Literature program to count an additional elective from another English program.
- At least one of these courses should also fulfill a breadth of study requirement. Students should ask instructors or advisors whether a particular course or section fulfills this requirement.
- Independent study, directed study, teaching assistantships, and internships may count toward any concentration depending upon the nature of the student's work.

Additional information and requirements

- There is no limit on the number of courses English majors may take on an S/NC basis, either inside or outside the department.
- English majors automatically fulfill Dietrich School requirements for W courses.
- Students who contemplate graduate study in English should remember that many schools do require second language competence, sometimes in more than one language.
- The English department confers honors on those graduates who maintain a 3.25 overall GPA with a GPA of 3.50 or better in English departmental courses. The GPA is based on all English department courses, not just those that fulfill major requirements.

English Writing - Fiction Track, BA

English Writing

The University of Pittsburgh's Writing Program is the oldest and one of the largest in the United States, offering tracks in fiction, poetry, nonfiction, and journalism. There is a wide variety of classes, and the maximum size is 22. The Writing Program has a full-time faculty of widely published writers, several visiting writers each year, and a number of part-time faculty who are senior reporters or editors at Pittsburgh newspapers and magazines. Graduates of the writing program include editors at major daily newspapers and publishing houses and winners of the Pulitzer Prize and other major awards.

For more information on the Department of English and the majors in English literature and in English writing, see www.english.pitt.edu.

Major Requirements

A minimum of 33 credits is required: 21 credits in English writing courses and 12 in English literature courses.

Majors must choose one of three tracks: fiction, poetry, and nonfiction. In most cases, students will take other writing courses as well. Each track consists of three levels of courses. The introductory courses (0500s) offer a broad introduction to the skills required of writers in a particular area and generally should be taken no later than the first term of the junior year. The intermediate courses (1000s for fiction, 1200s for poetry, 1300s for nonfiction) refine and develop those skills. The senior seminars (1700s) provide a capstone experience for the student writer. Students should check prerequisites carefully before registration.

Students must complete one of the following prerequisite courses before declaring the major.

- ENGCMP 0200 - SEMINAR IN COMPOSITION
- ENGCMP 0203 - SEM CMPSTN: GENDER STUDIES
- ENGCMP 0205 - SEMINAR IN COMPOSITION: FILM
- ENGCMP 0207 - SEMNR IN COMPOSITN: EDUCATION
- ENGCMP 0208 - SEM IN CMPSTN: SERVICE-LEARNG
- FP 0003 - FRESHMAN SEMINAR
- FP 0006 - FRESHMAN SEMINAR

Fiction Track

- ENGWRT 0520 - INTRO TO FICTION WRITING
- ENGWRT 1010 - INTERMEDIATE FICTION
- ENGWRT 1020 - ADVANCED FICTION
- ENGWRT 1094 - READINGS IN CNTMPRY FICTION
- ENGWRT 1710 - SENIOR SEMINAR IN FICTION
- Three ENGWRT elective courses*
- ENGLIT 0325 - THE SHORT STORY
- Two ENGLIT elective courses from the list below
- One ENGLIT elective course at the 1000-level from the list below

Note:

Elective courses may be taken in another track if the student wishes.

Approved English Literature (ENGLIT) courses

- ENGLIT 0500 - INTRO TO CRITICAL READING
- ENGLIT 0505 - HOW TO DO THINGS WITH LIT 1
- ENGLIT 0560 - CHILDREN AND CULTURE
- ENGLIT 0562 - CHILDHOOD'S BOOKS
- ENGLIT 0570 - AMERICAN LITERATURE
- ENGLIT 0573 - LITERATURE OF THE AMERICAS
- ENGLIT 0580 - INTRODUCTION TO SHAKESPEARE
- ENGLIT 0590 - FORMATIVE MASTERPIECES
- ENGLIT 0597 - BIBLE AS LITERATURE
- ENGLIT 0610 - WOMEN AND LITERATURE
- ENGLIT 0615 - LITERATURE AND RACE
- ENGLIT 0616 - LITERATURE AND MIGRATION

- ENGLIT 0625 - DETECTIVE FICTION
- ENGLIT 0626 - SCIENCE FICTION
- ENGLIT 0627 - LITERATURE OF SPORTS
- ENGLIT 0628 - WORKING CLASS LITERATURE
- ENGLIT 0629 - THE WILD WEST
- ENGLIT 0630 - SEXUALITY AND REPRESENTATION
- ENGLIT 0635 - NEW LITERATURE
- ENGLIT 0636 - THE GOTHIC IMAGINATION
- ENGLIT 0640 - ALLEGORY
- ENGLIT 0641 - TRAGEDY
- ENGLIT 0642 - COMEDY
- ENGLIT 0643 - SATIRE
- ENGLIT 0644 - MYTH AND FOLKTALE
- ENGLIT 0645 - FANTASY
- ENGLIT 0655 - REPRESENTING ADOLESCENCE
- ENGLIT 1020 - HISTORY OF LITERARY CRITICISM
- ENGLIT 1023 - CONTEMPORARY CRITICAL THEORY
- ENGLIT 1028 - LITERATURE AND PSYCHOANALYSIS
- ENGLIT 1100 - MEDIEVAL IMAGINATION
- ENGLIT 1105 - MIDDLE ENGLISH LITERATURE
- ENGLIT 1115 - CHAUCER
- ENGLIT 1125 - MASTRPCS OF RENAISSNC LIT
- ENGLIT 1135 - LIT, MEDIA, SCI IN AGE SHAKESP
- ENGLIT 1126 - ADVANCED SHAKESPEARE
- ENGLIT 1127 - SHAKESPEARE ON FILM
- ENGLIT 1128 - SHAKESPEARE'S SEXUALITIES
- ENGLIT 1132 - ELIZABETHAN AND JACOBEAN DRAMA
- ENGLIT 1150 - ENLIGHTENMENT TO REVOLUTION
- ENGLIT 1170 - ROMANTIC NATURE
- ENGLIT 1175 - 19TH CENTURY BRITSH LITERATURE
- ENGLIT 1180 - HUMNS, ANMLS, MACHS VICT LIT
- ENGLIT 1181 - VICTORIAN NOVEL
- ENGLIT 1200 - AMERICAN LITERATURE TO 1860
- ENGLIT 1210 - THE AMERICAN RENAISSANCE
- ENGLIT 1220 - CVL WAR TO WW1 IN AMER LIT
- ENGLIT 1250 - 20TH CENTURY AMERICAN LIT
- ENGLIT 1255 - THEATER & ACTIVISM
- ENGLIT 1272 - THE ROARING 20'S
- ENGLIT 1280 - CNTMPRY AMERICAN WOMEN WRITERS
- ENGLIT 1325 - MODERNISM
- ENGLIT 1360 - TOPICS IN 20TH CENTURY LIT
- ENGLIT 1370 - MAKERS OF MODERN DRAMA
- ENGLIT 1372 - CONTEMPORARY DRAMA
- ENGLIT 1380 - WORLD LITERATURE IN ENGLISH
- ENGLIT 1587 - UTOPIAN LITERATURE
- ENGLIT 1607 - ADVANCED SHORT STORY
- ENGLIT 1645 - CRITL APPRCH TO CHILDREN'S LIT
- ENGLIT 1704 - WOMEN NOVELISTS
- ENGLIT 1756 - BALLADS AND BLUES
- ENGLIT 1738 - IRISH LITERATURE
- ENGLIT 1772 - ADOPTION LITERATURE

Additional information and requirements

- A minimum grade of C or better (not C-) is required in a 0500-level writing course to advance to the first 1000-level course in that track. Students who earn less than a C in their first 1000-level course may not advance to other courses in that track. Moreover, students must earn a C or better (not C-) grade in their senior seminar or internship course.
- Students are encouraged to take additional writing and literature courses beyond the required minimum. Courses in film studies, women's studies, business, and technical writing are particularly useful for English writing majors.
- The Writing Program recommends related areas in second languages, literature in translation, or linguistics; a related area in history or political science is appropriate for students concentrating in journalism.
- Completion of at least one composition course is required for enrollment in a writing program course.
- ENGWRT 0400 - INTRO TO CREATIVE WRITING and ENGWRT 0411 - INTRO TO CREATIVE NONFICTION are optional introductory courses and may be taken during the second year by students who have recently declared a major in writing, are seriously considering writing as a major, or are taking their first 0500-level course. ENGWRT 0400 can only count as an elective towards the Writing degree if taken before ENGWRT 0520 or ENGWRT 0530. Likewise, ENGWRT 0411 may be taken as an elective before ENGWRT 1330 (Nonfiction I).
- There is no limit on the number of courses English majors may take on an S/NC basis, either inside or outside the department.
- English writing majors automatically fulfill Dietrich School requirements for W courses. Students pursuing a second major are required to complete an additional W course for that major.
- Students who contemplate graduate study in English should remember that many schools do require second language competence, sometimes in more than one language.

The English department confers honors on those graduates who maintain a 3.25 overall GPA with a GPA of 3.50 or better in English department courses. The GPA is based on all English department courses, not just those that fulfill major requirements.

English Writing - Nonfiction Track, BA

English Writing

The University of Pittsburgh's Writing Program is the oldest and one of the largest in the United States, offering tracks in fiction, poetry, nonfiction, and journalism. There is a wide variety of classes, and the maximum size is 22. The Writing Program has a full-time faculty of widely published writers, several visiting writers each year, and a number of part-time faculty who are senior reporters or editors at Pittsburgh newspapers and magazines. Graduates of the writing program include editors at major daily newspapers and publishing houses and winners of the Pulitzer Prize and other major awards.

For more information on the Department of English and the majors in English literature and in English writing, see www.english.pitt.edu.

Major Requirements

A minimum of 33 credits is required: 21 credits in English writing courses and 12 in English literature courses.

Majors must choose one of three tracks: fiction, poetry, and nonfiction. In most cases, students will take other writing courses as well. Each track consists of three levels of courses. The introductory courses (0500s) offer a broad introduction to the skills required of writers in a particular area and generally should be taken no later than the first term of the junior year. The intermediate courses (1000s for fiction, 1200s for poetry, 1300s for nonfiction) refine and develop those skills. The senior seminars (1700s) provide a capstone experience for the student writer. Students should check prerequisites carefully before registration.

Students must complete one of the following prerequisite courses before declaring the major.

- ENGCMP 0200 - SEMINAR IN COMPOSITION
- ENGCMP 0203 - SEM CMPSTN: GENDER STUDIES
- ENGCMP 0205 - SEMINAR IN COMPOSITION: FILM
- ENGCMP 0207 - SEMNR IN COMPOSITN: EDUCATION
- ENGCMP 0208 - SEM IN CMPSTN: SERVICE-LEARNG
- FP 0003 - FRESHMAN SEMINAR

- FP 0006 - FRESHMAN SEMINAR

Nonfiction Track

- ENGWRT 0610 - INTRO JOURNALISM & NONFICTION
- ENGWRT 1330 - INTERMEDIATE NONFICTION
- ENGWRT 1340 - ADVANCED NONFICTION
- ENGWRT 1390 - READINGS IN CNTMPRY NON-FICTN
- ENGWRT 1750 - SENIOR SEMINAR IN NONFICTION
- Three ENGWRT elective courses*
- Two ENGLIT elective courses from the list below
- One ENGLIT elective course at the 1000-level from the list below

One of the following courses

- ENGLIT 0321 - FORMS OF PROSE
- ENGLIT 0399 - NARRATIVE AND TECHNOLOGY

Note:

Elective courses may be taken in another track if the student wishes.

Approved English Literature (ENGLIT) courses

- ENGLIT 0500 - INTRO TO CRITICAL READING
- ENGLIT 0505 - HOW TO DO THINGS WITH LIT 1
- ENGLIT 0560 - CHILDREN AND CULTURE
- ENGLIT 0562 - CHILDHOOD'S BOOKS
- ENGLIT 0570 - AMERICAN LITERATURE
- ENGLIT 0573 - LITERATURE OF THE AMERICAS
- ENGLIT 0580 - INTRODUCTION TO SHAKESPEARE
- ENGLIT 0590 - FORMATIVE MASTERPIECES
- ENGLIT 0597 - BIBLE AS LITERATURE
- ENGLIT 0610 - WOMEN AND LITERATURE
- ENGLIT 0615 - LITERATURE AND RACE
- ENGLIT 0616 - LITERATURE AND MIGRATION
- ENGLIT 0625 - DETECTIVE FICTION
- ENGLIT 0626 - SCIENCE FICTION
- ENGLIT 0627 - LITERATURE OF SPORTS
- ENGLIT 0628 - WORKING CLASS LITERATURE
- ENGLIT 0629 - THE WILD WEST
- ENGLIT 0630 - SEXUALITY AND REPRESENTATION
- ENGLIT 0635 - NEW LITERATURE
- ENGLIT 0636 - THE GOTHIC IMAGINATION
- ENGLIT 0640 - ALLEGORY
- ENGLIT 0641 - TRAGEDY
- ENGLIT 0642 - COMEDY
- ENGLIT 0643 - SATIRE
- ENGLIT 0644 - MYTH AND FOLKTALE
- ENGLIT 0645 - FANTASY

- ENGLIT 0655 - REPRESENTING ADOLESCENCE
- ENGLIT 1020 - HISTORY OF LITERARY CRITICISM
- ENGLIT 1023 - CONTEMPORARY CRITICAL THEORY
- ENGLIT 1028 - LITERATURE AND PSYCHOANALYSIS
- ENGLIT 1100 - MEDIEVAL IMAGINATION
- ENGLIT 1105 - MIDDLE ENGLISH LITERATURE
- ENGLIT 1115 - CHAUCER
- ENGLIT 1125 - MASTRPCS OF RENAISSNC LIT
- ENGLIT 1135 - LIT, MEDIA, SCI IN AGE SHAKESP
- ENGLIT 1126 - ADVANCED SHAKESPEARE
- ENGLIT 1127 - SHAKESPEARE ON FILM
- ENGLIT 1128 - SHAKESPEARE'S SEXUALITIES
- ENGLIT 1132 - ELIZABETHAN AND JACOBEAN DRAMA
- ENGLIT 1150 - ENLIGHTENMENT TO REVOLUTION
- ENGLIT 1170 - ROMANTIC NATURE
- ENGLIT 1175 - 19TH CENTURY BRITSH LITERATURE
- ENGLIT 1180 - HUMNS, ANMLS, MACHS VICT LIT
- ENGLIT 1181 - VICTORIAN NOVEL
- ENGLIT 1200 - AMERICAN LITERATURE TO 1860
- ENGLIT 1210 - THE AMERICAN RENAISSANCE
- ENGLIT 1220 - CVL WAR TO WW1 IN AMER LIT
- ENGLIT 1250 - 20TH CENTURY AMERICAN LIT
- ENGLIT 1255 - THEATER & ACTIVISM
- ENGLIT 1272 - THE ROARING 20'S
- ENGLIT 1280 - CNTMPRY AMERICAN WOMEN WRITERS
- ENGLIT 1325 - MODERNISM
- ENGLIT 1360 - TOPICS IN 20TH CENTURY LIT
- ENGLIT 1370 - MAKERS OF MODERN DRAMA
- ENGLIT 1372 - CONTEMPORARY DRAMA
- ENGLIT 1380 - WORLD LITERATURE IN ENGLISH
- ENGLIT 1587 - UTOPIAN LITERATURE
- ENGLIT 1607 - ADVANCED SHORT STORY
- ENGLIT 1645 - CRITL APPRCH TO CHILDREN'S LIT
- ENGLIT 1704 - WOMEN NOVELISTS
- ENGLIT 1756 - BALLADS AND BLUES
- ENGLIT 1738 - IRISH LITERATURE
- ENGLIT 1772 - ADOPTION LITERATURE

Additional information and requirements

- A minimum grade of C or better (not C-) is required in a 0500-level writing course to advance to the first 1000-level course in that track. Students who earn less than a C in their first 1000-level course may not advance to other courses in that track. Moreover, students must earn a C or better (not C-) grade in their senior seminar or internship course.
- Students are encouraged to take additional writing and literature courses beyond the required minimum. Courses in film studies, women's studies, business, and technical writing are particularly useful for English writing majors.
- The Writing Program recommends related areas in second languages, literature in translation, or linguistics; a related area in history or political science is appropriate for students concentrating in journalism.
- Completion of at least one composition course is required for enrollment in a writing program course.
- ENGWRT 0400 - INTRO TO CREATIVE WRITING and ENGWRT 0411 - INTRO TO CREATIVE NONFICTION are optional introductory courses and may be taken during the second year by students who have recently declared a major in writing, are seriously considering writing as a major, or are taking their first 0500-level course. ENGWRT 0400 can only count as an elective towards the

Writing degree if taken before ENGWRT 0520 or ENGWRT 0530. Likewise, ENGWRT 0411 may be taken as an elective before ENGWRT 1330 (Nonfiction I).

- There is no limit on the number of courses English majors may take on an S/NC basis, either inside or outside the department.
- English writing majors automatically fulfill Dietrich School requirements for W courses. Students pursuing a second major are required to complete an additional W course for that major.
- Students who contemplate graduate study in English should remember that many schools do require second language competence, sometimes in more than one language.

The English department confers honors on those graduates who maintain a 3.25 overall GPA with a GPA of 3.50 or better in English department courses. The GPA is based on all English department courses, not just those that fulfill major requirements.

English Writing - Poetry Track, BA

English Writing

The University of Pittsburgh's Writing Program is the oldest and one of the largest in the United States, offering tracks in fiction, poetry, nonfiction, and journalism. There is a wide variety of classes, and the maximum size is 22. The Writing Program has a full-time faculty of widely published writers, several visiting writers each year, and a number of part-time faculty who are senior reporters or editors at Pittsburgh newspapers and magazines. Graduates of the writing program include editors at major daily newspapers and publishing houses and winners of the Pulitzer Prize and other major awards.

For more information on the Department of English and the majors in English literature and in English writing, see www.english.pitt.edu.

Major Requirements

A minimum of 33 credits is required: 21 credits in English writing courses and 12 in English literature courses.

Majors must choose one of three tracks: fiction, poetry, and nonfiction. In most cases, students will take other writing courses as well. Each track consists of three levels of courses. The introductory courses (0500s) offer a broad introduction to the skills required of writers in a particular area and generally should be taken no later than the first term of the junior year. The intermediate courses (1000s for fiction, 1200s for poetry, 1300s for nonfiction) refine and develop those skills. The senior seminars (1700s) provide a capstone experience for the student writer. Students should check prerequisites carefully before registration.

Students must complete one of the following prerequisite courses before declaring the major.

- ENGCMP 0200 - SEMINAR IN COMPOSITION
- ENGCMP 0203 - SEM CMPSTN: GENDER STUDIES
- ENGCMP 0205 - SEMINAR IN COMPOSITION: FILM
- ENGCMP 0207 - SEMNR IN COMPOSITN: EDUCATION
- ENGCMP 0208 - SEM IN CMPSTN: SERVICE-LEARNG
- FP 0003 - FRESHMAN SEMINAR
- FP 0006 - FRESHMAN SEMINAR

Poetry Track

- ENGWRT 0530 - INTRODUCTION TO POETRY WRITING
- ENGWRT 1210 - POETRY WORKSHOP
- ENGWRT 1290 - READINGS IN CNTMPRY POETRY
- ENGWRT 1510 - ADVANCED POETRY
- ENGWRT 1730 - SENIOR SEMINAR IN POETRY
- Three ENGWRT elective courses*
- ENGLIT 0315 - READING POETRY
- Two ENGLIT elective courses from the list below

- One ENGLIT elective course at the 1000-level from the list below

Note:

Elective courses may be taken in another track if the student wishes.

Approved English Literature (ENGLIT) courses

- ENGLIT 0500 - INTRO TO CRITICAL READING
- ENGLIT 0505 - HOW TO DO THINGS WITH LIT 1
- ENGLIT 0560 - CHILDREN AND CULTURE
- ENGLIT 0562 - CHILDHOOD'S BOOKS
- ENGLIT 0570 - AMERICAN LITERATURE
- ENGLIT 0573 - LITERATURE OF THE AMERICAS
- ENGLIT 0580 - INTRODUCTION TO SHAKESPEARE
- ENGLIT 0590 - FORMATIVE MASTERPIECES
- ENGLIT 0597 - BIBLE AS LITERATURE
- ENGLIT 0610 - WOMEN AND LITERATURE
- ENGLIT 0615 - LITERATURE AND RACE
- ENGLIT 0616 - LITERATURE AND MIGRATION
- ENGLIT 0625 - DETECTIVE FICTION
- ENGLIT 0626 - SCIENCE FICTION
- ENGLIT 0627 - LITERATURE OF SPORTS
- ENGLIT 0628 - WORKING CLASS LITERATURE
- ENGLIT 0629 - THE WILD WEST
- ENGLIT 0630 - SEXUALITY AND REPRESENTATION
- ENGLIT 0635 - NEW LITERATURE
- ENGLIT 0636 - THE GOTHIC IMAGINATION
- ENGLIT 0640 - ALLEGORY
- ENGLIT 0641 - TRAGEDY
- ENGLIT 0642 - COMEDY
- ENGLIT 0643 - SATIRE
- ENGLIT 0644 - MYTH AND FOLKTALE
- ENGLIT 0645 - FANTASY
- ENGLIT 0655 - REPRESENTING ADOLESCENCE
- ENGLIT 1020 - HISTORY OF LITERARY CRITICISM
- ENGLIT 1023 - CONTEMPORARY CRITICAL THEORY
- ENGLIT 1028 - LITERATURE AND PSYCHOANALYSIS
- ENGLIT 1100 - MEDIEVAL IMAGINATION
- ENGLIT 1105 - MIDDLE ENGLISH LITERATURE
- ENGLIT 1115 - CHAUCER
- ENGLIT 1125 - MASTRPCS OF RENAISSNC LIT
- ENGLIT 1135 - LIT, MEDIA, SCI IN AGE SHAKESP
- ENGLIT 1126 - ADVANCED SHAKESPEARE
- ENGLIT 1127 - SHAKESPEARE ON FILM
- ENGLIT 1128 - SHAKESPEARE'S SEXUALITIES
- ENGLIT 1132 - ELIZABETHAN AND JACOBEAN DRAMA
- ENGLIT 1150 - ENLIGHTENMENT TO REVOLUTION
- ENGLIT 1170 - ROMANTIC NATURE
- ENGLIT 1175 - 19TH CENTURY BRITSH LITERATURE

- ENGLIT 1180 - HUMNS, ANMLS, MACHS VICT LIT
- ENGLIT 1181 - VICTORIAN NOVEL
- ENGLIT 1200 - AMERICAN LITERATURE TO 1860
- ENGLIT 1210 - THE AMERICAN RENAISSANCE
- ENGLIT 1220 - CVL WAR TO WW1 IN AMER LIT
- ENGLIT 1250 - 20TH CENTURY AMERICAN LIT
- ENGLIT 1255 - THEATER & ACTIVISM
- ENGLIT 1272 - THE ROARING 20'S
- ENGLIT 1280 - CNTMPRY AMERICAN WOMEN WRITERS
- ENGLIT 1325 - MODERNISM
- ENGLIT 1360 - TOPICS IN 20TH CENTURY LIT
- ENGLIT 1370 - MAKERS OF MODERN DRAMA
- ENGLIT 1372 - CONTEMPORARY DRAMA
- ENGLIT 1380 - WORLD LITERATURE IN ENGLISH
- ENGLIT 1587 - UTOPIAN LITERATURE
- ENGLIT 1607 - ADVANCED SHORT STORY
- ENGLIT 1645 - CRITL APPRCH TO CHILDREN'S LIT
- ENGLIT 1704 - WOMEN NOVELISTS
- ENGLIT 1756 - BALLADS AND BLUES
- ENGLIT 1738 - IRISH LITERATURE
- ENGLIT 1772 - ADOPTION LITERATURE

Additional information and requirements

- A minimum grade of C or better (not C-) is required in a 0500-level writing course to advance to the first 1000-level course in that track. Students who earn less than a C in their first 1000-level course may not advance to other courses in that track. Moreover, students must earn a C or better (not C-) grade in their senior seminar or internship course.
- Students are encouraged to take additional writing and literature courses beyond the required minimum. Courses in film studies, women's studies, business, and technical writing are particularly useful for English writing majors.
- The Writing Program recommends related areas in second languages, literature in translation, or linguistics; a related area in history or political science is appropriate for students concentrating in journalism.
- Completion of at least one composition course is required for enrollment in a writing program course.
- ENGWRT 0400 - INTRO TO CREATIVE WRITING and ENGWRT 0411 - INTRO TO CREATIVE NONFICTION are optional introductory courses and may be taken during the second year by students who have recently declared a major in writing, are seriously considering writing as a major, or are taking their first 0500-level course. ENGWRT 0400 can only count as an elective towards the Writing degree if taken before ENGWRT 0520 or ENGWRT 0530. Likewise, ENGWRT 0411 may be taken as an elective before ENGWRT 1330 (Nonfiction I).
- There is no limit on the number of courses English majors may take on an S/NC basis, either inside or outside the department.
- English writing majors automatically fulfill Dietrich School requirements for W courses. Students pursuing a second major are required to complete an additional W course for that major.
- Students who contemplate graduate study in English should remember that many schools do require second language competence, sometimes in more than one language.

The English department confers honors on those graduates who maintain a 3.25 overall GPA with a GPA of 3.50 or better in English department courses. The GPA is based on all English department courses, not just those that fulfill major requirements.

Minor

Creative Writing Minor

As one of the oldest writing programs in the United States, the Writing Program at the University of Pittsburgh has an excellent record of not only producing talented creative writers but also developing the writing skills of undergraduates who go on to work in a variety of professions, including journalism, education, law, and publishing. The minor in Creative Writing fulfills a need that is different from the Certificate in Professional Writing,

with its particular focus on writing in business, non-profit, and legal environments, and the Writing Major, which requires a more substantial commitment of time and study.

Before declaring the minor in Creative Writing, students must complete an English Composition course (ENGCMP 0200, ENGCMP 0203, ENGCMP 0205, ENGCMP 0207, or ENGCMP 0208) to develop the skills necessary for effectively reading and writing at the college level. Students must take ENGWRT 0400 - INTRO TO CREATIVE WRITING.

This minor requires students to complete 18 credits of coursework as follows.

One of the following groups of courses.

Fiction

- ENGWRT 0520 - INTRO TO FICTION WRITING
- ENGWRT 1010 - INTERMEDIATE FICTION
- ENGWRT 1094 - READINGS IN CNTMPRY FICTION

Poetry

- ENGWRT 0530 - INTRODUCTION TO POETRY WRITING
- ENGWRT 1210 - POETRY WORKSHOP
- ENGWRT 1290 - READINGS IN CNTMPRY POETRY

Nonfiction

- ENGWRT 0610 - INTRO JOURNALISM & NONFICTION
- ENGWRT 1330 - INTERMEDIATE NONFICTION
- ENGWRT 1390 - READINGS IN CNTMPRY NON-FICTN

Two of the following courses.

- ENGWRT 0520 - INTRO TO FICTION WRITING
- ENGWRT 0530 - INTRODUCTION TO POETRY WRITING
- ENGWRT 0610 - INTRO JOURNALISM & NONFICTION
- ENGWRT 1090 - MASTERING POINT OF VIEW
- ENGWRT 1091 - AUTOBIOG & CREATIVE IMPULSE
- ENGWRT 1092 - WRITER'S JOURNALS
- ENGWRT 1093 - DEVELOPMENT OF A WRITER
- ENGWRT 1095 - TOPICS IN FICTION
- ENGWRT 1293 - TOPICS IN POETRY
- ENGWRT 1399 - TOPICS NON-FICTION: NEWSPAPER
- ENGWRT 1401 - TOPICS NON-FICTION: MAGAZINE
- ENGWRT 1402 - STRUCT/TECHNQS CREATV NONFCTN
- ENGWRT 1403 - TOPC NON-FCTN:ELECTRNC MEDIA
- ENGWRT 1650 - PLAYWRITING 1

English Literature Minor

An undergraduate minor in English literature would help students in a variety of majors to represent significant expertise they have accrued in this field on their transcripts. The structure of the minor will also help direct students with a significant interest in English literature to sequences and sets

of courses that are designed to develop their interest; they can take a mini-curriculum rather than just a smattering of electives. A minor in English literature is a desirable supplement to many degrees across the Dietrich School because it provides insights into cultural traditions and practices, develops students' abilities to write analytic arguments, and promotes critical thinking.

The minor consists of 18 credits and comprises the following courses.

- ENGLIT 0505 - HOW TO DO THINGS WITH LIT 1
- ENGLIT 0506 - HOW TO DO THINGS WITH LITERATURE 2
- Two elective courses at the 0500-level or above
- Two elective courses at the 1000-level or above
- ENGLIT 1900 - PROJECT SEMINAR is recommended but not required.

Film Studies Program

While film studies is not a department, it is an interdisciplinary program and an administrative unit offering both a major and a minor in film studies. Film is one of the major cultural forms of the 20th century, and its study has become an important part of a modern humanities education. At the University of Pittsburgh, the Film Studies Program provides a series of interdisciplinary courses concerning the history, aesthetics, theory, and production of cinema. The program provides courses in critical studies and (by special arrangement with Pittsburgh Filmmakers in Oakland) courses in film, photography, and video production. A major in film studies helps students to understand and appreciate the cinematic medium and to be aware of its impact as a cultural and artistic force. It is also appropriate for students who wish to pursue careers in film teaching, film journalism, film museum curatorial work, film library and archival work, and film and television production. As part of the Film Studies Program, internships are made available to students in many of these fields. (In the past, students have done internships at the Carnegie Museum of Art, the Pittsburgh Film Office, Pittsburgh Filmmakers, and various television stations.)

Various options are available to students interested in film studies. For those students who wish to make film studies the primary focus of their undergraduate program, it is possible to pursue an interdisciplinary major in film studies. For those students who wish to major in another area but desire a focus in film studies, a minor in film studies is available. In addition, many students choose to take elective courses in film studies as part of their undergraduate curriculum.

For more information on the film studies major, see www.filmstudies.pitt.edu/.

Major

Film Studies, BA

Required Courses

The major in film studies major requires the completion of 36 credits distributed as follows.

Two Critical Studies Courses, Normally Taken First

- ENGFLM 0530 - FILM ANALYSIS or
- HAA 0801 - FILM ANALYSIS

- ENGFLM 0540 - WORLD FILM HISTORY or
- HAA 0820 - WORLD FILM HISTORY

One Advanced Seminar, Normally Taken in the Senior Year

- ENGFLM 1920 - ADVANCD SEMINR IN FILM STUDIES

One Production Course, Chosen from the Following

- FILMST 0001 - MOTION PICTURE FUNDAMEMTALS
- FILMST 0200 - BLACK AND WHITE PHOTOGRAPHY 1
- FILMST 0400 - INTRO TO DIGITAL EDITING

At Least Two Courses in Category 1: National Cinemas, Filmmakers

A current Category 1 list from which students can choose their courses is available through the Film Studies Advising office.

At Least Two Courses in Category 2: Themes, Genres, Theory

A current Category 2 list from which students can choose their courses is available through the Film Studies Advising office.

Four Additional Elective Courses to Complete the Major

Additional Rules and Requirements

- ENGFLM 0530 and ENGFLM 0540 or their equivalents should be completed prior to taking any production courses, any 1000-level film courses, and before declaring the major.
- At least five courses that count toward the major must be taken at the 1000 level.
- No more than five production courses may be counted toward the major, although additional production courses can be taken as electives toward graduation.
- Only one three-credit internship can be counted in the production category toward the major.
- For those students taking three or fewer production courses, two courses within the major may be taken in approved related courses in other departments within Arts and Sciences.
- At least 50% of the major courses must be taken at the University of Pittsburgh.
- A minimum GPA of 2.0 in departmental courses is required for graduation.
- No more than three courses that count toward the major can be taken on an S/NC basis.
- Students must complete at least one W-course in the major.
- Common related areas of study completed by film studies majors to fulfill the Arts and Sciences (12-credit) related area requirement are English writing, English or second language literature, history of art and architecture, and history.

Film studies courses fall into three categories. A current list of courses falling into each category is available through the film studies advising office.

- Category 1: National Cinemas, Filmmakers
- Category 2: Themes, Genres, Theory
- Category 3: Film, Photography, Video Production

Note: All courses in Category 3 are offered by special arrangement through Pittsburgh Filmmakers. Enrollment in these classes will be limited to those whose tuition is covered by Arts and Sciences. They will be distributed on a first-come, first-served basis, first to full-time Arts and Sciences students, all of whom must be in good academic standing. To apply for a seat in a Pittsburgh Filmmakers course, students must preregister with the film studies office in room 624 of the Cathedral of Learning two weeks before the first day of Arts and Sciences registration. Failure to attend the first class of the term will mean automatic loss of the seat. Students will not be permitted to take more than one course per term.

Minor

Film Studies Minor

Required Courses

Two Critical Studies Courses

- ENGFLM 0530 - FILM ANALYSIS or
- HAA 0801 - FILM ANALYSIS

- ENGFLM 0540 - WORLD FILM HISTORY or
- HAA 0820 - WORLD FILM HISTORY

Four Elective Courses

Electives must be taken from at least two of the three categories listed. No more than two courses can be taken from Category III.

Note:

Only one elective course for the minor can be taken on an S/NC basis. Half of the courses for the minor must be taken at Pitt. Students pursuing the minor must meet with the film studies advisors to check their progress. Courses taken at other schools must be approved.

Department of French and Italian Languages and Literature

A major in French and/or Italian gives students at the University of Pittsburgh the opportunity to study a second language in detail and to acquire an education in a literary and cultural tradition central to the humanities. Studying French and/or Italian language and literature prepares students for graduate study in law and international affairs; advanced work in the humanities; and careers in business, governmental service, and teaching. The University is committed to international study, and students are encouraged to take advantage of the numerous opportunities to study abroad. Students can also combine a major in French and/or Italian with a second major in a field such as political science, history, biology, or economics. Students who choose to study the grammar, linguistics, rhetoric, literature, and film of Italy and/or the Francophone world will acquire an invaluable technical resource and an in-depth knowledge of a diverse and foundational intellectual tradition. Students may also minor in French and/or Italian. For more information on the Department of French and Italian Languages and Literatures, see our Web site at www.frenchanditalian.pitt.edu.

Major

French, BA

General Requirements for both French and Italian Majors

The following requirements apply to both French and Italian majors:

- Students are required to maintain at least a 2.00 GPA in major courses.
- Students may choose courses from three areas: language, literature, and civilization.
- Reading competency in at least one other language is recommended for students interested in graduate school.
- To earn departmental honors, students must major in French or Italian, demonstrate superior performance in departmental courses, and be enrolled in 1000-level French/Italian courses preferably no later than the first term of the junior year. Selection of honors candidates takes place only in the second term of the junior year. During the senior year, two appropriate sequential courses are chosen in consultation with the major advisor, and a research paper must be completed. The paper must be defended before a faculty committee. Honors will be determined by the quality of the paper and the defense, as well as the cumulative grades in all departmental courses counting toward the major.

Requirements

Majors in French must have completed two years of college work or the equivalent before beginning core courses. The French major consists of at least 31 credits above the intermediate level. Elementary and intermediate French language courses (FR 0001 through FR 0004) do not count toward the major. Required credits follow.

- FR 0020 - FRANCE IN THE 21ST CENTURY
- FR 0021 - APPRCHES TO FRENCH LITERATURE
- FR 0027 - THE FRENCH ATLANTIC
- FR 0055 - FRENCH CONVERSATION
- FR 0056 - WRITTEN FRENCH 1
- FR 0058 - ADVANCED FRENCH CONVERSATION

Note:

Majors are expected to take one credit of FR 0058 - ADVANCED FRENCH CONVERSATION, but they may take two additional credits of the course as a nonmajor elective.

In addition to the basic requirements

the following criteria must be met by French majors:

- Once the basic requirements are met, students will, in consultation with their advisor, design a program that corresponds to their needs, but they must take an additional 15 credits at the 1000 level. Twelve credits must be in courses taught in French.
- French majors may take one course above 0004, in addition to 0058, on an S/NC option.
- Although study abroad is not a requirement for the major in French, students are strongly encouraged to consider participating in a study-abroad program in a French-speaking country during their undergraduate career.
- Students must complete at least one W course within the major.

The Dietrich School requires 12 credits in a related area to be chosen in consultation with the program advisor. This requirement can also be met by completing an official minor in another area.

Italian Language and Literature, BA

General Requirements for both French and Italian Majors

The following requirements apply to both French and Italian majors:

- Students are required to maintain at least a 2.00 GPA in major courses.
- Students may choose courses from three areas: language, literature, and civilization.
- Reading competency in at least one other language is recommended for students interested in graduate school.
- To earn departmental honors, students must major in French or Italian, demonstrate superior performance in departmental courses, and be enrolled in 1000-level French/Italian courses preferably no later than the first term of the junior year. Selection of honors candidates takes place only in the second term of the junior year. During the senior year, two appropriate sequential courses are chosen in consultation with the major advisor, and a research paper must be completed. The paper must be defended before a faculty committee. Honors will be determined by the quality of the paper and the defense, as well as the cumulative grades in all departmental courses counting toward the major.

Requirements

Majors in Italian Language and Literature, after one year of college instruction in the language, may enroll in ITAL 0003 - INTERMEDIATE ITALIAN 1 for credit toward the major. The major consists of at least 33 credits above elementary Italian. ITAL 0001 and ITAL 0002 Elementary Italian 1 and 2, which do not count toward the major and must include the following courses:

- ITAL 0003 - INTERMEDIATE ITALIAN 1
- ITAL 0004 - INTERMEDIATE ITALIAN 2
- ITAL 0055 - ITALIAN CONVERSATION & CULTURE
- ITAL 0080 - ITALIAN CULTURAL HERITAGE 1 *
- ITAL 0081 - ITALIAN CULTURAL HERITAGE 2 *

- Five 1000-level elective courses at least three of which must be taught in Italian. No more than two of these courses may be taught in English.

Note:

* Because ITAL 0080 and ITAL 0081 have no prerequisites and are taught in English, the department recommends that students interested in an Italian major take those courses as early in their studies as possible.

In addition to those basic course requirements

the following criteria apply to Italian majors:

- Two courses in the 1080 or 1050 series (courses taught in English) may be counted toward the major if the student completes a specified part of the work in Italian.
- A minimum GPA of 2.0 in departmental courses is required for graduation.
- Majors may not take any courses on the S/NC basis.
- A 12-credit related area may be chosen from humanities and social sciences including a second language, linguistics, history, English, history of art and architecture, communication, music, and political science, or another subject as arranged with the major advisor.
- Students must complete at least one W course within the major. ITAL 0060, ITAL 0061, and ITAL 1041 fulfill this requirement.

Italian Studies, BA

General Requirements for both French and Italian Majors

The following requirements apply to both French and Italian majors:

- Students are required to maintain at least a 2.00 GPA in major courses.
- Students may choose courses from three areas: language, literature, and civilization.
- Reading competency in at least one other language is recommended for students interested in graduate school.
- To earn departmental honors, students must major in French or Italian, demonstrate superior performance in departmental courses, and be enrolled in 1000-level French/Italian courses preferably no later than the first term of the junior year. Selection of honors candidates takes place only in the second term of the junior year. During the senior year, two appropriate sequential courses are chosen in consultation with the major advisor, and a research paper must be completed. The paper must be defended before a faculty committee. Honors will be determined by the quality of the paper and the defense, as well as the cumulative grades in all departmental courses counting toward the major.

Requirements

The Italian Studies Major promotes the cross-discipline exploration of a variety of areas relating to Italian and Italian American culture: language, literature, theater, cinema, art and architecture, music, history, social and immigration history, politics and political theory, history and philosophy of science, classical studies, and religious studies. The major consists of at least 33 credits above elementary Italian (ITAL 0001 and ITAL 0002 Elementary Italian 1 and 2, which do not count toward the major) and must include the following courses.

- ITAL 0003 - INTERMEDIATE ITALIAN 1
- ITAL 0004 - INTERMEDIATE ITALIAN 2
- ITAL 0055 - ITALIAN CONVERSATION & CULTURE

One of the following courses

- ITAL 0060 - LITERARY ITALIAN 1
- ITAL 0061 - LITERARY ITALIAN 2

One of the following courses

- ITAL 0080 - ITALIAN CULTURAL HERITAGE 1
- ITAL 0081 - ITALIAN CULTURAL HERITAGE 2

Six additional courses

Six additional courses, which can be taught either in Italian or English. At least three of these elective courses must be at the 1000-level, and at least two of them must be courses offered by the Italian program. The remaining courses can be selected from an approved list of other departments' offerings. Italian Studies majors are encouraged to continue their study of the Italian language to the greatest extent possible.

Minor

French Minor

Requirements for French and Italian Minors

The French and Italian department offers four tracks within its minor offerings: French language and literature, French studies, Italian language and literature, and Italian studies. Each minor also offers requirement options.

Requirements

Students can complete the minor in French with five courses chosen from the following list. Only one of the courses may be taught in English. Students whose programs will include two or more courses taught in English should declare the French Studies minor.

15 credits:

- FR 0003 - INTERMEDIATE FRENCH 1
- FR 0004 - INTERMEDIATE FRENCH 2
- FR 0006 - SPECIAL TOPICS IN CONVR & CULT
- FR 0020 - FRANCE IN THE 21ST CENTURY
- FR 0021 - APPRCHES TO FRENCH LITERATURE
- FR 0027 - THE FRENCH ATLANTIC
- FR 0055 - FRENCH CONVERSATION
- FR 0056 - WRITTEN FRENCH 1
- FR 0057 - WRITTEN FRENCH 2
- FR 0081 - FRENCH THEATRE
- Four French electives on literary, cultural, or linguistic topics taught in French (FR 1000 through FR 1079)
- FR 1084 - POLITICS IN MODERN FR LITRATUR
- FR 1085 - WOMEN'S VOICES IN FRENCH LIT
- FR 1088 - SPECIAL TOPICS
- FR 1089 - FRANCOPHONE AFRCNA LITERATURE

One of the following

- FR 0080 - MODERN FRENCH NOVEL
- FR 0085 - FRENCH FILM 1930-1960

Note:

Minors may not take any courses on the S/NC basis.

French Studies Minor

Requirements for French and Italian Minors

The French and Italian department offers four tracks within its minor offerings: French language and literature, French studies, Italian language and literature, and Italian studies. Each minor also offers requirement options.

Requirements

Students can complete the minor in French Studies with five courses chosen from the following list.

15 credits:

- FR 0003 - INTERMEDIATE FRENCH 1
- FR 0004 - INTERMEDIATE FRENCH 2
- FR 0006 - SPECIAL TOPICS IN CONVR & CULT
- FR 0020 - FRANCE IN THE 21ST CENTURY
- FR 0021 - APPRCHES TO FRENCH LITERATURE
- FR 0027 - THE FRENCH ATLANTIC
- FR 0055 - FRENCH CONVERSATION
- FR 0056 - WRITTEN FRENCH 1
- FR 0057 - WRITTEN FRENCH 2
- Three electives on literary and cultural topics taught in English or French (FR 0080 through FR 0089)
- Four electives on literary and cultural topics taught in English or French (FR 1000-FR 1096)

Note:

Minors may not take any courses on the S/NC basis.

Italian Minor

Requirements for French and Italian Minors

The French and Italian department offers four tracks within its minor offerings: French language and literature, French studies, Italian language and literature, and Italian studies. Each minor also offers requirement options.

Requirements

Any combination of five courses from the following list.

- ITAL 0001 - ELEMENTARY ITALIAN 1
- ITAL 0002 - ELEMENTARY ITALIAN 2
- ITAL 0003 - INTERMEDIATE ITALIAN 1
- ITAL 0004 - INTERMEDIATE ITALIAN 2
- ITAL 0055 - ITALIAN CONVERSATION & CULTURE
- ITAL 0060 - LITERARY ITALIAN 1
- ITAL 0061 - LITERARY ITALIAN 2

- ITAL 0080 - ITALIAN CULTURAL HERITAGE 1
- ITAL 0081 - ITALIAN CULTURAL HERITAGE 2
- ITAL 0087 - FOOD FOR THOUGHT
- ITAL 0088 - ITALIAN AMERICA ON SCREEN
- ITAL 1030 - ADVANCED COMPOSITION
- ITAL 1032 - INT TO ITALIAN LINGUISTICS
- ITAL 1041 - ITALIAN THEATRICAL WORKSHOP
- ITAL 1059 - SPEC TOPICS IN 20THC ITAL LIT
- ITAL 1060 - SPECIAL TOPICS
- ITAL 1061 - DANTE 1
- ITAL 1062 - DANTE 2
- ITAL 1064 - NOVEL
- ITAL 1065 - SONGS OF THE ITALIAN SELF
- ITAL 1066 - EPIC POETRY
- ITAL 1067 - ITALIAN THEATER
- ITAL 1068 - ITALIAN NOVELLA
- ITAL 1069 - LITERATURE INTO FILM
- ITAL 1070 - LITERATURE AND POLITICS
- ITAL 1079 - INTRO TO HOLOCAUST LITERATURE
- ITAL 1080 - MASTERPIECES OF ITALIAN PROSE
- ITAL 1081 - DANTE'S DIVINE COMEDY
- ITAL 1082 - ITALIAN RENAISSANCE LITERATURE
- ITAL 1083 - MODERN ITALIAN LITERATURE
- ITAL 1085 - DANTE, PETRARCH, AND BOCCACCIO
- ITAL 1086 - ITALIAN THEATER IN ENGLISH
- ITAL 1087 - FASCISM AND RESISTANCE
- ITAL 1088 - TOPICS ITALIAN AMERCN STUDIES
- ITAL 1089 - SPECIAL TOPICS
- ITAL 1090 - INTRO TO TRANSLATION STUDIES
- ITAL 1092 - CAPSTONE ITALIAN TRANSLATION

Note:

Minors may not take any courses on the S/NC basis.

Department of Gender, Sexuality, and Women's Studies

The Gender, Sexuality, and Women's Studies program at the University of Pittsburgh is committed to promoting feminist and LGBTQIA activism, pedagogy, and scholarship that engage with the larger local, national, and global communities. Program offerings provide opportunities for students and faculty to explore the historical development, cultural variations, and changing representations of gender and sexuality as they organize identities, interactions, and institutions and intersect in complex ways with sex, race, class, ethnicity, ability, age, religion, and nation.

Certificate in Gender, Sexuality, and Women's Studies

The Gender, Sexuality, and Women's Studies program is an interdisciplinary academic program focusing on gender, sexuality, and women. Gender, Sexuality, and Women's Studies (GSWS) courses and cross-listed courses in various departments across the university provide opportunities for all students to broaden their understandings of the changing role of gender in the United States and globally. Students who want to explore the intersection of gender with race, class, ethnicity, nation, religion, ability, age, sex and sexuality will find courses of interest, as will students who want to know more about the role of women in history, in literature and the arts, in media and science. Students who plan careers in medicine, the

creative arts, social work, education, counseling, law, therapy, academia, and business find that this program's courses enhance their professional activities. Still others report that the confidence and insight that they acquire in such courses enriches their lives regardless of their particular career goals. For more information, please visit the Gender, Sexuality, and Women's Studies Program in 401 Cathedral of Learning or online at www.gsws.pitt.edu.

Major

Gender, Sexuality, and Women's Studies, BA

Major Requirements

The goals of this major are: to educate undergraduate students in the analysis and understanding of gender as a knowledge base and critical lens through which to read critically; to write and conduct research in disciplinary and interdisciplinary contexts; to begin to connect academic work with broader community interests; and to prepare students for graduate school and professional lives. The interdisciplinary nature of this major makes it ideal for students who wish to add breadth and depth to their studies in other disciplines. This major requires 30 credits, distributed as follows.

Core courses

- GSWS 0100 - INT TO GENDER, SEXTY, & WOMNST
- GSWS 0500 - INTRO TO FEMINIST THEORY
- GSWS 0550 - SEX AND SEXUALITIES

Two elective courses

choose one from each of the following groups

Group A

- GSWS 0200 - SEX, RACE, & POPULAR CULTURE
- GSWS 0210 - Wired Women
- GSWS 0220 - Contemporary Issues and Arguments
- GSWS 0350 - SPECIAL TOPICS IN GSWS

Group B

- AFRCNA 0454 - MAN/WOMAN LITERATURE
- ANTH 0768 - HUMAN SEXUALITY IN CROS CULTUR
- ENGCMP 0203 - SEM CMPSTN: GENDER STUDIES
- ENGLIT 0610 - WOMEN AND LITERATURE
- ENGLIT 0630 - SEXUALITY AND REPRESENTATION
- FR 0012 - FRENCH KISS
- GSWS 1140 - SPECIAL TOPICS
  - Pitt in China, Pitt in London, etc.
- GSWS 1900 - INTERNSHIP (junior or senior only)
- PSY 0184 - PSYCHOLOGY OF GENDER
- SOC 0436 - SOCIAL ASPECTS OF SEXUALITY
- SOC 0446 - SOCIOLOGY OF GENDER
- Any course officially cross-listed with GSWS (check course offerings each semester for options)

Four upper-level courses

choose two from each group

Group A

- GSWS 1140 - SPECIAL TOPICS
- GSWS 1150 - GLOBAL FEMINISMS
- GSWS 1160 - RACE, GENDER, AND CLASS
- GSWS 1170 - QUEER THEORY
- GSWS 1180 - POLITICS OF GENDER AND FOOD
- GSWS 1190 - MASCULINITIES
- GSWS 1235 - LANGUAGE, GENDER AND SOCIETY
- GSWS 1450 - GENDER AND SUSTAINABILITY

Group B

- ADMJ 1242 - GENDER, RACE, CLASS, AND CRIME
- AFRCNA 1309 - WOMN OF AFRC & AFRCN DIASPORA
- ANTH 1738 - GENDER PERSPECTIVES IN ANTHRO
- COMMRC 1148 - RHETORIC AND HUMAN RIGHTS
- COMMRC 1160 - VISUAL RHETORIC
- ENGFLM 1703 - GENDER AND FILM
- ENGLIT 1704 - WOMEN NOVELISTS
- FR 1085 - WOMEN'S VOICES IN FRENCH LIT
- HIST 1560 - WOMEN IN LATIN AMER HISTORY
- HIST 1662 - TOPICS IN WOMEN'S HISTORY
- LEGLST 1315 - SEX, LAW AND MARRIAGE
- MUSIC 1398 - WOMEN & MUSIC CROS-CULTL PERSP
- PS 1622 - WOMEN AND POLITICAL THEORY
- PSY 1110 - PSYCHLGCL ASPCT HUMN SEXUALITY
- RELGST 1648 - GENDER & THE JEWISH TRADITION
- SOC 1413 - MARRIAGE
- SOC 1448 - WORKING WOMEN
- Any 1000-level course officially cross-listed with GSWS (check course offerings each semester for options)

Capstone

- GSWS 1910 - CAPSTONE

Grade requirements

A minimum GPA of 2.0 is required in those courses that count toward the major. Students must also have a minimum GPA of 2.0 in all GSWS courses. Students may have no more than six credits overlap with another major or certificate.

Writing (W) requirement

Students must complete at least one writing-intensive (W) course with the GSWS subject designation. Check the Course Descriptions Web site (www.courses.as.pitt.edu) each term for writing-intensive course options.

Related area

A minimum of 12 credits is required in any one Dietrich School department or in a thematic cluster chosen in consultation with the major advisor. The completion of an official Dietrich School minor or a Dietrich School or UCIS certificate also satisfies this requirement.

Certificate

Gender, Sexuality, and Women's Studies Certificate

The Gender, Sexuality, and Women's Studies program is an interdisciplinary academic program focusing on gender, sexuality, and women. Gender, Sexuality, and Women's Studies (GSWS) courses and cross-listed courses in various departments across the university provide opportunities for all students to broaden their understandings of the changing role of gender in the United States and globally. Students who want to explore the intersection of gender with race, class, ethnicity, nation, religion, ability, age, sex and sexuality will find courses of interest, as will students who want to know more about the role of women in history, in literature and the arts, in media and science. Students who plan careers in medicine, the creative arts, social work, education, counseling, law, therapy, academia, and business find that this program's courses enhance their professional activities. Still others report that the confidence and insight that they acquire in such courses enriches their lives regardless of their particular career goals. For more information, please visit the Gender, Sexuality, and Women's Studies Program in 401 Cathedral of Learning or online at www.gsws.pitt.edu.

Requirements

Please consult the Gender, Sexuality and Women's Studies Undergraduate Advisor to plan your program of study.

A minimum of 18-credits, completed with an overall GPA of 2.00 is required, as follows:

- GSWS 0100 - INT TO GENDER, SEXTY, & WOMNST
- One of the following, though students are encouraged to take both courses
- GSWS 0500 - INTRO TO FEMINIST THEORY
- GSWS 0550 - SEX AND SEXUALITIES
- Three elective courses from at least two different academic departments. GSWS may count as one of these programs. Courses must be approved for GSWS credit; consult the Course Descriptions Web site, www.courses.as.pitt.edu, for current listings
- At least one 1000-level course with a GSWS subject; a cross-listed course **will not** fulfill this requirement.

Department of Geology and Environmental Science

The Department of Geology and Planetary Science studies the Earth and how it works. The earth is a fascinating natural system that supports many interactions between the solid earth, oceans, atmosphere, life, and various solar system objects. The primary goal of our geology and environmental geology majors (both BS programs) is a scientific understanding of these natural systems and their significant and sometimes surprising variations over geologic time. In addition, these students often seek a solid scientific grounding in earth resources and environmental problems. Our popular environmental studies major (a BA program) focuses on the economic, political, and legal issues that conspire to either cause or prevent the solution of environmental problems. Our programs are popular with people who love nature, who want to understand how the earth works, and who want to understand the many dimensions of modern environmental issues. For more information on our programs, please visit www.geology.pitt.edu.

Major

Environmental Science, BS

Environmental Science aims to understand every aspect of modern and ancient Earth. A degree in environmental science provides the diverse skills required to work in many different employment settings. For example, the acquired scientific and mapping skills are great for jobs in parks and forestry management, museum work, science education, urban and suburban planning, and jobs that involve natural resource issues. Within the field of geology, environmental and geotechnical jobs exist for people with BS degrees. A master's degree provides better job opportunities in those fields, as well as in oil and gas exploration, which can be enormously rewarding both intellectually and financially. A PhD provides additional employment

options, especially in universities and government labs. Internships enable students to meet potential employers, learn about real world opportunities, and sample different types of work.

Geology deploys an interdisciplinary mix of physics, chemistry, biology, math, and natural science to understand the mysteries of nature. It focuses on the solid Earth (rocks, minerals, mountain belts, volcanoes, earthquakes, sedimentary basins, oil and gas deposits, etc.) as well as the history of life (paleontology) and its impact on the Earth. In recent decades, geologists have become increasingly concerned with the history of the Earth's climate, how the physical and chemical behavior of the oceans has changed over time, and how drifting continents and evolving life have interacted to control the composition of the atmosphere and oceans and hence to control global climate. Geologists also examine how human activities affect our environment, including the quality of air, water, and soil.

Geology majors have hiked the Appalachian Trail, gone backpack camping with at-risk youth in the Utah deserts, bicycled across North America, plumbed the depts. Of unexplored caves, and traveled to Mongolia in pursuit of summer research. Geology majors take a six week summer field camp that features extensive hiking in the western U.S., Italy, New Zealand, or other places around the world. To see whether environmental science is a good major for you try a geology class (GEOL 0040, GEOL 0800, or GEOL 0860) and the Physical Geology Lab (GEOL 0055). Make sure you are comfortable with the required biology, chemistry, math, and physics courses.

The Environmental Science major requires completion of at least 63 credits, as follows.

Core courses required for the major

One of the following courses

- GEOL 0800 - GEOLOGY
- GEOL 0820 - NATURAL DISASTERS
- GEOL 0860 - ENVIRONMENTAL GEOLOGY

All of the following courses

- GEOL 0055 - GEOLOGY LABORATORY
- GEOL 1015 - GEOLOGY COLLOQUIUM
- GEOL 1030 - THE ATMOSPHERE, OCEANS & CLMTE
- GEOL 1051 - GROUNDWATER GEOLOGY
- GEOL 1060 - GEOMORPHOLOGY
- GEOL 1445 - GIS, GPS, AND COMPUTER METHODS
- GEOL 1515 - ENVIRONMENTAL GEOCHEMISTRY
- GEOL 1904 - DIRECTED READING

One of the following capstone courses

- GEOL 1903 - UNDERGRADUATE RESEARCH
- GEOL 1910 - UNDERGRADUATE THESIS
- GEOL 1960 - FIELD CAMP
- Research Experiences for Undergraduates

Co-requirements for the major

All of the following courses

- CHEM 0110 - GENERAL CHEMISTRY 1
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)

Three of the following courses

- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1 and
- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1

- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2 and
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2

- CHEM 0120 - GENERAL CHEMISTRY 2
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
- STAT 1000 - APPLIED STATISTICAL METHODS

Geology electives

Students must complete nine credits of GEOL at the 1000 level or above. A list of eligible courses follows. Courses indicated by an asterisk (*) are recommended for Environmental Science majors.

- GEOL 0060 - HISTORY OF THE EARTH
- GEOL 1001 - MINERALOGY
- GEOL 1003 - IGNEOUS & METAMORPHIC PETROLGY
- GEOL 1020 - SEDIMENTOLOGY AND STRATIGRAPHY
- GEOL 1052 - PALEOCLIMATOLOGY
- GEOL 1055 - ENVRL ETHCS, SCI & PBLC POLCY
- GEOL 1056 - UHC ENV ETHCS, SCI & PBLC POLC
- GEOL 1100 - STRUCTURAL GEOLOGY
- GEOL 1201 - INVERTEBRATE PALEONTOLOGY
- GEOL 1240 - EVOLUTION OF THE VERTEBRATES
- GEOL 1309 - PHYSICOCHEMICAL GEOLC LIMN
- GEOL 1313 - COM ENVIRONMNTAL PROFESSIONALS
- GEOL 1331 - HEALTH AND SAFETY (HAZWOPER)
- GEOL 1410 - EXPLORATION GEOPHYSICS
- GEOL 1446 - ADV GEOGRAPHICAL INFORMTN
- GEOL 1460 - INTRODUCTION TO REMOTE SENSING
- GEOL 1701 - GEOLOGY OF THE PLANETS
- GEOL 1900 - INTERNSHIP
- GEOL 1901 - INDEPENDENT STUDY
- GEOL 1903 - UNDERGRADUATE RESEARCH
- GEOL 1904 - DIRECTED READING
- GEOL 1XXX Other upper-level class in GEOL, approved by the major advisor
- GEOL 2054 - SOILS: GEOBIOCHEMICAL LANDSCAPES
- GEOL 2525 - STABLE ISOTOPE GEOCHEMISTRY
- GEOL 2853 - WATERSHED HYDROLOGY AND BIOGEOCHEMISTRY
- GEOL 2XXX Graduate level GEOL class, instructor permission required

Other Requirements

Grades: Students must maintain a minimum GPA of 2.0 in departmental courses to graduate with a BS degree in Environmental Science

Satisfactory/No Credit: No GEOL course that counts toward the major can be taken on an S/NC basis. No more than two of the non-geological science courses that count toward the major may be taken on an S/NC basis.

Writing requirement: Students must complete at least one writing-intensive (W) course in the major.

Related area: A minimum of 12 credits is required in any one Dietrich School department chosen in consultation with the major advisor. The completion of an official Dietrich School minor or certificate or a UCIS certificate also satisfies this requirement.

Environmental Studies, BA

Rapid growth in human population and development has led to complex environmental problems on local and global scales. The way in which we address these issues will have a profound effect on our society and planet in the coming century. Enlightened solutions require a strong component of scientific knowledge and an awareness of the relevant societal issues. A major in environmental studies will equip students with an understanding of earth systems and the environment, including the role of geologic processes on human activity and the impact of humans on the biosphere, atmosphere, hydrosphere, and global climate. Courses in the natural and social sciences supplement a traditional liberal arts curriculum to provide a comprehensive, interdisciplinary background in the scientific, economic, political, and social aspects of human interaction with the environment.

The environmental studies major provides a strong background for students who seek careers in fields such as resource development and management, environmental policy and regulation, risk assessment, land use planning, public policy, and education. Potential employers include local, state, or federal government organizations; consulting firms; or companies that are affected by environmental issues or regulations. Graduates of the Environmental Studies Program can also pursue postgraduate study in fields such as business, law, medicine, public policy, education, international relations, urban and regional planning, environmental management, and public health.

Major Requirements

The major consists of core courses, co-requirements, and electives. The core courses provide a fundamental understanding of environmental processes, issues, and policy and culminate in an environmental science field course and an interdisciplinary capstone course on science and public policy. The co-requirements provide the necessary background for advanced study. Majors are encouraged to undertake an independent research project, internship, or senior thesis.

Core courses required for the major include the following (33 credits):

- GEOL 0030 - ATMOSPHERE, OCEANS, AND CLIMATE
- GEOL 0055 - GEOLOGY LABORATORY
- GEOL 1313 - COM ENVIRONMNTAL PROFESSIONALS
- GEOL 1515 - ENVIRONMENTAL GEOCHEMISTRY
- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- LEGLST 1320 - LAW AND ENVIRONMENT

One of the following courses

- GEOL 0040 - PHYSICAL GEOLOGY
- GEOL 0800 - GEOLOGY
- GEOL 0840 - ENVIRONMENTAL SCIENCE
- GEOL 0860 - ENVIRONMENTAL GEOLOGY

One of the following courses

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY
- ECON 0120 - INTRODUCTORY ECONOMIC THEORY
- ECON 0800 - INTRODUCTION TO ECONOMICS

One of the following options

- EOH 2180 - INTRODUCTION TO RISK SCIENCES and
- EOH 2181 - RISK ASSESSMENT PRACTICUM

- HPS 0611 - PRINCPL OF SCIENTIFIC REASNING

One of the following courses

- GEOL 1055 - ENVRL ETHCS, SCI & PBLC POLCY
- GEOL 1056 - UHC ENV ETHCS, SCI & PBLC POLC

Environmental field course:

(at least 2 credits from one of the following)

- BIOSC 0740 - YELLOWSTONE FIELD COURSE *

Note:

* This requirement can be satisfied by taking any BIOSC course offered at the Pymatuning Ecology Laboratory or an approved environmental science field course offered through an outside institution. In either case, the substituted course must have a credit value of not less than two credits.

Environmental Internship course

- GEOL 1900 - INTERNSHIP , 3 or 4 credits

Co-requirements (12 credits):

- CHEM 0110 - GENERAL CHEMISTRY 1

One of the following options

- MATH 0125 - CALCULUS FOR BUSINESS 1 and
- MATH 0126 - CALCULUS FOR BUSINESS 2

- MATH 0120 - BUSINESS CALCULUS
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

One of the following courses

- STAT 0200 - BASIC APPLIED STATISTICS
- STAT 1000 - APPLIED STATISTICAL METHODS
- STAT 1100 - STAT & PROBLTY FOR BUS MGT

Electives (24 credits) in one of the following fashions:

- 12 credits in the social sciences and humanities
- 12 credits in the natural sciences and engineering

Note:

*See the advisor for list of approved courses.

Environmental studies majors automatically fulfill the Dietrich School related area requirement. Three elective credits may be earned through independent study projects or internships.

Geology, BS

Major Course Requirements

Core courses required for a geology major (67 credits):

- GEOL 0055 - GEOLOGY LABORATORY
- GEOL 0060 - HISTORY OF THE EARTH
- GEOL 1001 - MINERALOGY
- GEOL 1003 - IGNEOUS & METAMORPHIC PETROLGY
- GEOL 1020 - SEDIMENTOLOGY AND STRATIGRAPHY
- GEOL 1100 - STRUCTURAL GEOLOGY
- GEOL 1960 - FIELD CAMP
- GEOL 3900 - TOPICS IN GEOLOGY: COLLOQUIUM
- Nine credits in GEOL elective courses at the 1000 level or above

One of the following

- GEOL 0040 - PHYSICAL GEOLOGY
- GEOL 0800 - GEOLOGY
- GEOL 0860 - ENVIRONMENTAL GEOLOGY

Corequirements

- CHEM 0110 - GENERAL CHEMISTRY 1
- CHEM 0120 - GENERAL CHEMISTRY 2
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2 or
- MATH 0235 - HONORS 1 - VARIABLE CALCULUS

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

One of the following

- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
- MATH 0250 - MATRIX THEORY & DIFFT EQUATNS
- STAT 1000 - APPLIED STATISTICAL METHODS

Other Requirements

Grades: Students must maintain a minimum GPA of 2.0 in departmental courses to graduate with a BS degree in Environmental Science

Satisfactory/No Credit: No GEOL course that counts toward the major can be taken on an S/NC basis. No more than two of the non-geological science courses that count toward the major may be taken on an S/NC basis.

Writing requirement: Students must complete at least one writing-intensive (W) course in the major.

Related area: A minimum of 12 credits is required in any one Dietrich School department chosen in consultation with the major advisor. The completion of an official Dietrich School minor or certificate or a UCIS certificate also satisfies this requirement.

Certificate

Geographic Information Systems Certificate

The Geology and Planetary Science Department offers a Certificate in Geographic Information Systems (GIS). GIS is a computer-based system that accommodates virtually any type of information about features that are referenced by geographical location. For example, a GIS database may include both location and attribute data, providing a spatial visualization capability for analyzing descriptive characteristics about geographical features, both natural and manmade. One of the most important benefits of GIS analysis is the ability to spatially interrelate multiple types of information stemming from a range of sources. Such computational manipulation of geographic data has become increasingly important in many areas of science, government, and industry. Students who demonstrate experience with computers in general, and GIS/image processing in particular, are at a distinct advantage when looking for jobs in geology, environmental science, city and regional planning, and engineering. This certificate is designed to provide students with the knowledge and skills needed for immediate success in GIS-related jobs.

Requirements

The program is open to any University of Pittsburgh student, including post-baccalaureate students (professionals seeking to expand their job-related computer skills). Approximately four terms (two academic years) will be required to complete this certificate program. It is therefore suggested that undergraduates begin no later than their junior year. A grade of C or better is required in all courses for successful completion of the certificate. GIS topics covered include the nature of geographic data, map projections, raster images, the basic elements of a GIS database, sources of data, and training in the Arc/Info software package. Students also have the option of focusing on remote sensing theory and applications. Remote sensing (RS) topics include image analysis and processing; field validation of satellite and airborne datasets; GPS training; and the use of software packages such as ENVI, Erdas Imagine, ERMapper, and Trimble's Pathfinder Office.

Required core courses (6 credits):

- GEOL 1445 - GIS, GPS, AND COMPUTER METHODS or
- GEOL 2449

- GEOL 1460 - INTRODUCTION TO REMOTE SENSING

Note:

Two elective courses may be chosen that have special relevance to the student's major or employment goals. Appropriate courses will be available from many different departments. Courses not on the following list may be selected contingent on approval by the certificate advisor.

Suggested elective courses (6 credits):

Lower level:

- GEOL 0030 - WORLD PHYSICAL GEOGRAPHY
- GEOL 0820 - NATURAL DISASTERS

1000 level:

- GEOL 1060 - GEOMORPHOLOGY
- BIOSC 1044 - ECOLOGICAL MANAGEMENT SUMMER FIELD COURSE, prerequisites

- INFSCI 1022 - DATABASE MANAGEMENT SYSTEMS , prerequisites or
- INFSCI 1030 - INFORMATN STORAGE & RETRIEVAL , prerequisites

2000 level:

- GEOL 2446 - ADVANCED GIS SYSTEMS COMPUTER METHODS, prerequisites
- GEOL 2460 - APPLIED REMOTE SENSING AND GPS TECHNIQUES, prerequisites

Independent Study (4 credits):

Students must demonstrate proficiency in the application of the techniques by completing a project under the supervision of a faculty advisor. Sufficient work must be performed to earn four independent study or directed research credits. Faculty from any department may serve as the advisor, but students are encouraged to work with faculty in their primary area of interest. Projects must use GIS and/or RS as a major tool and result in a published report/map/CDROM that describes the results of the research.

Department of German

The study of second language and culture is a cornerstone of education in today's international world. It teaches intercultural competence by increasing students' understanding of their own backgrounds and their sensitivity for other traditions and values. Knowledge of a second language and culture brings obvious competitive advantages in careers with an international dimension. As a liberal arts discipline, the study of language improves analytic-conceptual and communication skills necessary for all professional careers. Enhanced with appropriate additional course work, a major in German serves as a foundation for professional training in such subjects as business, law, politics, and medicine, as well as the media and communication industry. Students with a BA in German compete well in nontechnical fields for jobs requiring a bachelor's degree. For more information on the major, the minor, the certificate, and the Department of Germanic Languages and Literatures, see www.german.pitt.edu.

Major

German Language and Cultural Studies, BA

Requirements

The German major can be completed by any student who begins GER 0001 - ELEMENTARY GERMAN 1 during the fall term of the freshman year. The curriculum integrates language learning with the study of history, politics, and popular as well as elite culture. Students acquire proficiency in the German language as well as an in-depth understanding of the German-speaking world. The German major requires 12 credits of advanced language, 18 credits in literature and culture, and one credit for GER 1990 - SENIOR THESIS for a total of 31 credits as follows:

Required advanced language courses (12 credits)

- GER 1000 - READING LITERARY TEXTS
- GER 1001 - GERMAN WRITING
- GER 1101 - ADVANCED GERMAN 1-MEDIA
- GER 1102 - ADVANCED GERMAN 2: STRUCTURES

Required literature and culture courses (18 credits)

- GER 1051 - INTRO TO LITERARY ANALYSIS
- GER 1052 - THE MAJOR CULTURAL PERIODS
- GER 1053 - MAJOR CULTURAL PERIODS 2
- Four advanced literature and culture seminars from GER 1200-1399. Courses numbered in the 1500s (German literature and culture courses in English) may be used in this category only in exceptional cases and with the permission of the director of undergraduate studies.

Senior Seminar (1 credit)

- GER 1990 - SENIOR THESIS - to be taken in the fall term of the senior year in conjunction with one of the three seminars

Additional rules and requirements for German majors are as follows:

- A 2.00 GPA is required in major courses to be counted toward the degree.
- Majors may take required courses under the S/NC option only by special permission of the director of undergraduate studies.
- Admission to the German major requires a grade of B- or better in GER 0004 - INTERMEDIATE GERMAN 2.
- The A&S departmental writing requirement is satisfied by GER 1001 - GERMAN WRITING.
- The director of undergraduate studies must approve all courses that are to count as a student's required 12-credit A&S related area. These credits may be taken from another discipline (e.g., art history, economics, chemistry) or from an interdisciplinary field (e.g., film studies or women's studies).
- Departmental honors in German are available to majors who have earned an overall GPA of at least a 3.50 in their major courses, completed a senior thesis that has been accepted by the departmental faculty, and demonstrated a high level of proficiency in speaking and writing German. Only those students with a 3.25 GPA in three advanced literature and culture courses and three advanced language courses will be permitted to write an honors thesis.
- Students are encouraged to study and reside in a German-speaking country as a component of the German major. Numerous possibilities exist for such study, and financial aid is often available.

Minor

German Studies Minor - German Language, Literature, and Film Option

Requirements

The minor in German studies consists of 15-19 credits. Students who are interested in the minor may tailor their course selection according to their interest in German language, literature, and film studies. They may select literature and film courses that are offered either in English translation or in German. The two options within the minor are as follows:

German Language, Literature, and Film Option (15-19 credits)

Students must complete the following requirements:

Two semesters of German language acquisition courses

including:

- GER 0001 - ELEMENTARY GERMAN 1 and
- GER 0002 - ELEMENTARY GERMAN 2
  or
- GER 0101 - BEGINNING GERMAN 1 and
- GER 0102 - BEGINNING GERMAN 2 and
- GER 0103 - BEGINNING GERMAN 3

Three, 3-credit courses

Three, 3-credit courses offered by the department as either German literature, culture, or film courses in German (numbered 1051-1410) or as German literature, culture, or film courses in English (numbered 1500-1542)

German Language (19 credits)

- GER 0001 - ELEMENTARY GERMAN 1
- GER 0002 - ELEMENTARY GERMAN 2
- GER 0003 - INTERMEDIATE GERMAN 1
- GER 0004 - INTERMEDIATE GERMAN 2 - students must pass this course with a minimum grade of B- before taking any 1000-level German courses

1000-level course in German, chosen from the following list

- GER 1000 - READING LITERARY TEXTS
- GER 1001 - GERMAN WRITING
- GER 1003 - PROFESSIONAL GERMAN 1
- GER 1004 - PROF GERMAN 2: GER BUS WRLD
- GER 1051 - INTRO TO LITERARY ANALYSIS
- GER 1052 - THE MAJOR CULTURAL PERIODS
- GER 1053 - MAJOR CULTURAL PERIODS 2

Note:

Students may use appropriate study abroad credit toward the German studies minor. The credits must be pre-approved by the department's director of undergraduate studies. The department also offers a German language certificate. For details and requirements on this certificate, please see the A&S Certificate Programs section of this bulletin.

German Studies Minor - German Literature and Film Option

Requirements

The minor in German studies consists of 15-19 credits. Students who are interested in the minor may tailor their course selection according to their interest in German language, literature, and film studies. They may select literature and film courses that are offered either in English translation or in German. The two options within the minor are as follows:

German Literature and Film Option (15 credits)

Students must complete five 3-credit courses offered by the department as either literature, culture, or film courses in German (numbered 1051-1410) or as German literature, culture, or film courses in English (numbered 1500-1542).

German Language (19 credits)

- GER 0001 - ELEMENTARY GERMAN 1
- GER 0002 - ELEMENTARY GERMAN 2
- GER 0003 - INTERMEDIATE GERMAN 1
- GER 0004 - INTERMEDIATE GERMAN 2 - students must pass this course with a minimum grade of B- before taking any 1000-level German courses

1000-level course in German, chosen from the following list

- GER 1000 - READING LITERARY TEXTS
- GER 1001 - GERMAN WRITING
- GER 1003 - PROFESSIONAL GERMAN 1
- GER 1004 - PROF GERMAN 2: GER BUS WRLD
- GER 1051 - INTRO TO LITERARY ANALYSIS
- GER 1052 - THE MAJOR CULTURAL PERIODS
- GER 1053 - MAJOR CULTURAL PERIODS 2

Note:

Students may use appropriate study abroad credit toward the German studies minor. The credits must be pre-approved by the department's director of undergraduate studies. The department also offers a German language certificate. For details and requirements on this certificate, please see the A&S Certificate Programs section of this bulletin.

Certificate

German Language Certificate - German for Liberal Arts Track

German Language Certificate

The Certificate in German Language consists of 18 credits of German courses and prepares students for international careers, internationally recognized proficiency exams, and internships in German-speaking countries.

Requirements

The certificate offers two tracks: one for the liberal arts and one for professional purposes. Courses should be taken in sequence.

German for the Liberal Arts

The following courses should be taken, in sequence, by students in this track:

- GER 0003 - INTERMEDIATE GERMAN 1
- GER 0004 - INTERMEDIATE GERMAN 2 with a minimum grade of B- before taking any course in the GER 1000-level experience

Two of the following:

- GER 1000 - READING LITERARY TEXTS
- GER 1001 - GERMAN WRITING
- GER 1002 - GERMAN PHONETICS

One of the following:

- GER 1101 - ADVANCED GERMAN 1-MEDIA
- GER 1102 - ADVANCED GERMAN 2: STRUCTURES
  One of the GER 1200-1399 seminars taught in German

One of the GER 1200-1400 seminars taught in German

Note:

Nine credits may be transferred from study abroad programs in German-speaking countries in accordance with the credit transfer policy of the University of Pittsburgh. These credits have to be pre-approved by the director of undergraduate studies.

A minimum GPA of 2.0 is required in each course that counts toward the certificate. No course that counts toward the certificate can be taken on an S/NC basis unless the student received special permission from the Director of Undergraduate Studies.

For more information, visit www.german.pitt.edu/undergraduate/certificate.php

German Language Certificate - German for Professional Purposes Track

German Language Certificate

The Certificate in German Language consists of 18 credits of German courses and prepares students for international careers, internationally recognized proficiency exams, and internships in German-speaking countries.

Requirements

The certificate offers two tracks: one for the liberal arts and one for professional purposes. Courses should be taken in sequence.

German for Professional Purposes

The following courses should be taken, in sequence, by students in this track:

- GER 0003 - INTERMEDIATE GERMAN 1
- GER 0004 - INTERMEDIATE GERMAN 2
- GER 1003 - PROFESSIONAL GERMAN 1
- GER 1004 - PROF GERMAN 2: GER BUS WRLD
- GER 1101 - ADVANCED GERMAN 1-MEDIA
  GER 1102 - Structures

Note:

Nine credits may be transferred from study abroad programs in German-speaking countries in accordance with the credit transfer policy of the University of Pittsburgh. These credits have to be pre-approved by the director of undergraduate studies.

A minimum GPA of 2.0 is required in each course that counts toward the certificate. No course that counts toward the certificate can be taken on an S/NC basis unless the student received special permission from the Director of Undergraduate Studies.

For more information, visit www.german.pitt.edu/undergraduate/certificate.php

Department of Hispanic Languages and Literatures

The study of a second language, literature, and culture like Spanish traditionally has been one of the central components of an undergraduate education in the humanities. Today there is an added practical dimension to this. With economic and cultural globalization, our links as a nation with Spain and Latin America, including Brazil, have become much closer. At the same time, Spanish is not only a second language for us; it has become much like French in Canada, a de facto second language in the United States, which now has a Spanish-speaking population of more than 30 million. As a result, there is a growing demand for persons trained in Spanish (and also Portuguese) in many fields, especially education, where there is a shortage of new teachers of Spanish language and culture.

The undergraduate **major in Spanish** at the University of Pittsburgh offers a balanced combination of courses designed to strengthen oral and written language skills, and courses that introduce students to the study of Spanish and Latin American literatures and cultures. Majors also have the opportunity to enroll in the **minor in Portuguese Language and Luso-Brazilian cultures**, thereby opening channels of communication with millions of people around the world, including Brazil, Latin America's largest and most heavily populated country. Students with a more general interest in Latin American languages and cultures can choose to minor in Hispanic Languages and Literatures.

In all cases, we encourage students to include at least a semester of study abroad in a Spanish- or Portuguese-speaking country and we offer study-abroad programs. Students interested in going on to graduate school should strongly consider the honors major; those who want to teach Spanish can obtain teacher certification through the School of Education. The department also offers courses taught in English for non-majors interested in Hispanic, Latin American, Luso-Brazilian, or U.S. Latino cultures. Students can also take advantage of the **non-curricular** activities organized by the department, which include conversation clubs and films series.

Departmental Honors requirements

Especially for students interested in graduate work, the department offers honors in the major, which requires:

- a 3.5 average in departmental courses and 3.0 overall
- a senior thesis of 25-30 pages, written under the supervision of a faculty member close to the field of the thesis
- at least a semester of study abroad is strongly recommended but not required

Students should declare their intention to pursue the honors major no later than at the beginning of their senior year. The thesis will be evaluated by the advisor and two other faculty members in the department. Students may take an independent study with their supervisor that will fulfill the requirement of one upper level course. For further information, consult with the director of undergraduate studies

Teacher Certification

Students who plan to teach Spanish after completing the major should consult with their advisor or the director of undergraduate studies in the department, as well as with the advisors for Pennsylvania Teaching Certification and Masters of Arts in Teaching Programs in the School of Education (Maggie Sikors, mjs 169@pitt.edu, 5504 Posvar Hall, 412-648-7413).

Study Abroad Options for Majors in the Hispanic Languages and Literatures Department

Students are strongly encouraged to add an international dimension to their undergraduate education through studying abroad. By participating in a study abroad program, students earn credits toward their degree. The department offer four programs that are matched directly with major and minor requirements. Information on some of the programs follow.

Study abroad is strongly encouraged. The department offers four programs that are matched directly with major and minor requirements. Information on some of the programs follows.

- Study abroad in Alcalá de Henares, Spain (30 minutes from Madrid) runs every odd-numbered year; for more information, send an e-mail to alcala@pitt.edu.
- Study abroad in Santiago de Chile runs every even-numbered years; for more information, send an e-mail to chile@pitt.edu.
- Study abroad in Porto Alegre, Brazil runs every year; for more information, send an e-mail to brazilsa@pitt.edu.
- Study abroad in Havana, Cuba runs every year; for more information, contact the Study Abroad Office (www.abroad.pitt.edu) via e-mail abroad@pitt.edu or by phone at 412-648-7419.

Major

Spanish, BA

Major requirements

Prerequisites

Before declaring the major, students must complete four Spanish language courses in order to gain the indispensable skills to effectively read, write and discuss in a second language. Students with any previous knowledge of Spanish must take a placement test. Please note that *a grade of B+ or higher in SPAN 0004 is required to declare the major.* The Spanish major requires students to complete 38 credits of coursework as detailed below.

Required Courses

Basic Level

- SPAN 0020 - CONVERSATION
- SPAN 0025 - GRAMMAR AND COMPOSITION

Mid Level

- SPAN 0050 - SPANISH CIVILIZATION
- SPAN 0055 - INTRO HISPANIC LITERATURE 1
- SPAN 1400 - SURVEY LATIN AMERCN LITERATURE
- SPAN 1600 - SURVEY OF SPANISH LITERATURE
- SPAN 1300-level course
- PORT 0001 - ELEMENTARY PORTUGUESE 1

Upper Level

- SPAN 1806 - CAPSTONE SEMINAR

Three electives

Three electives from the SPAN 1400, SPAN 1600, SPAN 1700, and SPAN 1800 level course series, or PORT 0002 - ELEMENTARY PORTUGUESE 2 of you are pursuing the Portuguese minor or related area. These courses include, for example, Colonial Literatures and Cultures, Latin American Novel, U.S. Latino Literature and Film, African Presence in Hispanic Literature and Culture, Don Quixote, Modern Spanish Novel and Film, etc. Note that SPAN 1400, SPAN 1600, and PORT 1010 do not count toward the Spanish major.

Additional information and requirements

- **Related area:** Students must complete a 12-credit related area in order to fulfill Dietrich School graduation requirements. Students interested in Latin America should consider the Latin American Studies Certificate program for a related area.
- **W requirement:** SPAN 0055 - INTRO HISPANIC LITERATURE 1 satisfies this requirement.
- **Grade requirements:** Students must maintain an average GPA of 2.0 or above in all department courses. No courses with a grade of C- or lower will count toward the major.
- **Satisfactory/No-Credit option:** Majors may take one required course on an S/NC basis.
- **Language of instruction:** Spanish majors can take up to one curse offered by the department that is taught in English. In order to have it count toward minor requirements, written assignments must be submitted in Spanish.
- **Study Abroad:** At least one term of study abroad is recommended.
- **Credits in residence:** To complete the Spanish major, students are required to take at least half of the credits required for the major while in residence in the Dietrich School.
- **Placement into language courses:** For the Spanish placement test, please contact the Spanish Language Coordinator, Carlos Ramírez, cramirez@pitt.edu. For the Portuguese placement test, please contact the Portuguese Language Coordinator, Ana Paula Carvalho, apcst11@pitt.edu.
- **Credit by examination:** Students may receive credit by examination for the Spanish language courses up to and including SPAN 1025 - ADVANCED GRAMMAR. Similar credits may be earned in Portuguese.

Double majors, dual degrees and CLAS certificates

Students who have declared an additional major or pursue a dual degree need not to take SPAN 1301. The same rule applies to students taking the CLAS Field Trip to Latin America. Only one course reduction applies if a student meets more than one of these criteria.

Minor

Portuguese and Luso-Brazilian Culture Minor

Before declaring the Portuguese minor, students are required to complete PORT 0001 - ELEMENTARY PORTUGUESE 1 or PORT 1001 - ELEMENTARY PORTUGUESE 1 or take a placement test.

Required courses

- PORT 0002 - ELEMENTARY PORTUGUESE 2 or
- PORT 1002 - ELEMENTARY PORTUGUESE 2

- PORT 0003 - INTERMEDIATE PORTUGUESE 3 or
- PORT 1003 - INTERMEDIATE PORTUGUESE 3

- PORT 0004 - INTERMEDIATE PORTUGUESE 4 or
- PORT 1004 - INTERMEDIATE PORTUGUESE 4

- PORT 0020 - CONVERSATION
- PORT 0025 - GRAMMAR AND COMPOSITION

Spanish Minor

Before declaring the Spanish minor, students must complete four Spanish language courses in order to gain indispensable skills to effectively read, write, and discuss in a foreign language. Students with previous Spanish experience are encouraged to take a placement exam. Students must earn a grade of B+ or higher in SPAN 0004 to declare this minor.

Prerequisite courses

- SPAN 0001 - ELEMENTARY SPANISH 1
- SPAN 0002 - ELEMENTARY SPANISH 2
- SPAN 0003 - INTERMEDIATE SPANISH 3
- SPAN 0004 - INTERMEDIATE SPANISH 4

Required courses

- SPAN 0020 - CONVERSATION
- SPAN 0025 - GRAMMAR AND COMPOSITION
- SPAN 0050 - SPANISH CIVILIZATION
- SPAN 1300-level

Two of the following courses

- Any SPAN 1400-level course except SPAN 1400
- Any SPAN 16-level course except SPAN 1600
- Any SPAN 1700-level course
- Any SPAN 1800-level course

Department of History

Historians use methods, techniques, and ideas from a wide range of humanistic and social scientific fields to teach students how materials from many fields are integrated to describe or explain a particular historical time period or topic. History is an open-ended discipline, and the department welcomes students, as well as ideas and techniques, from other subjects. History also gives a student many options for a future career. Many history majors have become lawyers, journalists, civil servants, and business executives. The future of a history major is not limited to college or school teaching, although these are also available career choices. Expanding opportunities are to be found in public and private agencies, in businesses, archives, historical societies, museums, and government offices. History courses may help students to develop a balanced program that will further their career and intellectual goals. Courses in economics and history could lead to an understanding of economic development and aid a business or civil service career; a combination of language, literature, and history would give a student background that could lead to a career in foreign service or teaching; a mixture of communication and writing with history might prepare one for a career in journalism. In short, students in practically any field can investigate questions that are intellectually exciting and personally helpful by taking history courses related to their programs and ambitions. For more information on the major, the minor, or the Department of History, visit http://www.history.pitt.edu/.

Major

History, BA

Major Requirements

Majors in history must complete a minimum of 30 credits in history courses, including the following:

- Required core courses (15 credits)
- One course in pre-1500 history
- One course in Latin American, Asian, East European, Russian and Soviet, African, or Middle Eastern history
- Required focused area of study (12 credits)

One survey course in U.S. history from the following list:

- HIST 0600 - UNITED STATES TO 1877
- HIST 0601 - UNITED STATES 1865-PRESENT
- HIST 0670 - AFRO-AMERICAN HISTORY 1
- HIST 0671 - AFRO-AMERICAN HISTORY 2

One survey course in European history from the following list:

- HIST 0100 - WESTERN CIVILIZATION 1
- HIST 0101 - WESTERN CIVILIZATION 2
- HIST 0200 - EAST EUROPE CIVILIZATION
- HIST 1240 - POLITICAL EAST EUROPE

One required seminar for majors

- HIST 1000 - CAPSTONE SEMINAR

- HIST 1001 - INTRODUCTORY SEMINAR

Note:

Majors must take four courses beyond the core courses. These courses will be selected by the student with the help of a faculty member or the undergraduate advisor to form a focused area of study. Such areas may be chronological, geographic, or thematic and normally should be declared during the junior year. Many students choose a geographical focus, e.g., History of the Americas or Europe; however students are encouraged to discuss with their advisors or faculty concentrations based on their own grouping together of four courses.

- One additional history course

In addition to those course requirements, the following rules and requirements apply for history majors:

- Students must earn at least a 2.00 overall GPA in history courses.
- Fifteen credits must be in courses numbered 1000 or above.
- Majors may take a total of 9 credits for the major on an S/NC basis (formerly the S/N option). HIST 1000 - CAPSTONE SEMINAR or HIST 1001 - INTRODUCTORY SEMINAR may not be taken S/NC (formerly the S/N option).
- Students may earn up to 9 credits in history on a credit-by-examination basis; arrangements can be made by contacting the instructor of the course involved.
- Students must complete an A&S 12-credit related area; economics, sociology, political science, statistics, or computer science are suggested.
- History majors are strongly encouraged to add an international dimension to their undergraduate education by studying abroad.
- Students interested in graduate study in history should be aware that all graduate departments of history require proficiency in at least one second language and that many require competence in two languages for a PhD.
- The honors program consists of the regular major plus 6 extra credits. Students apply for the honors program in their sophomore year and should have completed 12 credits in history, have a 3.35 GPA overall and a 3.50 in history, and submit a piece of writing for approval by the Undergraduate Committee. There are four elements to the honors program:
    - The special honors seminar, HIST 1902 - WRIT: HISTORY HONORS SEMINAR; this is separate from and in addition to the required seminar for majors
    - One University Honors College history course
    - An independent study (HIST 1901)
    - The completion and acceptance of a 25-50 page honors thesis
    - No grade below B is acceptable to fulfill the honors requirements.

Internships for History Credit

History majors may do an internship for 3 credits (HIST 1900) in a local museum in either the fall or spring semesters. Contact the history academic advisor for information.

Study Abroad

Each year the department offers a scholarship for study abroad. Applications for the A. J. Schneider Award are due by February each year. Contact the history undergraduate advisor for more information.

Minor

History Minor

Minor Requirements

The history minor consists of two lower-level courses followed by three upper-level courses, for a total of 15 credits. The two lower-level (survey) courses may be in the same geographical area or in two different areas. For example, courses may be chosen from among the following:

- HIST 0100 - WESTERN CIVILIZATION 1
- HIST 0101 - WESTERN CIVILIZATION 2
- HIST 0200 - EAST EUROPE CIVILIZATION
- HIST 1240 - POLITICAL EAST EUROPE
- HIST 0300 - RUSSIA TO 1860
- HIST 0301 - RUSSIA TO 1917
- HIST 0400 - EAST ASIAN CIVLIZATION TO 1800
- HIST 0401 - MODERN EAST ASIAN CIVILIZATION
- HIST 0500 - COLONIAL LATIN AMERICA
- HIST 0501 - MODERN LATIN AMERICA
- HIST 0600 - UNITED STATES TO 1877
- HIST 0601 - UNITED STATES 1865-PRESENT
- HIST 0670 - AFRO-AMERICAN HISTORY 1
- HIST 0671 - AFRO-AMERICAN HISTORY 2

Note:

Normally, the three upper-level courses should be chosen from the geographic area of one of the survey courses already taken.

Department of History of Art and Architecture

Art, like science or language, is an intrinsically human way of organizing our experience of the world. Because it appeals to a fundamental sense of order, art can speak to us with immediacy even without knowledge of the purposes for which it was created and the particular principles or order adhered to by the artists of a given culture. Still deeper understanding may follow, however, from an awareness of these purposes and principles, and courses in art history are concerned with the study of art and architecture as cultural documents of the values and ideals of various cultures. Art history offers an opportunity to consider objects and environments that have been created in response to some of humanity's loftiest and most basic aims. The requirement that these visual expressions be analyzed and evaluated in the medium of words makes art history a rewarding area of humanistic study. The major in the history of art and architecture offered by the HAA department helps prepare individuals for careers calling for skills in writing, where description and analysis play important roles, as well as for careers more immediately related to art, such as those of critic, teacher, librarian, art administrator, or museum or gallery staff member.

The architectural studies major, also administered by the HAA department, offers a curriculum devoted to the study of human-made environments. The major components include history of architecture, studio arts, and a core curriculum that includes a survey of the history of architecture, the history of architecture theory, a professional internship, and a portfolio. The degree is suitable for a wide variety of careers and professions including the design and construction of the built environment, such as landscape architecture, interior design, restoration, historic preservation, real estate development, and contracting. These interests can be categorized in two groups:

- The preprofessional studies category prepares students for graduate professional training in any of the environmental design fields (architecture, interior design, landscape design, urban planning, and preservation). Students are able to explore a professional interest while acquiring a liberal arts education.
- The nonprofessional studies category is for students not interested in becoming professional architects. This program offers a rigorous curriculum that assists students in exploring their interest in environmental arts and criticism and provides an understanding of the environment's integral relationship with society and culture.

Students of both categories should be fully aware that this degree in architectural studies does not in itself constitute professional or technical training. Students seeking recommendations to graduate professional programs in architecture must complete a number of natural science courses in addition to those focused on architecture and design. Proficiency in calculus is required for students seeking a career in architecture. The department strongly recommends that students successfully complete at least one term of college level calculus (MATH 0220 or equivalent) before graduation.

For more information on these majors and the History of Art Architecture department, see www.haa.pitt.edu.

Architectural Studies Major

This major offers students two options - the Design track and the Preservation Track.

Major

Architectural Studies - Design Track Studio Arts Concentration, BA

Requirements

The Design track requires completion of 48 credits with an additional 9 credits in a Studio Arts concentration.

Architectural Studies courses

- HAA 0940 - APPROACHES TO BUILT ENVIRNMNT
- HAA 1040 - ARCH: IMAGE, TEXT, THEORY
- HAA 1900 - ARCHTCTRL STUDIES INTERNSHIP
- HAA 1912 - ARCHITECTURE & DIGITAL MEDIA 1
- HAA 1913 - FOUNDATIONS STUDIO 1 *
- HAA 1914 - ARCHITCTR AND DIGITAL MEDIA 2
- HAA 1916 - ARCHITECTURE DESIGN STUDIO 1
- HAA 1917 - ARCHITECTURE DESIGN STUDIO 2

Note:

* This course will carry six credits as of spring 2016 term.

+ Effective spring 2015 term, a grade of C or better is required in HAA 1913 to enroll in this course.

Physics course

- PHYS 0110 - Introduction to Physics 1

History of Art and Architecture courses

- HAA 0040 - INTRO TO WESTERN ARCHITECTURE
- HAA 0480 - MODERN ARCHITECTURE
- Two additional HAA courses in architectural history

Required Studio Arts Concentration

- SA 0130 - DRAWING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1
- SA 1430 - DRAWING STUDIO: PERSPECTIVE

Other Requirements and Recommendations for Architectural Studies majors

- A GPA of at least 2.00 in all department courses is required for graduation with a major in Architectural Studies. A minimum GPA of 2.75 is required for an internship, and a minimum of 3.0 is required for those seeking a recommendation for graduate school. Students who plan to apply to graduate school should maintain a minimum GPA of 3.25.
- Only HAA 1900 - ARCHTCTRL STUDIES INTERNSHIP may be taken on an S/NC basis.

- Students must complete at least one writing-intensive course (W-course) in the major. Each track has a W-course in its requirements - HAA 1040 for the Design track, and HAA 1922 for the Preservation track.
- Students who plan to major in Architectural Studies should contact the departmental advisor as early in their college career as possible to discuss the recommended course sequence for each track, course availability, and entry into restricted classes.
- Proficiency in calculus is required for students seeking a career in architecture. It is highly recommended that students successfully complete at least one semester of college-level calculus (MATH 0220) before they graduate.

Architectural Studies - Preservation Track History of Urban America Concentration, BA

Requirements

The Preservation track requires completion of 39 credits with an additional 12 credits in a proscribed related area in either the History of Urban America or Public Service.

History of Art and Architecture courses

- HAA 0040 - INTRO TO WESTERN ARCHITECTURE
- Two additional HAA courses in architectural history

One of the following courses

- HAA 1530 - EARLY AMERICAN ARCHITECTURE
- HAA 1531 - AMER ARCH SINCE INDSTRLZTN

Architectural Studies courses

- HAA 0940 - APPROACHES TO BUILT ENVIRNMNT
- HAA 1900 - ARCHTCTRL STUDIES INTERNSHIP
- HAA 1912 - ARCHITECTURE & DIGITAL MEDIA 1
- HAA 1913 - FOUNDATIONS STUDIO 1 *

Note:

* This course will carry six credits as of spring 2016 term.

Preservation courses

- HAA 1920 - INTRO TO HISTORIC PRESERVATION
- HAA 1921 - DOCUMENTATION AND CONSR STUDIO
- HAA 1922 - PRESERVATION - TEXTS & THEORY

Required Concentration

Every Preservation track major must select either the History of Urban America or Public Service. See www.arch.pitt.edu/prorgram/preservation_track.php for a detailed discussion of the coursework for each.

Other Requirements and Recommendations for Architectural Studies majors

- A GPA of at least 2.00 in all department courses is required for graduation with a major in Architectural Studies. A minimum GPA of 2.75 is required for an internship, and a minimum of 3.0 is required for those seeking a recommendation for graduate school. Students who plan to apply to graduate school should maintain a minimum GPA of 3.25.
- Only HAA 1900 - ARCHTCTRL STUDIES INTERNSHIP may be taken on an S/NC basis.
- Students must complete at least one writing-intensive course (W-course) in the major. Each track has a W-course in its requirements - HAA 1040 for the Design track, and HAA 1922 for the Preservation track.
- Students who plan to major in Architectural Studies should contact the departmental advisor as early in their college career as possible to discuss the recommended course sequence for each track, course availability, and entry into restricted classes.
- Proficiency in calculus is required for students seeking a career in architecture. It is highly recommended that students successfully complete at least one semester of college-level calculus (MATH 0220) before they graduate.

Architectural Studies - Preservation Track Public Service Concentration, BA

Requirements

The Preservation track requires completion of 39 credits with an additional 12 credits in a proscribed related area in either the History of Urban America or Public Service.

History of Art and Architecture courses

- HAA 0040 - INTRO TO WESTERN ARCHITECTURE
- Two additional HAA courses in architectural history

One of the following courses

- HAA 1530 - EARLY AMERICAN ARCHITECTURE
- HAA 1531 - AMER ARCH SINCE INDSTRLZTN

Architectural Studies courses

- HAA 0940 - APPROACHES TO BUILT ENVIRNMNT
- HAA 1900 - ARCHTCTRL STUDIES INTERNSHIP
- HAA 1912 - ARCHITECTURE & DIGITAL MEDIA 1
- HAA 1913 - FOUNDATIONS STUDIO 1 *

Note:

* This course will carry six credits as of spring 2016 term.

Preservation courses

- HAA 1920 - INTRO TO HISTORIC PRESERVATION
- HAA 1921 - DOCUMENTATION AND CONSR STUDIO
- HAA 1922 - PRESERVATION - TEXTS & THEORY

Required Concentration

Every Preservation track major must select either the History of Urban America or Public Service. See www.arch.pitt.edu/prorgram/preservation_track.php for a detailed discussion of the coursework for each.

Other Requirements and Recommendations for Architectural Studies majors

- A GPA of at least 2.00 in all department courses is required for graduation with a major in Architectural Studies. A minimum GPA of 2.75 is required for an internship, and a minimum of 3.0 is required for those seeking a recommendation for graduate school. Students who plan to apply to graduate school should maintain a minimum GPA of 3.25.
- Only HAA 1900 - ARCHTCTRL STUDIES INTERNSHIP may be taken on an S/NC basis.
- Students must complete at least one writing-intensive course (W-course) in the major. Each track has a W-course in its requirements - HAA 1040 for the Design track, and HAA 1922 for the Preservation track.
- Students who plan to major in Architectural Studies should contact the departmental advisor as early in their college career as possible to discuss the recommended course sequence for each track, course availability, and entry into restricted classes.
- Proficiency in calculus is required for students seeking a career in architecture. It is highly recommended that students successfully complete at least one semester of college-level calculus (MATH 0220) before they graduate.

History of Art and Architecture - Honors Major Option, BA

Option Requirement

Students electing the HAA standard 36-credit program who have at least a 3.50 overall GPA and a 3.50 GPA in HAA may qualify for departmental honors by enrolling in and completing HAA 1950 - SENIOR THESIS (as one of their required 1000-level courses) with a grade of A- or higher and completing HAA 1951 - HONORS RESEARCH SEMINAR. These two courses can be applied toward the 1000-level requirements for the major. This track is especially recommended for students planning to apply to graduate programs in the history of art architecture or related fields.

Other Requirements and Recommendations for HAA majors

- A GPA of at least 2.00 in all department courses is required for graduation with a major in HAA.
- Any of the following may prove useful for the required 12-credit Dietrich School related area: ancient or modern languages, philosophy (particularly aesthetics), cultural and intellectual history, studio arts, music, anthropology, sociology, and psychology of perception.
- There is no language requirement beyond that required by Dietrich School, but a reading competency in a second language is desirable for some field course readings. Graduate programs in the history of art and architecture also require fluency in at least one second language for admission to their programs. If a student's high school language preparation does not provide this competency, he or she should consult the art history advisor concerning preferred languages.
- With the exception of HAA 1901, HAA 1903, HAA 1904, and HAA 1919, courses for the major should not be taken with the S/NC option.

History of Art and Architecture, BA

Students whose only official major is History of Art and Architecture need to complete a total of 36 credits.

Core Courses

- HAA 0010 - INTRODUCTION TO WORLD ART
- HAA 0101 - FOUNDATIONS OF ART HISTORY
- HAA 0102 - PROSEM FOR UG MAJS IN ART HIST *
- HAA 1010 - APPROACHES TO ART HISTORY

Note:

* This course must be taken twice.

Nine additional courses, as follows

Students pursuing a second major may reduce this requirement to six courses but must fulfill the Breadth Requirements.

Breadth Requirements

Students must take at least one class from each of the following areas.

- Ancient art across the globe
- Asian art
- European art before 1750
- Modern and Contemporary art
- Comparative and World art

Four courses at the 1000-level. Students pursuing a second major may reduce this requirement to two course.

Studio Arts

Students may elect to take one of the following courses toward completion of their HAA major

- SA 0110 - VISUAL THINKING
- SA 0120 - PAINTING STUDIO 1
- SA 0130 - DRAWING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1
- SA 0180 - DIGITAL STUDIO: PHOTOGRAPHY

Other Requirements and Recommendations for HAA majors

- A GPA of at least 2.00 in all department courses is required for graduation with a major in HAA.
- Any of the following may prove useful for the required 12-credit Dietrich School related area: ancient or modern languages, philosophy (particularly aesthetics), cultural and intellectual history, studio arts, music, anthropology, sociology, and psychology of perception.
- There is no language requirement beyond that required by Dietrich School, but a reading competency in a second language is desirable for some field course readings. Graduate programs in the history of art and architecture also require fluency in at least one second language for admission to their programs. If a student's high school language preparation does not provide this competency, he or she should consult the art history advisor concerning preferred languages.
- With the exception of HAA 1901, HAA 1903, HAA 1904, and HAA 1919, courses for the major should not be taken with the S/NC option.

Minor

Architecture - Design

Requirements for the minor

The minor in Architecture - Design provides an option for students majoring in fields such as Civil Engineering, Environmental Studies, History, Studio Arts, Urban Studies and for whom course work in architectural design and history will provide additional breadth in their studies of the built environment. The minor requires that students complete 18 credits, 12 of which are studio-based design courses and six of which will provide historical and theoretical background for thinking about architecture and the built environment.

Foundational course in architecture

- HAA 0940 - APPROACHES TO BUILT ENVIRNMNT

Two courses in architectural design

Students must earn a letter grade of C or higher in HAA 1913 HAA 1913 - FOUNDATIONS STUDIO 1 to enroll in HAA 1916 HAA 1916 - ARCHITECTURE DESIGN STUDIO 1.

- HAA 1913 - FOUNDATIONS STUDIO 1
- HAA 1916 - ARCHITECTURE DESIGN STUDIO 1

One course in architectural history

- HAA 0040 - INTRO TO WESTERN ARCHITECTURE
- HAA 0221 - MEDIEVAL ARCHITECTURE
- HAA 0460 - PUBLIC ART
- HAA 0480 - MODERN ARCHITECTURE
- HAA 0510 - PITTSBURGH ARCHITEC/URBANISM
- HAA 0900 - SPEC TOPICS-ARCHTCTRL STUDIES
- HAA 1160 - ROMAN ARCHITECTURE
- HAA 1250 - CONSTRUCTING THE GOTHIC
- HAA 1305 - EARLY RENAISSANCE ARCHITECTURE
- HAA 1306 - HIGH RENAISSANCE ARCHITECTURE
- HAA 1407 - ARCHITECTURE AND ENLIGHTENMENT
- HAA 1475 - MODERNITY, MODERNISM & HOUSING
- HAA 1480 - ARCHITECTURE SINCE 1945
- HAA 1510 - PITTSBURGH ARCHITEC/URBANISM
- HAA 1530 - EARLY AMERICAN ARCHITECTURE
- HAA 1531 - AMER ARCH SINCE INDSTRLZTN
- HAA 1630 - CHINA: ARCHITECTURE
- HAA 1656 - JAPAN: ARCH PERFORMATIVE SPACE
- HAA 1680 - JAPAN: ARTIST AND CITY
- HAA 1907 - ARCH & THE CITY CENTRAL EURP
- HAA 1910 - SPECIAL TOPICS-ARCHITECTURE
- HAA 1920 - INTRO TO HISTORIC PRESERVATION
- HAA 1923 - GLOBAL PRESERVATION

Two co-requisites

HAA 1912 HAA 1912 - ARCHITECTURE & DIGITAL MEDIA 1 may be waived for students who have taken a course in AutoCAD in high school or the equivalent course in the Department of Civil Engineering in the Swanson School of Engineering - CEE 0109 CEE 0109 - COMPUTER METH IN CIVIL ENGRG 1.

SA 0130 SA 0130 - DRAWING STUDIO 1 may be waived for students who have taken art courses in high school.

- HAA 1912 - ARCHITECTURE & DIGITAL MEDIA 1
- SA 0130 - DRAWING STUDIO 1

Museum Studies Minor

This minor is grounded in the department's historic strengths - to offer students a critically informed understanding of how cultural artifacts have been, are, and can be collected and curated. At its core, the goal of the Museum Studies Minor is to introduce students to the approaches, history, and theories of museum and collection practices.

Students pursuing the Museum Studies minor must complete the following coursework, which comprises 16 credits.

One foundational course from the following list.

- HAA 0010 - INTRODUCTION TO WORLD ART
- HAA 0020 - INTRODUCTION TO ASIAN ART
- HAA 0030 - INTRODUCTION TO MODERN ART
- HAA 0090 - INTRO TO CONTEMPORARY ART

The following three courses.

- HAA 1020 - MUSEUM STUDIES EXHIBITION SEM
- HAA 1025 - HIST AND ETHICS OF COLLECTING
- HAA 1903 - HISTORY ART & ARCH INTERNSHIP *

Note:

The Academic Curator of the Department of History of Art and Architecture will work with Museum Studies minors to place them into internship positions that are approved to satisfy the minor requirement.

One of the following courses,

Or a suitable alternative selected in consultation with the Museum Studies minor advisor.

- ANTH 0582 - INTRODUCTION TO ARCHEOLOGY
- ANTH 0780 - INTRO TO CULTURAL ANTHROPOLOGY
- ANTH 1541 - CULTURAL RESOURCE MANAGEMENT
- HAA 1030 - SPECIAL TOPICS- MUSEUM STUDIES
- INFSCI 0010 - INTRO TO INFORM, SYS & SOCIETY

Preservation Minor

The minor in Preservation is for students who are interested in a specialized focus on the preservation and documentation of historic architecture and the built environment.

Students pursuing the Preservation minor must complete the following coursework, which comprises 18 credits.

Requirements for the minor

- HAA 1920 - INTRO TO HISTORIC PRESERVATION
- ANTH 1541 - CULTURAL RESOURCE MANAGEMENT
- HAA 1903 - HISTORY ART & ARCH INTERNSHIP *

Three additional courses

Or a total of nine credits, from the following list of courses.

- HAA 0940 - APPROACHES TO BUILT ENVIRNMNT

- HAA 0510 - PITTSBURGH ARCHITEC/URBANISM or
- HAA 1510 - PITTSBURGH ARCHITEC/URBANISM

- HAA 1530 - EARLY AMERICAN ARCHITECTURE
- HAA 1531 - AMER ARCH SINCE INDSTRLZTN
- HAA 1913 - FOUNDATIONS STUDIO 1

- HAA 1921 - DOCUMENTATION AND CONSR STUDIO +
- HAA 1922 - PRESERVATION - TEXTS & THEORY
- HAA 1923 - GLOBAL PRESERVATION

Note:

* The internship must be conducted with an organization that pertains to the field of historic preservation and be approved by the director of the Architectural Studies Program.

+ The Architectural Studies Program strongly recommends this course for students pursuing the minor.

Department of History and Philosophy of Science

Certificate

Conceptual Foundations of Medicine Certificate

Overview of the Certificate Program:

The undergraduate program in the Conceptual Foundations of Medicine is designed to offer a group of related courses in the areas of medical ethics, the nature of explanation and evidence in the biomedical sciences, and social problems such as assessments of alternative forms of health care delivery. The program is likely to be of particular interest to pre-medical and pre-professional health care students, but is intended to appeal to all students interested in social and philosophical problems in the biomedical sciences.

Students interested in obtaining the the undergraduate certificate should apply as early in their course work as possible. Normally, satisfactory completion of one course in the two-term core sequence, History and Philosophy of Science HPS 0612 or HPS 0613, is required for admission into the certificate program. Applications can be secured from the Department of History and Philosophy of Science.

Application Information:

You can download the application form and return it to the department via campus mail or in person at the office (1017 Cathedral of Learning). Download Printable Application form in:

- Microsoft Word Format (.doc)
- Adobe Acrobat Format (.pdf)

Requirements:

- The two introductory core courses (HPS 0612 and HPS 0613) in Conceptual Foundations of Medicine.
- A two-term college-level course in biology.
- Two additional courses in a variety of departments dealing with social and conceptual issues in the biomedical sciences. The two elective courses must be in different departments.
- Students must achieve at least a C grade in each of the required courses, and at least a C+ average in the overall certificate requirements.

Core Courses from the History and Philosophy of Science Department:

- HPS 0612 - MIND AND MEDICINE

This course focuses on questions of the aims of medicine, its scientific status and its relation to the natural sciences. These questions are pursued in the context of psychiatry, neurology, genetics, and the process of physical diagnosis.

- HPS 0613 - MORALITY AND MEDICINE

This course is an introduction to the ethical, legal, and social problems which are part of the modern practice of medicine. It begins with a brief introduction to various types of moral theories (e.g., Kantian, Utilitarian, Naturalistic) followed by discussions of truth-telling in medicine, informed consent, euthanasia, abortion, and the relation between political systems and health care. The focus throughout will be on the role of moral values in medical treatment.

Important Certificate Information:

- All required courses must be completed with a "C" average or better. Pass/fail grades do not count.
- IMPORTANT: Your two upper-level elective courses MUST be from two different departments.
- The department will furnish a list of courses which satisfy the requirements in the "Other" or "Upper Level" category. It will be available online at the beginning of each registration period or by stopping in the office or phoning the department at 412-624-5896.
- If you require academic advising with respect to the required courses, please make an appointment to see Professor James G. Lennox, 1017 Cathedral of Learning, e-mail: jglennox@pitt.edu.
- Use #170042 as the Secondary Academic Program Code number on your registration form to ensure proper credit on your final transcript.
- During the first few weeks of your final term of your senior year fill out an additional application in the Arts and Sciences Dean's Office (140 Thackeray Hall). This will ensure the processing of the certificate information onto your transcript. If this process is not completed in a timely manner, a processing fee will be assessed by the Registrar.
- It is your responsibility to bring a copy of your final transcript to the HPS Department for coursework/GPA verification of the six courses taken. If everything is correct we will then issue a certificate in your name to the permanent address listed on your original application.

Alternative Elective Courses to Satisfy the Conceptual Foundations Requirement

If you believe that there is a course that deals with the social and conceptual issues in the biomedical sciences, and that it should satisfy the elective requirement for the certification, you must:

- Obtain the description of the course;
- Write a very short explanation of why the course ought to count toward satisfaction of the elective requirement, by showing how it deals with social or conceptual issues in the biomedical sciences; and
- Submit both to the Undergraduate Advisor for approval.

The list of elective courses is not fixed, and so other courses well may be approved. However, they must have a major component that deals with social and conceptual issues of biomedicine. You must see Professor James G. Lennox for permission to use other courses.

Approved Elective Courses for Summer Term, 2016 (2167)

- ANTH 0538 - THE ARCHELOGST LOOKS AT DEATH /10787 (6WK-1)
- ANTH 0768 - HUMAN SEXUALITY IN CROS CULTUR /10788 (6WK-1)
- ANTH 1725 - SOCIAL HLTH ISSUES EAST AFRICA /15007 (4WK-2)
- ANTH 1752 - ANTHROPOLOGY OF FOOD /10789 (6WK-2)
- HIST 1090 - HISTORY MEDICINE & HEALTH CARE /20386 (6WK-1)
- NROSCI 0081 - DRUGS AND BEHAVIOR /10559 (6WK-1)
- NROSCI 0081 - DRUGS AND BEHAVIOR /18847 (6WK-2)
- NROSCI 0081 - DRUGS AND BEHAVIOR /19991 (Summer Term)
- PSY 1205 - ABNORMAL PSYCHOLOGY /10657 (6WK-1)
- PSY 1205 - ABNORMAL PSYCHOLOGY /10331 (6WK-2)
- PSY 1205 - ABNORMAL PSYCHOLOGY /19363 (Summer Term)
- PSY 1210 - INTRO TO CLINICAL PSYCHOLOGY /10708 (6WK-2)

- SOC 0446 - SOCIOLOGY OF GENDER /18548 (6WK-1)
- SOC 1488 - HISTORY MEDICINE & HEALTH CARE /20387 (6WK-1)

Approved Electives for Spring Term, 2016 (2164)

- AFRCNA 1309 - WOMN OF AFRC & AFRCN DIASPORA /23851
- AFRCNA 1510 - HEALTH IN THE AFRICAN DIASPORA /30327
- ANTH 0538 - THE ARCHELOGST LOOKS AT DEATH /11061
- ANTH 0768 - HUMAN SEXUALITY IN CROS CULTUR /25047
- ANTH 1737 - SPECIAL TOPICS IN CULTRL ANTH /27108
- BIOENG 1241 - SOCTL, POL & ETHCL ISS BIOENG /13635
- ECON 0220 - INTRO TO HEALTH ECONOMICS /19543/23652
- GEOL 1055 - ENVRL ETHCS, SCI & PBLC POLCY /11022
- GEOL 1056 - UHC ENV ETHCS, SCI & PBLC POLC /11084
- HIST 1425 - HISTORY OF MEDICINE IN CHINA /29379
- HIST 1725 - DISEASE & HEALTH IN MODERN AFRICA /29382
- NROSCI 0081 - DRUGS AND BEHAVIOR /11335/27176/29824
- PHIL 1360 - BIOMEDICAL ETHICS /27188
- PS 1542 - GLOBAL ENVIRONMENTAL POLITICS /29300
- PSY 1110 - PSYCHLGCL ASPCT HUMN SEXUALITY /27161
- PSY 1205 - ABNORMAL PSYCHOLOGY /10807/11274/18453/26128
- PSY 1210 - INTRO TO CLINICAL PSYCHOLOGY /11412/23542/27177
- PSY 1215 - HEALTH PSYCHOLOGY /18786
- PSY 1225 - PSYCHOLOGY OF EMOTION /25431
- PSY 1230 - PSYCHOLOGY OF DEATH AND DYING /30394
- PSY 1357 - PSYCHOLOGY OF AGING /27679/29241
- PUBHLT 1002 - SPECIAL TOPICS GLOBAL HEALTH /21022
- REHSCI 1290 - PRACTICAL ISSUES IN DISABILITY /121833
- REHSCI 1292 - DIVERSITY/CULTL HEALTH/REHAB /175514
- RELGST 1558 - BUDDHISM AND PSYCHOLOGY /26686
- RELGST 1725 - DEATH AND HEALTHCARE PROFESSIONS /29186
- SOC 0477 - MEDICAL SOCIOLOGY /20404/26139
- SOC 1450 - HEALTH AND ILLNESS /23532

Approved Electives for Fall Term, 2015 (2161)

- AFRCNA 1710 - AFRICAN AMERICAN HEALTH ISSUES /11747
- ANTH 0538 - THE ARCHELOGST LOOKS AT DEATH /28206
- ANTH 0768 - HUMAN SEXUALITY IN CROS CULTUR /26445
- ANTH 1752 - ANTHROPOLOGY OF FOOD /28160
- ANTH 1761 - PATNTS & HEALERS: MEDCL ANTH 1 /29103
- BIOENG 1241 - SOCTL, POL & ETHCL ISS BIOENG /21203
- ECON 0220 - INTRO TO HEALTH ECONOMICS /20947
- ECON 1580 - ECON GRWTH PBLC HLTH DEMOGRPHY /25505
- HIST 1090 - HISTORY MEDICINE & HEALTH CARE /10788
- SOC 1488 - HISTORY MEDICINE & HEALTH CARE /10789
- HIST 1091 - GLOBAL HEALTH HISTORY /28537
- HIST 1695 - ENVIRONMENTAL HISTORY /28055
- NROSCI 0081 - DRUGS AND BEHAVIOR /11068
- PHIL 0350 - PHILOSOPHY AND PUBLIC ISSUES /19101

- PHIL 1360 - BIOMEDICAL ETHICS /28212
- PS 1262 - HEALTH POLICY IN UNITED STATES /27979
- PS 1542 - GLOBAL ENVIRONMENTAL POLITICS /25664
- PSY 1110 - PSYCHLGCL ASPCT HUMN SEXUALITY /26545
- PSY 1205 - ABNORMAL PSYCHOLOGY /10506, 11298, 18966, 26596
- PSY 1210 - INTRO TO CLINICAL PSYCHOLOGY /11530
- PSY 1215 - HEALTH PSYCHOLOGY /11686
- PSY 1230 - PSYCHOLOGY OF DEATH AND DYING /18968
- PSY 1357 - PSYCHOLOGY OF AGING /26558
- PUBHLT 1001 - INTRODUCTION TO GLOBAL HEALTH /20539
- REHSCI 1240 - ISSUES IN HEALTH CARE /14944
- REHSCI 1280 - PSYCH AND SOCLGY OF DISABILITY /18326
- REHSCI 1292 - DIVERSITY/CULTL HEALTH/REHAB /20336
- RELGST 1517 - MOUNTAINS, MEDL SYS & HEALTH /24650
- SOC 0446 - SOCIOLOGY OF GENDER /18268
- SOC 0477 - MEDICAL SOCIOLOGY /24865 & 26605
- SOC 1324 - SOCL PROBLEMS & MORAL CRUSADES /28029
- SOC 1450 - HEALTH AND ILLNESS /26549 & 29079

Department of Interdisciplinary Studies

Nondepartmental A&S Majors

A&S offers several major options that are not administered by a specific academic department within A&S: the A&S/business dual major, the interdisciplinary studies major, and the politics and philosophy major. Descriptions of these majors follow:

Major

Interdisciplinary Studies, BA

The interdisciplinary studies option is intended for students who wish to design their own major. This major allows students to be flexible and creative in planning a program to match their individual interests and career goals. Completing this major requires sound thought, planning, and extra effort. Students selecting this option must secure the sponsorship of two full-time A&S faculty advisors. Students will formulate a proposal for their major, including a course prospectus (classes chosen) and an essay stating rationale for their desired program of study. They will work on their proposal with their faculty advisors, who must approve the proposal before the interdisciplinary studies faculty committee can approve it.

Major Requirements

A student intending to complete an interdisciplinary studies major must submit a proposal to his/her faculty advisors before the end of the junior year. The faculty committee must approve the proposal before the student can officially declare interdisciplinary studies as a major.

- All A&S degree requirements must be completed (120 credits, 2.0 overall GPA and major GPA, skills and general education requirements).
- The interdisciplinary studies proposal must consist of a minimum of 42 credits, 21 of which must be earned from courses numbered 1000 level or above. Courses are chosen from at least two different departments and arranged in one, two, or three clusters or thematic groupings. Each cluster must contain a minimum of 12 credits.
- A maximum of 6 credits of internship or independent study may be included. A maximum of 6 credits of non-A&S courses (i.e. BUS, BUSERV, ADMJ, ADMPS, IL, PSYED, etc.) may be used. There can be no more than 9 credits of internship/independent study and non-A&S credits combined.

- A W course approved by the faculty advisors must be completed as part of the major.

A GPA of at least 2.00 must be maintained for all interdisciplinary studies course work. Students may achieve honors in interdisciplinary studies by earning a minimum GPA of 3.50 in the courses for the major and approval of a final paper or thesis.

Interdisciplinary Studies, BS

The interdisciplinary studies option is intended for students who wish to design their own major. This major allows students to be flexible and creative in planning a program to match their individual interests and career goals. Completing this major requires sound thought, planning, and extra effort. Students selecting this option must secure the sponsorship of two full-time A&S faculty advisors. Students will formulate a proposal for their major, including a course prospectus (classes chosen) and an essay stating rationale for their desired program of study. They will work on their proposal with their faculty advisors, who must approve the proposal before the interdisciplinary studies faculty committee can approve it.

Major Requirements

A student intending to complete an interdisciplinary studies major must submit a proposal to his/her faculty advisors before the end of the junior year. The faculty committee must approve the proposal before the student can officially declare interdisciplinary studies as a major.

- All A&S degree requirements must be completed (120 credits, 2.0 overall GPA and major GPA, skills and general education requirements).
- The interdisciplinary studies proposal must consist of a minimum of 42 credits, 21 of which must be earned from courses numbered 1000 level or above. Courses are chosen from at least two different departments and arranged in one, two, or three clusters or thematic groupings. Each cluster must contain a minimum of 12 credits.
- A maximum of 6 credits of internship or independent study may be included. A maximum of 6 credits of non-A&S courses (i.e. BUS, BUSERV, ADMJ, ADMPS, IL, PSYED, etc.) may be used. There can be no more than 9 credits of internship/independent study and non-A&S credits combined.
- A W course approved by the faculty advisors must be completed as part of the major.

A GPA of at least 2.00 must be maintained for all interdisciplinary studies course work. Students may achieve honors in interdisciplinary studies by earning a minimum GPA of 3.50 in the courses for the major and approval of a final paper or thesis.

International and Area Studies, BPHIL

The University Honors College (UHC) and University Center for International Studies (UCIS) have created the Bachelor of Philosophy in International and Area Studies (BPhil IAS), a research-based undergraduate major that will help students meet the demands of today's world. The BPhil IAS degree is awarded jointly by the student's home school and the University Honors College and is the first undergraduate degree in international studies at Pitt.

The goal of the BPhil IAS degree is to enable students to think critically about their global world and to gain "global competence," which involves working effectively in different international settings, an awareness of the major currents of global change and the resulting issues raised, the capacity for effective communication across cultural and linguistic boundaries, and personal adaptability to diverse cultures.

Students seeking the BPhil IAS degree must have a minimum GPA of 3.50/4.00; complete an approved program of study involving coursework, second language, and study abroad; and write and publicly defend their research thesis before a faculty examining board that includes a visiting faculty member from outside the University. The BPhil IAS is not a freestanding major, as it requires the student to combine the BPhil IAS with a major in the student's home school of admission (A&S, CBA, Engineering, etc.); students must combine the BPhil IAS requirements with all curriculum requirements for a degree in their home school of admission.

Students seeking the BPhil in IAS must:

- have a minimum grade point average of 3.50/4.00; and
- complete eight approved courses (24 credits); and
- complete one methods course specific to their second major or to their BPhil thesis research topic; and
- complete one directed study course related to their BPhil thesis research topic; and
- complete three years of college-level language study or equivalent proficiency in a language relevant to their BPhil thesis research topic; and

- write and publicly defend their research thesis (the BPhil thesis) before a faculty examining board that includes a visiting faculty member from outside the University; and
- complete a second major in another academic discipline (note that only two courses from this major can overlap with the approved courses for the IAS major).

Students interested in the BPhil in IAS may complete one of the following tracks in UCIS: Asian Studies, European Union Studies, Global Studies, Latin American Studies, or Russian and East European Studies

Joint Major

A&S/Business, BA

A&S/Business Dual Major

The A&S/business dual major is offered jointly by Arts and Sciences (A&S) and the College of Business Administration (CBA). To satisfy the requirements, students must combine the business major with any A&S major. The A&S major will be listed first on the transcript as the degree-determining major (BS or BA), and the business major will be listed second. Students will be required to fulfill all A&S curriculum requirements. Students are admitted by a faculty committee that considers the cumulative GPA, specific courses taken and grades earned, SAT scores, and other relevant credentials. Students who have completed at least one full year of course work are eligible to apply to the program. Students interested in the program should seek assistance from their A&S advisor regarding the application process. For more information about the program, see http://www.business.pitt.edu/cba/academics/.

Major Requirements

To graduate with an A&S/business dual major, students must complete the following:

Four dual major prerequisites:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY

- MATH 0120 - BUSINESS CALCULUS or
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

- STAT 1100 - STAT & PROBLTY FOR BUS MGT

Note:

Competency in Microsoft Excel (spreadsheet software) is required.

Twelve required business courses:

- BUSACC 0030 - FINANCIAL ACCOUNTING
- BUSACC 0040 - MANAGERIAL ACCOUNTING
- BUSQOM 0050 - QUANTITATIVE METHODS
- BUSENV 0060 - MGRL ETHICS & STAKEHOLDER MGT *
- BUSECN 1010 - MANAGERIAL ECONOMICS
- BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
- BUSFIN 1030 - INTRODUCTION TO FINANCE *
- BUSMKT 1040 - INTRODUCTION TO MARKETING *
- BUSHRM 1050 - HUMAN RESOURCES MANAGEMENT
- BUSMIS 1060 - Introduction to Information Systems *

- BUSQOM 1070 - OPERATIONS MANAGEMENT *
- BUSSPP 1080 - STRATEGIC MANAGEMENT *

Note:

Courses noted with an asterisk (*) are considered non-A&S credits. All other courses are counted toward graduation as A&S credits. A&S students may include only 18 non-A&S credits in the 120 credits required for graduation.

All of the above listed courses must be completed with an average GPA of 2.00. All courses for the business major must be taken on a letter-grade basis. Students who complete the requirements of the A&S/business dual major are not required to complete a minor or A&S related area.

A&S/Business, BS

A&S/Business Dual Major

The A&S/business dual major is offered jointly by Arts and Sciences (A&S) and the College of Business Administration (CBA). To satisfy the requirements, students must combine the business major with any A&S major. The A&S major will be listed first on the transcript as the degree-determining major (BS or BA), and the business major will be listed second. Students will be required to fulfill all A&S curriculum requirements. Students are admitted by a faculty committee that considers the cumulative GPA, specific courses taken and grades earned, SAT scores, and other relevant credentials. Students who have completed at least one full year of course work are eligible to apply to the program. Students interested in the program should seek assistance from their A&S advisor regarding the application process. For more information about the program, see http://www.business.pitt.edu/cba/academics/.

Major Requirements

To graduate with an A&S/business dual major, students must complete the following:

Four dual major prerequisites:

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY

- MATH 0120 - BUSINESS CALCULUS or
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

- STAT 1100 - STAT & PROBLTY FOR BUS MGT

Note:

Competency in Microsoft Excel (spreadsheet software) is required.

Twelve required business courses:

- BUSACC 0030 - FINANCIAL ACCOUNTING
- BUSACC 0040 - MANAGERIAL ACCOUNTING
- BUSQOM 0050 - QUANTITATIVE METHODS
- BUSENV 0060 - MGRL ETHICS & STAKEHOLDER MGT *
- BUSECN 1010 - MANAGERIAL ECONOMICS
- BUSORG 1020 - ORGANIZATIONAL BEHAVIOR
- BUSFIN 1030 - INTRODUCTION TO FINANCE *
- BUSMKT 1040 - INTRODUCTION TO MARKETING *

- BUSHRM 1050 - HUMAN RESOURCES MANAGEMENT
- BUSMIS 1060 - Introduction to Information Systems *
- BUSQOM 1070 - OPERATIONS MANAGEMENT *
- BUSSPP 1080 - STRATEGIC MANAGEMENT *

Note:

Courses noted with an asterisk (*) are considered non-A&S credits. All other courses are counted toward graduation as A&S credits. A&S students may include only 18 non-A&S credits in the 120 credits required for graduation.

All of the above listed courses must be completed with an average GPA of 2.00. All courses for the business major must be taken on a letter-grade basis. Students who complete the requirements of the A&S/business dual major are not required to complete a minor or A&S related area.

Certificate

Children's Literature Certificate

Books written for children are among the best-loved and best-remembered of all works of literature. They also provide some of the most important early learning experiences. In recent years, books written for children have attracted increasing interest from scholars and students as well as parents, educators, publishers, and journalists. What kinds of stories do we consider appropriate for children, and why? How have our opinions about this topic changed over time and across different cultures? And how is literacy changing, now that children are exposed not only to books, films, and television, but also to video games and the world wide web?

The interdisciplinary Certificate in Children's Literature offers undergraduates the opportunity to bring together studies across a broad range of subjects as they contemplate these and other questions pertaining to youth literature and culture. Founded in 1981, the program is designed to meet the individual student's interests and strengths and fulfills the Arts and Sciences requirement for a related area. The Children's Literature Certificate provides a useful background for many areas of professional work and study. Many of our students pursue careers in elementary, secondary, and special education, or in information science, child care, or social work. Others students have gone to graduate school in the humanities (English, History, Film Studies) or social sciences (Sociology, Psychology, Anthropology). Recent graduates of our new "Writing Youth Literature" course have gone to internships at Sesame Street Productions and the Harvey Klinger Literary Agency in New York City. For more information on the study of children's literature at the University, see www.childrenslit.pitt.edu.

Requirements

The certificate is a planned interdisciplinary sequence of at least 18 credits. The program director must also be consulted about the design of the student's individual course of study. The three required core courses for the certificate are listed below.

Students are encouraged to take all four of the below courses, since either ENGLIT 0562 or ENGLIT 0655 may be taken as a Category 1 elective. Of these two courses, the course not taken as an elective must be taken as a core course.

In addition to the three core courses, students should design their own course of study to complete the remaining credits, in consultation with the program director. Courses must be selected from an approved list of courses, available from the program director.

- ENGLIT 0560 - CHILDREN AND CULTURE

- ENGLIT 0562 - CHILDHOOD'S BOOKS or
- ENGLIT 0655 - REPRESENTING ADOLESCENCE

- ENGLIT 1645 - CRITL APPRCH TO CHILDREN'S LIT *

Note:

* ENGLIT 1645 - CRITL APPRCH TO CHILDREN'S LIT is the capstone course for the Children's Literature program and must be taken last.

Jewish Studies Certificate

The Jewish Studies Program is open to all students interested in the Hebrew language and the history and culture of the Jewish people and their contributions to Western civilization. In the historical courses, emphasis is on the interaction of the Jewish people with their neighbors, as well as the development of distinctive cultural and religious values. A certificate program is offered, and interdisciplinary studies options can be arranged to include courses in this program. Information is also available on opportunities for intensive study in Israel. The program in Jewish studies offers undergraduates the opportunity to supplement work in their own department or major with an interdisciplinary course of study in the area of Jewish studies. Completion of the certificate program fulfills the Arts and Sciences requirement for a related area (although students should check with their major departments) and will be indicated on the transcript.

Requirements

The certificate requires 18 credits. A maximum of 9 credits may be transferred from another institution, including study abroad. Credits are to be distributed as follows:

- JS 0025 - INTERMEDIATE HEBREW 3 or higher (3 credits)
- Jewish studies: Two 1000-level courses selected from the inventory of Jewish Studies courses offered at the University of Pittsburgh (6 credits)
- JS 1901 - INDEPENDENT STUDY (3 credits)
- One course from any of the above categories (3 credits)

Those interested in graduate study are strongly urged to acquire a knowledge of Hebrew and either French or German. Students should consult with the advisor in the Jewish Studies Program in order to register their interest in the certificate program and to plan their course of study, including the choice of an appropriate independent study project.

Medieval and Renaissance Studies Certificate

In spite of change through the centuries and variations of a regional and national character, the millennium preceding the deaths of Shakespeare and Cervantes in 1616 is marked by a coherence sufficient to justify considering it as a cultural entity, worthy of study for its humanistic qualities and for its importance in preparing the modern world. Some of the principal aims of the Medieval and Renaissance Studies Program are:

- to identify and explore aspects of medieval and Renaissance cultures that are an important part of our own cultural heritage;
- to promote an understanding of our medieval and Renaissance ancestors through the investigation of the ways they faced the issues of their day, asked questions of their institutions, and were conscious of themselves and the world around them;
- to help students understand historical relativity by showing them how different periods and individuals have understood the Middle Ages and Renaissance in very different ways; and
- to provide the basis for an open-minded attitude toward any culture that is different from our own.

In consultation with a program advisor (who may be a member of the Executive Committee, one of the departmental representatives, or another faculty member specializing in the area), the candidate will define an area of interest and organize a program of courses in relation to it. In designing a certificate program, students are urged to keep in mind the aims of the program as described above. For more information, see http://www.medren.pitt.edu/.

Requirements

The Certificate requires 15 credits:

At least nine credits will be earned in 1000-level courses

One of the five courses must be focused on the medieval period; see the list of qualifying courses at http://www.medren.pitt.edu/undergraduate-certificates/overview.php

One of the five courses must be focused on the Renaissance period; see the list of qualifying courses at http://www.medren.pitt.edu/undergraduate-certificates/overview.php

The student must take at least two courses from each category. Courses should not be chosen at random but should follow a pattern of interrelated studies worked out with a Program Advisor from one of the cooperating Departments or with the Director of Medieval and Renaissance Studies. The categories are:

- language and literature, the visual arts, and music; and
- social, intellectual, economic, and ideological history (including philosophy, religious studies, the history of science and the study of institutions).

A strong recommendation, beyond these requirements, is that certificate candidates acquire a reading knowledge of a modern European language as early as possible. In addition, Latin is suggested for those who plan to do graduate work in the field.

Nanoscience and Engineering Undergraduate Certificate

Advances in nanoscience and nanotechnology (the ability to predict, create, and design with nanoscale materials and systems) are expected to reveal new physical phenomena and to enable the creation of highly desirable products and devices, in addition to revolutionary changes in industrial practice. Strength in nanoscience and nanotechnology has been identified as the nation's future competitiveness and prosperity, and strategic plans have been developed to accelerate nanoscience research and development, encourage knowledge transfer to spur economic growth, and expand educational programs and workforce training - all in a socially and environmentally responsible and sustainable manner.

Nanoscience and nanotechnology also has had a large and rapidly growing local impact. The Pittsburgh region is home to a number of corporations, including many smaller start-up companies, with major nanotechnology components to their businesses. The continued success of companies such as PPG, Seagate, Bayer, Alcoa, Plextronics, Westinghouse, Bettis, and II-VI will depend on their ability to recruit local engineering talent with the required background in nanoscience and nanotechnology. The continued development of nanotechnology-based entrepreneurial start-ups will depend in large part on a vibrant pool of young engineers and scientists with appropriate educational experience in nanoscience and nanotechnology.

This joint certificate, housed in both the Swanson School of Engineering (SSOE) and the Dietrich School of Arts and Sciences (Dietrich School) enables BS students from both schools to complement their education by completing a fivecourse sequence. The certificate is designed to be combined with coursework in any SSOE degree-granting program, or with chemistry and physics in the Dietrich School.

The course requirements for this certificate follow.

Required courses

This course has prerequisites.

- ENGR 0240 - NANOTECHN & NANOENGINEERING

One of the following courses

These courses have prerequisites.

- CHEM 1630 - FOUNDATIONS OF NANOSCIENCE
- PHYS 1375 - FOUNDATIONS OF NANOSCIENCE

One of the following courses

- ENGR 1730 - Research Experiences in Nanotechnology
- CHEM 1730 - RESEARCH IN NANOTECHNOLOGY
- PHYS 1903 - DIRECTED RESEARCH

Two elective courses from the following list

- CHEM 1450 - MOLECULAR MODELING & GRAPHICS
- CHEM 1600 - SYNTHESIS & CHARCTRZTN POLYMRS

- CHEM 1620 - ATOMS, MOLECULES AND MATERIALS
- ECE 0257 - ANAL & DESIGN ELECTRONIC CIRCT
- ECE 1247 - SEMICONDUCTOR DEVICE THEORY
- ECE 2295 - Nanosensors
- ENGR 0241 - FABRICATION & DSGN NANOTECHN

- IE 1012 - MANUFACT STRUCTRL NANOMATRLS or
- IE 2012 - Manufacture of Structural Nano-Materials

- MEMS 1057 - MICRO/NANO MANUFACTURING
- MEMS 1447 - Nanocharacterization
- MEMS 1469 - Materials Science of Nanostructures
- MEMS 1477 - THIN FILM PROCESSES
- MEMS 1478 - Nanoparticles: Science and Technology
- MEMS 1480 - Introduction to Microelectromechanical Systems
- PHYS 0577 - MODERN PHYSICAL MEASUREMENTS
- PHYS 1361 - WAVE MOTION AND OPTICS
- PHYS 1374 - SOLID STATE PHYSICS

One of the following courses

- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CHEM 1420 - PHYSICAL CHEMISTRY 2
- CHEM 1480 - INTERMEDIATE PHYSICAL CHEMSTRY

One of the following courses

- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1
- PHYS 1371 - INTRO TO QUANTUM MECHANICS 2

Note:

http://www.bulletins.pitt.edu/undergrad/anthropology.htm#anthro

Photonics Certificate

Photonics is one of the fastest growing high-tech industries in the world today. It includes optical communications (e.g., fiber optics, lasers, and infrared links), optical imaging (e.g., spy and weather satellites, night vision, holography, flat screen display, and CCD video cameras), optical data storage (e.g., CDs and CD-ROMs), optical detectors (e.g., supermarket scanners, medical optics, and nondestructive evaluation of materials), lasers (e.g., welding lasers, laser surgery, laser shows, and laser rangefinders), spectroscopy (e.g., chemical analysis and detection), and quantum optics (e.g., quantum cryptography, quantum computing, and single-photon detection).

Although the photonics industry is growing rapidly, photonics companies have a hard time finding qualified people because the interdisciplinary field crosses physics, physical chemistry, and electrical engineering. The photonics certificate program at the University of Pittsburgh will give this kind of cross-cutting experience and allow students to move directly into the photonics industry. The Certificate in Photonics will also serve as good preparation for graduate school in solid state physics, physical chemistry, or electrical engineering with optoelectronics emphasis.

Students in the certificate program will have opportunities for laboratory research with professors at the University of Pittsburgh and will also receive special job placement referrals.

Requirements

The certificate is designed to fit easily with a physics, chemistry, or electrical engineering major, but students with other majors can also earn the certificate.

To receive the certificate, students must have taken

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
- MATH 0250 - MATRIX THEORY & DIFFT EQUATNS

One of the following pairs

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
  or
- PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1 and
- PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

One of the following pairs

- CHEM 0110 - GENERAL CHEMISTRY 1 and
- CHEM 0120 - GENERAL CHEMISTRY 2
  or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1 and
- CHEM 0720 - UHC GENERAL CHEMISTRY 2
  or
- CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1 and
- CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2

Required laboratory courses:

One of the following

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG
- PHYS 0577 - MODERN PHYSICAL MEASUREMENTS

- CHEM 0250 - INTRO ANALYTICAL CHEMISTRY and
- CHEM 0260 - INTRO ANALYTICAL CHEMISTRY LAB

- ECE 0501 - DIGITAL SYSTEMS LABORATORY

One of the following

- PHYS 0525 - ANALOG AND DIGITAL ELECTRONICS

- ECE 1201 - ELECTNC MEASURMNTS & CRCTS LAB and
- ECE 1212 - ELECTRONIC CIRCUIT DESIGN LAB

- CHEM 1430 - PHYSICAL CHEMSTRY LABORATORY 1 and
- CHEM 1255 - INSTRUMENTAL ANALYSIS LAB

In addition

The following courses are required for the certificate.

- PHYS 1361 - WAVE MOTION AND OPTICS
- ECE 1247 - SEMICONDUCTOR DEVICE THEORY
- ECE 1232 - INTRO LASERS & OPTCL ELECTNC
- Junior Photonics Seminar (two semesters, each 1 credit) (cross listed as PHYS 0177, CHEM 1750, or ECE 1248)
- Photonics Theory 1 (3 credits) (cross listed as PHYS 1363, CHEM 1470/CHEM 1472, or ECE 1240/1240)
- Photonics Theory 2 (3 credits) (cross listed as PHYS 1364, CHEM 1470/CHEM 1472, or ECE 1240/ECE 1241)
- Photonics Laboratory (1 credit) (PHYS 1365, to be cross listed in EE and CHEM)

One of the following

- CHEM 1410 - PHYSICAL CHEMISTRY 1

- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1 and
- PHYS 1371 - INTRO TO QUANTUM MECHANICS 2

Two of the following courses or sequences

- CHEM 1250 - INSTRUMENTAL ANALYSIS
- TELCOM 2222 - Photonic Communications

One of the following

- PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM

- ECE 1259 - ELECTROMAGNETICS 1 and
- ECE 1266 - APPLICTIONS OF FIELDS & WAVES

Note:

For more information, see www.phyast.pitt.edu/~snoke/photonics.

Public and Professional Writing Certificate

Writing plays a crucial role in the lives of people after they leave college, as students go on to work, volunteer, attend professional schools, and advocate for themselves and others. The PPW certificate focuses on writing that serves professional goals and/or the public interest. We invite students from across the University to focus on writing as a way to develop the critical writing, learning, and thinking skills necessary to all sectors of American professional life-private, nonprofit, and government.

Students who know that they will write extensively as professionals in law, medicine, the sciences, social work, public policy, international relations, business, or other fields are good candidates for the PPW certificate, as are students who are interested in advocacy and activism. Students contemplating graduate work should also find the course of study leading to the PPW certificate useful. The courses will allow students to work on significant writing projects in a range of venues. Students who have finished the certificate should have a compelling portfolio of work that they can show to prospective employers.

Students should expect to undertake rigorous intellectual work that will increase their precision as writers, deepen their facility with language and style, and deepen their engagement with writing as a form of social action that has consequences in the world. For more information, see www.composition.pitt.edu/ppw/.

All students who wish to enroll in the certificate program must submit a letter of intent (this would be the equivalent of an admission essay), a resume, and a writing sample. Please submit this information via campus mail or U.S. mail to Department of English, Public and Professional Writing Certificate, 526 Cathedral of Learning, Pittsburgh, PA 15260.

Requirements

At least 18 credits are required to complete the PPW certificate; students must maintain a minimum B GPA in the three courses required by the certificate.

Students must take ONE of the following core courses:

After they have completed one of the core courses with at least a B, students must also complete, with at least a B, a minimum of TWO approved 1000-level courses (one of which may be a PPW internship) in the composition program.

The remaining 9 credits may come from designated intermediate and advanced course offerings in the English department. The list of designated courses that count toward the certificate will be given to students when they register for the program; designated courses are also listed online. Students may petition to have a relevant course count toward the PPW certificate.

- ENGCMP 0400 - WRITTEN PROFESSNL COMMUNICTN
- ENGCMP 0410 - WRITING IN THE LEGL PROFESSNS
- ENGCMP 0420 - WRITING FOR THE PUBLIC

Undergraduate Certificate in Sustainability

Environmental and sustainability programs study coupled human-natural systems using interdisciplinary approaches and knowledge. Such programs work at the science-engineering, science-policy, and policy management interfaces and aim to prepare sustainability-oriented problem solvers through interdisciplinary research, scholarship, and practice. This certificate addresses the need for education and research to strengthen our understanding of the links between human behavior and natural processes by integrating the behavioral and social sciences, earth sciences, physical sciences, engineering, and information sciences.

Completion of the certificate in the Dietrich School requires 18 credits. The following requirements are for Dietrich School students who pursue this certificate. Be advised that Swanson School of Engineering students may have different requirements.

Required Courses

- ENGR 1110
- ENGR 1905
- GEOL 1030 - THE ATMOSPHERE, OCEANS & CLMTE

Elective Courses

Select three of the following courses. Only one course may be in the student's major department.

- BIOSC 0740 - YELLOWSTONE FIELD COURSE (UHC, off-campus in Wyoming)
- BIOSC 1160 - FOREST ECOLOGY (off-campus at Pymatuning Laboratory of Ecology)
- BIOSC 1220 - ECOLOGICAL FIELD STUDIES (off-campus at Pymatuning Laboratory of Ecology)
- BIOSC 1310 - WETLAND ECOLOGY AND MANAGEMENT (off-campus at Pymatuning Laboratory of Ecology)
- BIOSC 1610 - CONSERVATION BIOLOGY (off-campus at Pymatuning Laboratory of Ecology)
- CEE 1209 - LIFE CYCLE ASSMNT METH & TOOLS
- CEE 1217 - GREEN BUILDING DSGN & CONSTRCT
- CEE 1218 - DESIGN FOR THE ENVIRONMENT
- CEE 1503 - INTRO TO ENVIRONMENTAL ENGRNG

- CS 0090 - SUSTAINABILITY AND COMPUTING
- ECE 1769 - POWER SYSTEM ANALYSIS 1
- ECON 0360 - INTRO ENVIRON & RESOURCE ECON
- ECON 0530 - INTRO TO DEVELOPMENT ECONOMICS
- ECON 1360 - ENVIRONMENTAL ECONOMICS
- ENGLIT 0710 - CONTEMPORARY ENVIRONMENTAL LIT
- ENGLIT 1005 - LITERATURE & THE ENVIRONMENT
- ENGR 1060 - SOCL ENTREP-ENGRG FOR HUMANITY
- GEOL 0860 - ENVIRONMENTAL GEOLOGY
- GEOL 1051 - GROUNDWATER GEOLOGY
- GEOL 1060 - GEOMORPHOLOGY
- GEOL 1333 - SUSTAINABILITY
- GEOL 1334 - ENVIRONMENTAL POLICY
- GEOL 1445 - GIS, GPS, AND COMPUTER METHODS
- GEOL 1515 - ENVIRONMENTAL GEOCHEMISTRY
- GEOL 1904 - DIRECTED READING
- GSWS 1450 - GENDER AND SUSTAINABILITY
- HAA 0940 - APPROACHES TO BUILT ENVIRNMNT
- HIST 1019 - CITIES HISTORICAL PERSPECTIVE
- HIST 1695 - ENVIRONMENTAL HISTORY
- HONORS 1544 - READING THE EARTH (UHC, off campus in Wyoming)
- MEMS 1065 - THERMAL SYSTEMS DESIGN
- PIA 2008
- PIA 2231
- PS 1542 - GLOBAL ENVIRONMENTAL POLITICS
- SA 1340 - SCULPTURE STUDIO: PROJECTS
- SOC 1445 - SOCIETY AND ENVIRONMENT
- URBNST 0080 - INTRODUCTION TO URBAN STUDIES
- URBNST 1614 - URBAN SUSTAINABILITY

Department of Linguistics

Linguistics is concerned with the study of language as a core property of human cognition and interaction. It is a broad field that straddles the humanities, social sciences, and natural sciences. Major areas of study in linguistics include the following fields:

- Applied linguistics: second-language learning theory, literacy, bilingual education
- Computational linguistics: natural language generation, knowledge representation and artificial intelligence, recognition of systems
- Theoretical linguistics: development of psychologically plausible models of language sound systems, word structure, sentence and discourse structure, meaning
- Historical and comparative linguistics: study of language history, both language change and relationships among languages
- Descriptive-anthropological linguistics: documentation and analysis of languages, especially little-known languages through field work
- Psycholinguistics: research on such topics as sentence processing, problems in reading, how children acquire their first language (childhood language acquisition)
- Sociolinguistics: study of language use and socially controlled variation in form, conversation and narrative discourse, social trends reflected in language use, political aspects of language use

Careers in linguistics include teaching English as a second language and other languages including American Sign Language; computational linguistic research in industry and public agencies; field research on endangered languages and cultures; research and teaching at the university level; careers in publishing and advertising; speech pathology and rehabilitation; translation and interpreting; law; and governmental consulting on language policies. Most careers in linguistics require graduate training.

Many, but certainly not all, people come to linguistics through a love of languages. However, love of languages itself is not sufficient to ensure success and happiness as a linguistics major. The student must also enjoy analytical thought, as linguists employ analytical tools in the study of human languages. Students considering a major in linguistics should take the introductory linguistics course (LING 1950 - INTRODUCTION TO LINGUISTICS) at their earliest opportunity to help gauge if the major is right for them. The linguistics major gives students a solid foundation in the central areas of linguistic theory and analysis. The structure of human language (its sounds, word structures, and syntax) is the focus of the linguistics courses required for the major. In addition, the major's language requirement is designed to make sure students acquire a perspective on linguistic structures besides those of their native language and at least some exposure to one language that is structurally very unlike English. For more information on the major or the Department of Linguistics, see www.linguistics.pitt.edu.

Major

Linguistics, BA

Major Requirements

Students must complete at least 24 credits in the linguistics department including the following courses:

- LING 1950 - INTRODUCTION TO LINGUISTICS

- LING 1682 - INTRODCTN TO SEMANTIC THEORY or
- LING 1860 - INTRO TO HISTORCAL LINGUISTICS

- LING 1773 - MORPHOLOGY
- LING 1777 - SYNTACTIC THEORY
- LING 1578 - PHONETICS AND PHONEMICS
- LING 1579 - PHONOLOGY

Note:

A student may petition to have a given requirement waived if an equivalent course was completed elsewhere before registering as a departmental major.

Other requirements and rules for linguistics majors are as follows:

- Knowledge of any second language equivalent to one year of college-level study is required. The student's knowledge of the language may be evaluated if first-year college-level courses are not taken.
- Majors must have at least a 2.00 GPA in linguistics courses.
- No more than 6 credits may be taken on the S/NC basis (formerly the S/N option).
- Credit by examination is not available.
- Courses for the W requirement and for the A&S-required 12-credit related area are chosen in consultation with the departmental advisor. Besides second language and literature departments, the most appropriate related areas are anthropology, communication, computer science, English, history and philosophy of science, psychology, philosophy, sociology, and theatre arts.
- LING 0080 - ASPECTS OF LANGUAGE and LING 0101-0964 (uncommonly taught languages) do not count toward the major.
- Any student considering graduate work in linguistics, especially at the PhD level, should take French, German, or Russian. In addition to the language requirement described above, the student must take three more terms of language study (although in special cases, students may petition to have part of this requirement waived). At least 3 credits of this additional requirement must be taken in some language that is not Romance (including Latin), Germanic, Baltic, Slavic, or Greek, unless the language chosen to fulfill the language requirement above falls into this category.

Note:

Courses offered by the English Language Institute for students who are learning or improving their English language skills do not count toward the linguistics major.

Minor

Linguistics Minor

An minor in linguistics would be particularly useful for students majoring in English, second languages, philosophy, anthropology, psychology, sociology, communications, speech science, neuroscience, computer science, and information science, as well as for students with an interest in teaching English as a second language, going to law school, or otherwise choosing a profession in which language plays a crucial part.

Academic Requirements

The minor consists of 15 credits and comprises the following courses:

- LING 1950 - INTRODUCTION TO LINGUISTICS
- LING 1578 - PHONETICS AND PHONEMICS
- LING 1777 - SYNTACTIC THEORY
- Two electives, chosen from the linguistics courses at the 1000 level (e.g., Phonology, Morphology, Historical Linguistics, Aspects of Sociolinguistics, Introduction to Applied Linguistics)

Certificate

American Sign Language Certificate

The Department of Linguistics offers an undergraduate Certificate in American Sign Language (ASL). This certificate program should lead students to: a high degree of proficiency in ASL; an understanding of the structure of ASL as a visual/gestural language; and an understanding of important issues in deaf culture and education.

This certificate program could conveniently accompany various undergraduate majors including, but not limited to, linguistics, communication science, and various undergraduate disciplines that serve as the basis for graduate-level degrees and certificates in the University of Pittsburgh School of Education. The program draws on the academic strengths and resources of the Department of Linguistics in the Faculty of Arts and Sciences and the Department of Instruction and Learning in the School of Education.

Currently, there is a limit of 20 students per academic year who can enroll in the ASL certificate program. For this reason, each applicant will be required to go through an evaluation process. Applications are accepted early during the spring term of each academic year, and students will be notified of their acceptance or non-acceptance into the program before registering for fall classes. Please contact the Less-Commonly-Taught Languages Center, CL G-47, for application packets or more information (lctl@pitt.edu, 412-624-5512).

Requirements

- LING 0471 - AMERICAN SIGN LANGUAGE 1 (B or higher)
- LING 0472 - AMERICAN SIGN LANGUAGE 2 (B or higher)
- Successful performance on skills and knowledge evaluations

Required courses (18 credits)

Category 1:

- LING 0473 - AMERICAN SIGN LANGUAGE 3
- LING 0474 - AMERICAN SIGN LANGUAGE 4

Category 2:

- LING 1722 - DEAF CULTURE

Category 3:

- LING 1000 - INTRODUCTION TO LINGUISTICS

Category 4:

- LING 1720 - STRUCTURE OF SIGN LANGUAGES

Category 5:

(one of the following)

- LING 1721 - SOCIOLINGUISTICS OF SIGN LANG
- LING 1723 - ANALYSES OF ASL LITERATURE

Arabic Language and Linguistics Certificate

The Department of Linguistics offers an undergraduate certificate in Arabic Language and Linguistics. This certificate program should lead students to:

- an intermediate to advanced proficiency in Modern Standard Arabic (formal Arabic) and at least one Arabic dialect;
- an understanding of the linguistic structure of Arabic;
- an understanding of important issues in Arabic literature and culture; and
- exposure to authentic Arabic reading and listening materials, and discussion of general topics of interest in the Arab world in Arabic.

The certificate program could conveniently accompany several undergraduate majors including, but not limited to, linguistics, political science, communication science, and various undergraduate disciplines that serve as the basis for graduate-level degrees and certificates in the schools of education, law, and others.

Students who are interested in the Arabic Language and Linguistics Certificate can apply for the program after they complete the prerequisites for the certificate which is the completion of two semesters of the language with an average B grade or higher. However, students could also apply for the certificate any time before their graduation if they complete the requirements by then. Contact the Arabic coordinator, Amani Attia (ama66@pitt.edu) for advice on course planning, and to submit the application packet, which consists of three forms to be filled out by candidates. This certificate requires 32-34 credits for completion.

Prerequisite dialect courses

Students must complete two semesters of Modern Standard Arabic in one dialect - Egyptian or Levantine, with a letter grade of B or higher to declare the certificate.

Choose one of the following pairs of courses

- Egyptian
  - LING 0141/ ARABIC 0101 Modern Standard Arabic 1, Egyptian (5 credits)
  - LING 0142/ ARABIC 0102 Modern Standard Arabic 2, Egyptian (5 credits)
- Levantine
  - LING 0151/ ARABIC 0121 Modern Standard Arabic 1, Levantine (5 credits)
  - LING 0152/ ARABIC 0122 Modern Standard Arabic 2, Levantine (5 credits)

In addition to the prerequisite courses, the certificate requires 22-23 credits of course work as follows:

Required Courses:

Two additional courses in the same dialect

In some cases, students could change from one dialect track to the other, based on study abroad needs, schedule conflicts, or other factors. The student must show a certain level of proficiency in the target dialect. Contact Arabic coordinator (ama66@pitt.edu) for advice on this issue.

Egyptian

- LING 0143 - MOD STNDRD ARABIC 3/EGYPTIAN 3 or
- ARABIC 0103 - MODERN STANDARD ARABIC 3/EGYPTIAN 3

- LING 0144 - MOD STNDRD ARABIC 4/EGYPTIAN 4 or
- ARABIC 0104 - MODERN STANDARD ARABIC 4/EGYPTIAN 4

Levantine

- LING 0153 - MOD STNDRD ARABIC3/LEVANTINE 3 or
- ARABIC 0123 - MODERN STANDARD ARABIC 3/LEVANTINE 3

- LING 0154 - MOD STNDRD ARABIC4/LEVANTINE 4 or
- ARABIC 0124 - MOD STNDRD ARABIC4/LEVANTINE 4

Prerequisite introductory linquistic course; choose one

As a prerequisite for LING 1520 / ARABIC 1705 - INTRODUCTION TO ARABIC LINGUISTICS:

- LING 1000 - INTRODUCTION TO LINGUISTICS
- CSD 1020 - NATURE OF LANGUAGE

Arabic linguistics courses; both courses are required

- LING 1520 - INTRO TO ARABIC LINGUISTICS or
- ARABIC 1705 - INTRODUCTION TO ARABIC LINGUISTICS

- LING 1524 - READINGS IN ARABIC or
- ARABIC 1115 - READINGS IN ARABIC

Arabic culture course; choose one

- LING 1522 - ARABIC LIFE AND THOUGHT or
- ARABIC 1615 - ARABIC LIFE AND THOUGHT

- LING 1523 - INTRO TO MODERN ARABIC LITERTR or
- ARABIC 1635 - INTRODUCTION TO MODERN ARABIC LITERATURE

One of the following Arabic related elective courses

These could be Arabic content courses, or Arabic related courses taught in English:

- LING 0145 - MOD STNDRD ARABIC 5/EGYPTIAN 5 or
- ARABIC 0105 - MODERN STANDARD ARABIC 5/EGYPTIAN 5

- LING 0146 - MOD STNDRD ARABIC 6/EGYPTIAN 6 or
- ARABIC 0106 - MODERN STANDARD ARABIC 6/EGYPTIAN 6

- LING 0155 - MOD STNDRD ARABIC5/LEVANTINE 5 or
- ARABIC 0125 - MODERN STANDARD ARABIC 5/LEVANTINE 5

- LING 0156 - MOD STNDRD ARABIC6/LEVANTINE 6 or
- ARABIC 0126 - MODERN STANDARD ARABIC 6/LEVANTINE 6

- LING 0711 - IRAQI ARABIC 1 or
- ARABIC 0211 - IRAQI ARABIC 1

- LING 0712 - IRAQI ARABIC 2 or
- ARABIC 0212 - IRAQI ARABIC 2

- LING 0713 - IRAQI ARABIC 3 or
- ARABIC 0213 - IRAQI ARABIC 3

- LING 0731 - MOROCCAN ARABIC 1 or
- ARABIC 0221 - LEVANTINE ARABIC 1

- LING 0732 - MOROCCAN ARABIC 2 or
- ARABIC 0222 - LEVANTINE ARABIC 2

- LING 0733 - MOROCCAN ARABIC 3 or
- ARABIC 0223 - LEVANTINE ARABIC 3

- LING 1522 - ARABIC LIFE AND THOUGHT or
- ARABIC 1615 - ARABIC LIFE AND THOUGHT

- LING 1523 - INTRO TO MODERN ARABIC LITERTR or
- ARABIC 1635 - INTRODUCTION TO MODERN ARABIC LITERATURE

- LING 1527 - SPECIAL TOPICS IN ARABIC or
- ARABIC 1909 - SPECIAL TOPICS IN ARABIC

- ECON 0640 - ECON DEVELOPMENT OF THE MENA

- HIST 0756 - INTRO TO ISLAMIC CIVILIZATION or
- RELGST 0455 - INTRO TO ISLAMIC CIVILIZATION

- PS 1351 - GOVERMNT & POLITICS MIDDL EAST
- SOC 1366 - SOCIOLOGY OF ISLAM
- Other Arabic-related courses offered by another Dietrich School department or University of Pittsburgh school, such courses taken as part of a study abroad program, with the approval of the Arabic coordinator

Department of Mathematics

The Department of Mathematics offers course work leading to a Bachelor of Science degree in mathematics as well as various courses for non-majors. Students concentrating in mathematics may pursue majors in mathematics, applied mathematics, actuarial mathematics, or mathematical biology, or they may pursue a joint major in mathematics and economics. Each of the department's majors has its own philosophy and its own formal requirements, so students should consult with a major advisor. For more information on these majors and the Department of Mathematics, see www.mathematics.pitt.edu.

Major

Actuarial Mathematics, BS

Students wishing to pursue a major in Actuarial Mathematics must complete both MATH 0220 and MATH 0230 or their equivalents with a letter grade of C or better before declaring actuarial mathematics as their major. Students will be required to take 63 credits, of which 46 will be in Mathematics and Statistics. Specific requirements are:

Prerequisite courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2

Basic Calculus

Choose one of the following courses

- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
- MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL

Analysis:

choose one of the following courses

- MATH 0413 - INTRO THEORETICAL MATHEMATICS
- MATH 0450 - INTRODUCTION TO ANALYSIS

Linear algebra:

choose one of the following courses

- MATH 1180 - LINEAR ALGEBRA 1
- MATH 1185 - HONORS LINEAR ALGEBRA

Differential Equations:

Choose one of the following courses

- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1
- MATH 1275 - HNRS ORDINARY DIFFT EQUATNS 1

Actuarial Mathematics courses

- MATH 0470 - ACTUARIAL MATHEMATICS 1

- MATH 1121 - ACTUARIAL MATHEMATICS 2

Numerical Methods:

choose one of the following courses

- MATH 1070 - NUMERICAL MATHEMATICAL ANLYSIS
- MATH 1080 - NUMERICAL MATH: LINEAR ALGEBRA

Applied Mathematics:

Choose two of the following courses

- MATH 1100 - LINEAR PROGRAMMING
- MATH 1110 - INDUSTRIAL MATHEMATICS (writing-intensive course)
- MATH 1122 - ACTUARIAL MATHEMATICS 3
- MATH 1123 - ACTUARIAL MATHEMATICS 4
- MATH 1280 - ORDINARY DIFFERNTL EQUATIONS 2
- MATH 1360 - MODELING IN APPLIED MATH 1
- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1530 - ADVANCED CALCULUS 1
- MATH 1540 - ADVANCED CALCULUS 2
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS

Economics

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY

Computer programming

Choose one of the following courses

- CS 0004 - INTRO COMPUTER PROGRMMNG-BASIC
- CS 0007 - INTRO TO COMPUTER PROGRAMMING
- CS 0008 - INT COMPUTER PRGMG WITH PYTHON
- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- STAT 1301 - STATISTICAL PACKAGES
- BUSBIS 1060 - INTRO TO INFORMATION SYSTEMS
- ENGR 0012 - INTRO TO ENGINEERING COMPUTING

Statistics

- STAT 1000 - APPLIED STATISTICAL METHODS

Probability

Choose one of the following courses

- STAT 1151 - INTRODUCTION TO PROBABILITY

- MATH 1510 - PROBABILITY

Analysis

Choose one of the following courses

- ECON 1150 - APPLIED ECONOMETRICS 1
- STAT 1221 - APPLIED REGRESSION

Time Sequence

Choose one of the following courses

- STAT 1321 - APPLIED TIME SERIES
- STAT 1731 - STOCHASTIC PROCESSES
- STAT 1741 - APPLIED PROBABILITY THEORY

Finance

Choose one of the following courses

- BUSFIN 1311 - CORPORATE FINANCE
- ECON 1440 - ECONOMICS OF CORPORTN FINANCE

Other Requirements and Recommendations

- Before declaring this major, students must complete MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2 or MATH 0235 - HONORS 1 - VARIABLE CALCULUS , or their equivalents, with a letter grade of C or better. Additionally, Students must complete MATH 0470 - ACTUARIAL MATHEMATICS 1 with a letter grade of B or better to declare this major.
- A letter grade of C or higher is necessary in all courses required for the major.
- No course that counts toward the major can be taken on the Satisfactory/No Credit (S/NC) basis.
- Students must complete at least one writing-intensive course (W-course) in the major. MATH 1110 - INDUSTRIAL MATHEMATICS is a W-course option for this major.
- The required courses include nine credits of statistics courses and nine to 12 credits of economics courses. Majors can fulfill the related area requirement by taking an additional statistics or economics course to achieve a total of 12 credits in one of these subjects.

Applied Mathematics, BS

Students majoring in Applied Mathematics must complete 40 credits in mathematics, distributed as follows. Since different program emphases are possible, students should consult the advisor as early as possible in regards to selection of courses:

Calculus

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

Introductory theoretical course

- MATH 0413 - INTRO THEORETICAL MATHEMATICS

- MATH 0420 - INTRO THEORY 1-VARIABLE CALCUL

Upper-level required courses

One of the following courses

- MATH 1180 - LINEAR ALGEBRA 1
- MATH 1185 - HONORS LINEAR ALGEBRA

One of the following courses

- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1
- MATH 1275 - HNRS ORDINARY DIFFT EQUATNS 1

Numerical Mathematics:

choose one of the following courses

- MATH 1070 - NUMERICAL MATHEMATICAL ANLYSIS
- MATH 1080 - NUMERICAL MATH: LINEAR ALGEBRA
- MATH 1100 - LINEAR PROGRAMMING
- MATH 1110 - INDUSTRIAL MATHEMATICS

Applied Analysis:

choose one of the following courses

- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS
- MATH 1570 - FOURIER ANALYSIS

Differential Equations:

choose one of the following courses

- MATH 1280 - ORDINARY DIFFERNTL EQUATIONS 2
- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1480 - PARTL DIFFERENTIAL EQUATIONS 2

One of the following courses

- MATH 1110 - INDUSTRIAL MATHEMATICS
- MATH 1360 - MODELING IN APPLIED MATH 1
- MATH 1370 - INTRO TO CMPTL NEUROSCIENCE
- MATH 1380 - MATH BIOLOGY

Physics courses

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)

- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

Computer Science:

choose one of the following courses

- CS 0007 - INTRO TO COMPUTER PROGRAMMING
- CS 0008 - INT COMPUTER PRGMG WITH PYTHON
- CS 0401 - INTRMEDT PROGRMMING USING JAVA

Statistics:

choose one of the following courses

- MATH 1510 - PROBABILITY
- STAT 1000 - APPLIED STATISTICAL METHODS
- STAT 1100 - STAT & PROBLTY FOR BUS MGT
- STAT 1151 - INTRODUCTION TO PROBABILITY

Other Requirements and Recommendations

- Students interested in graduate study are strongly advised to take MATH 1530 - ADVANCED CALCULUS 1 and MATH 1540 - ADVANCED CALCULUS 2. These two courses may be substituted for the Applied Analysis and the Differential Equations courses, respectively.
- A grade of C or higher is necessary in all courses required for the major. A minimum GPA of 2.0 in departmental courses is required for graduation.
- Students must complete at least one writing-intensive course (W-course) in the major.
- No course that counts toward the major may be taken on the S/NC basis.
- Students must complete at least 12 credits in a related area. A minor in Chemistry, Computer Science, Economics, or Physics would fulfill this requirement. Speak to the departmental advisor for more options or details.
- Honors in Applied Mathematics is granted if the student:
    - Completes all requirements for the major
    - Completes the following courses with a letter grade of B or higher:
        - MATH 1470
        - MATH 1530
        - MATH 1540
        - A 2000-level course in lieu of a 1000-level elective
    - Completes an honors thesis under the direction of a member of the Department of Mathematics faculty, or completes a 2000-level course in lieu of the honors thesis.
- The statistics requirement is waived for students seeking honors in Applied Mathematics.

Mathematical Biology, BS

Students pursuing the Mathematical Biology major are encouraged to take CHEM 0110 - GENERAL CHEMISTRY 1 and CHEM 0120 - GENERAL CHEMISTRY 2, as these courses will satisfy the Dietrich School of Arts and Sciences breadth requirement in natural science and will expand their biology and neuroscience course options. Several of the BIOSC courses that fulfill requirements for this major have prerequisites, but some do not have prerequisites. PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD) also carry a high degree of relevance for Mathematical Biology majors.

Requirements

The Mathematical Biology major will require the completion of 43 credits in mathematics.

Three Calculus courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

Two introductory theoretical courses

- MATH 0413 - INTRO THEORETICAL MATHEMATICS *
- MATH 0420 - INTRO THEORY 1-VARIABLE CALCUL *

Note:

* Qualified students may substitute MATH 0450 - INTRODUCTION TO ANALYSIS for MATH 0413 and MATH 0420.

One of the following courses

- MATH 1180 - LINEAR ALGEBRA 1
- MATH 1185 - HONORS LINEAR ALGEBRA

One of the following courses

- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1
- MATH 1275 - HNRS ORDINARY DIFFT EQUATNS 1

Two mathematical biology courses

- MATH 1370 - INTRO TO CMPTL NEUROSCIENCE
- MATH 1380 - MATH BIOLOGY

Two numerical mathematics courses

- MATH 1070 - NUMERICAL MATHEMATICAL ANLYSIS
- MATH 1080 - NUMERICAL MATH: LINEAR ALGEBRA

Two applied analysis courses

From the following list.

- MATH 1280 - ORDINARY DIFFERNTL EQUATIONS 2
- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1530 - ADVANCED CALCULUS 1
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS

Four Biology or Neuroscience courses

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2

Two of the following

At least one must be at the 1000 level.

- BIOSC 0370 - ECOLOGY
- BIOSC 1000 - BIOCHEMISTRY

One of the following courses

- BIOSC 0350 - GENETICS
- BIOSC 0355 - UHC GENETICS

One of the following courses

- BIOSC 1070 - HUMAN PHYSIOLOGY-UHC
- BIOSC 1250 - HUMAN PHYSIOLOGY
- BIOSC 1870 - ANIMAL PHYSIOLOGY
- BIOSC 1130 - EVOLUTION
- BIOSC 1320 - POPULATION BIOLOGY
- BIOSC 1470 - BIOPHYSICAL CHEMISTRY
- BIOSC 1500 - CELL BIOLOGY
- BIOSC 1520 - DEVELOPMENTAL BIOLOGY
- BIOSC 1540 - COMPUTATIONAL BIOLOGY
- BIOSC 1760 - IMMUNOLOGY

One of the following courses

- NROSCI 1000 - INTRO TO NEUROSCIENCE
- NROSCI 1003 - UHC INTRO TO NEUROSCIENCE
- NROSCI 1011 - FUNCTIONAL NEUROANATOMY
- NROSCI 1012 - NEUROPHYSIOLOGY
- NROSCI 1017 - SYNAPTIC TRANSMISSION
- NROSCI 1034 - NEURAL BASIS OF COGNITION

One of the following statistics courses

- MATH 1510 - PROBABILITY
- STAT 1000 - APPLIED STATISTICAL METHODS
- STAT 1100 - STAT & PROBLTY FOR BUS MGT

Note:

Mathematical Biology students who plan to continue in graduate studies are advised to take advanced calculus, MATH 1530 - ADVANCED CALCULUS 1 and MATH 1540 - ADVANCED CALCULUS 2. MATH 1370 - INTRO TO CMPTL NEUROSCIENCE and MATH 1380 - MATH BIOLOGY introduce students to techniques for independent research; students in these courses are encouraged to pursue research opportunities in Mathematical Biology that are available locally and nationally.

Other Requirements and Recommendations

- A grade of C or higher is necessary in all courses required for the major. A minimum GPA of 2.0 in departmental courses is required for graduation.
- No course that counts toward the major may be taken on the S/NC basis.
- Students must complete at least one writing-intensive course (W-course) in the major. Either MATH 0413 or MATH 0450 will satisfy this requirement.
- Students must complete at least 12 credits in a related area.
- Students seeking honors in Mathematical Biology will earn departmental honors if they meet the following requirements.
    - Fulfill all requirements for the major.
    - Complete the following courses with a letter grade of A- or better.
        - MATH 1370 - INTRO TO CMPTL NEUROSCIENCE
        - MATH 1380 - MATH BIOLOGY
    - Complete the following courses with a letter grade of B or higher.
        - MATH 1530 - ADVANCED CALCULUS 1
        - One 2000-level mathematics course in lieu of an upper level elective
    - Complete one of the following conditions.
        - An honors thesis under the direction of a faculty member in the Department of Mathematics; for students seeking a BPhil from the University Honors College, this requirement could be satisfied by the Honors College thesis
        - A 2000-level mathematics course with a letter grade of B or higher, in addition to the course use for the third item, above.
    - Although not required, the department strongly recommends that honors degree candidates take the intermediate honors courses MATH 1185 and MATH 0450 during their freshman or sophomore year.

Mathematics, BS

Requirements

Calculus courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

Introductory theoretical courses

- MATH 0413 - INTRO THEORETICAL MATHEMATICS
- MATH 0420 - INTRO THEORY 1-VARIABLE CALCUL
- MATH 0430 - INTRO ABSTRCT ALGBRAIC SYSTEMS

Upper-level required courses

Required course

- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

One of the following courses

- MATH 1180 - LINEAR ALGEBRA 1
- MATH 1185 - HONORS LINEAR ALGEBRA

One of the following courses

- MATH 1020 - APPLD ELEMENTARY NUMBER THEORY
- MATH 1025 - INTRO TO MATHMTL CRYPTOGRAPHY
- MATH 1050 - COMBINATORIAL MATHEMATICS
- MATH 1250 - ABSTRACT ALGEBRA
- MATH 1310 - GRAPH THEORY

Upper-level elective courses

Three of the following courses

- MATH 1020 - APPLD ELEMENTARY NUMBER THEORY
- MATH 1025 - INTRO TO MATHMTL CRYPTOGRAPHY
- MATH 1050 - COMBINATORIAL MATHEMATICS
- MATH 1070 - NUMERICAL MATHEMATICAL ANLYSIS
- MATH 1080 - NUMERICAL MATH: LINEAR ALGEBRA
- MATH 1100 - LINEAR PROGRAMMING
- MATH 1110 - INDUSTRIAL MATHEMATICS
- MATH 1240 - LINEAR ALGEBRA 2
- MATH 1250 - ABSTRACT ALGEBRA
- MATH 1280 - ORDINARY DIFFERNTL EQUATIONS 2
- MATH 1290 - TOPICS IN GEOMETRY
- MATH 1310 - GRAPH THEORY
- MATH 1330 - PROJECTIVE GEOMETRY
- MATH 1350 - INTRO TO DIFFERENTIAL GEOMETRY
- MATH 1360 - MODELING IN APPLIED MATH 1
- MATH 1410 - INTRO FNDTNS OF MATHEMATICS
- MATH 1420 - FOUNDATIONS OF MATHEMATICS 2
- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1510 - PROBABILITY
- MATH 1530 - ADVANCED CALCULUS 1
- MATH 1540 - ADVANCED CALCULUS 2
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS
- MATH 1570 - FOURIER ANALYSIS
- MATH 1700 - INTRODUCTION TO TOPOLOGY
- MATH 2XXX, 3XXX 3-credit graduate level course
- STAT 1631 - INTERMEDIATE PROBABILITY
- STAT 1632 - INTERMEDIATE MATHEMATICAL STAT

Physics course

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)

Programming course

Choose one

- CS 0007 - INTRO TO COMPUTER PROGRAMMING
- CS 0008 - INT COMPUTER PRGMG WITH PYTHON
- CS 0401 - INTRMEDT PROGRMMING USING JAVA

Other Requirements and Recommendations

- Majors must complete 40 credits (see below for curriculum details on each major) with a grade of C or higher in each course for the major and at least a 2.00 GPA overall in mathematics courses. The S/NC grade option is not permitted.
- MATH 0413 - INTRO THEORETICAL MATHEMATICS meets the departmental W requirement.
- Credit by examination is usually available only through the placement testing offered for incoming students.
- Appropriate courses for the Dietrich School -required 12-credit related area are determined in consultation with the mathematics advisor. A 12-credit related area for applied mathematics majors must be approved by the Undergraduate Committee.
- Students considering graduate work in mathematics should be aware that many programs require a reading knowledge of one or two second languages from among French, German, and Russian.
- To graduate with honors in mathematics or applied mathematics, students must meet the following requirements in addition to the other requirements for the major.
    - Completion of all mathematics requirements
    - Completion of each of the following courses with a grade of B or better:
        - MATH 1250 - ABSTRACT ALGEBRA
        - MATH 1530 - ADVANCED CALCULUS 1
        - MATH 1540 - ADVANCED CALCULUS 2
        - A graduate level mathematics course
    - Completion of an honors thesis under the direction of a member of the mathematics faculty or completion of a second graduate level mathematics course in lieu of the honors thesis
- Students interested in graduate study in mathematics are advised to take MATH 1530 and MATH 1540. Those interested in pursuing secondary education certification in mathematics are required to take MATH 1020, MATH 1230, and MATH 1290, MATH 1230 does not count toward the major.

The statistics requirement is waived for mathematics majors graduating with honors. Although not required, it is recommended that honors candidates take the intermediate honors courses MATH 0450 - INTRODUCTION TO ANALYSIS and MATH 1185 - HONORS LINEAR ALGEBRA during their freshman and sophomore years.

Minor

Mathematics Minor

Students wishing to pursue a minor in Mathematics must complete at least 15 credits of Mathematics coursework at the level of MATH 0250 or above. At least six of these credits must be in courses numbered 1000 or above. Students must complete these requirements with an average grade of C or better.

Prerequisites:

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

Joint Major

Mathematics - Economics, BS

Requirements

Students seeking a mathematics and economics joint major must adhere to the following rules and requirements:

- Completion of at least 58 credits in mathematics and economics courses (see below for detail).
- Earn at least a 2.00 in all courses required for the major. The S/NC option is not permitted.

- The Dietrich School 12-credit related area is not required.
- Students should check with the departmental advisors in mathematics and economics about the required W course.
- Students planning to do graduate study should keep in mind that many graduate programs require reading knowledge of one or two second languages.

The joint major provides not only a set of requirements but also suggested course sequences of mathematics and economics courses that are compatible with each other and that prepare students for various specialties. The courses follows

Required Courses in Mathematics

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
- MATH 0413 - INTRO THEORETICAL MATHEMATICS
- MATH 0420 - INTRO THEORY 1-VARIABLE CALCUL
- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

One of the following courses

- MATH 1180 - LINEAR ALGEBRA 1
- MATH 1185 - HONORS LINEAR ALGEBRA
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

In addition

Students are encouraged to take at least one field course in mathematics from the following list.

- MATH 1100 - LINEAR PROGRAMMING
- MATH 1110 - INDUSTRIAL MATHEMATICS
- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1530 - ADVANCED CALCULUS 1
- MATH 1540 - ADVANCED CALCULUS 2
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1700 - INTRODUCTION TO TOPOLOGY
- STAT 1221 - APPLIED REGRESSION
- STAT 1311 - APPLIED MULTIVARIATE ANALYSIS
- STAT 1321 - APPLIED TIME SERIES
- STAT 1631 - INTERMEDIATE PROBABILITY
- STAT 1632 - INTERMEDIATE MATHEMATICAL STAT
- STAT 1761 GAME THEORY

Required Courses in Economics (27 credits)

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY
- ECON 1100 - INTERMEDIATE MICROECONOMICS
- ECON 1110 - INTERMEDIATE MACROECONOMICS
- ECON 1150 - APPLIED ECONOMETRICS 1
- ECON 1200 - GAME THEORY
- One ECON non-0800 series elective course
- Two ECON 1000-level courses that require either ECON 1100 or ECON 1110 as a prerequisite

Note:

To qualify for departmental honors in the mathematics and economics joint major, students must meet the following requirements:

- Complete the required economics courses with the added stipulation that ECON 1180 - MATHEMATICAL ECONOMICS and a proseminar be one of the field courses chosen.
- Maintain a GPA of at least 3.00 in mathematics courses, at least 3.25 in economics courses, and at least 3.25 overall.
- Complete the following courses in lieu of those normally taken:
- MATH 0235 - HONORS 1 - VARIABLE CALCULUS
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
- MATH 0450 - INTRODUCTION TO ANALYSIS
- MATH 1185 - HONORS LINEAR ALGEBRA
- MATH 1530 - ADVANCED CALCULUS 1
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Department of Music

The Department of Music makes music through composition, improvisation, and performance and explores music's meaning in the structure of individual works, the relations between them, and their place in the cultures that produce them. One of the most exciting things about music is that it brings together different types of thought and action. The most sensory and practical things and the most theoretical and abstract ones cannot be separated in the musician's world. Thus, music enjoys a special place in the endeavor to understand ourselves. The program for majors is designed to introduce students to all the above ideas and activities, and students throughout the University are invited to join in any of them. In support of this multifaceted program, the department has assembled a diverse faculty, including experts in composition, performance, theory, history, jazz, and ethnomusicology and is committed to the principle of conducting its activities within an atmosphere that encourages communication and cooperation within that diversity. The department also welcomes double majors from all colleges within the University. For more information on the major, the minor, and the Department of Music, see http://www.music.pitt.edu/.

Note: *Students considering declaring a music major or minor should take the Music Theory Placement test, available at the Dietrich School of Arts and Sciences Advising Center. A sufficient score will exempt them from the required MUSIC 0100 - FUNDAMENTALS OF WESTERN MUSIC class. This exam takes about 60 minutes to complete.*

Major

Music, BA

The Department of Music offers an innovative undergraduate program that confers a bachelor's degree in music. The department's dynamic faculty offer strong support for undergraduate research and creative expression. Undergraduates also engage with the department's renowned graduate programs and are encouraged to actively participate in all aspects of the department's research and performance culture. Students are taught by a well-respected faculty of internationally recognized scholars, performers, and composers. They receive individualized attention and are mentored in ways that maximize their potential and growth.

The music major requires the completion of 42 credits. Students must choose one of the five major tracks: Composition; Music & Cultural History; Jazz; Global & Popular Music; or Performance. The tracks offer students a broad foundation in music scholarship while tailoring specific elements of music study to the students' individual talents and interests. For more information on the major, the minor, and the Department of Music's Web site.

To declare this major, students must complete MUSIC 0100 - FUNDAMENTALS OF WESTERN MUSIC with a letter grade of B- or better, or achieve a sufficient score to on the Music placement exam to receive credit for this course. Students should plan to take MUSIC 0411 - THEORY 1 , MUSIC 0412 - MUSICIANSHIP 1 , and MUSIC 0416 - MUSICIANSHIP 2 in their first year, and no later than the first term of their second year.

Prerequisite theory course

Students may test out of this prerequisite by completing the Music Theory placement exam with a sufficient score. Students who take this course must earn a letter grade of B- or better to delcare the Music major.

- MUSIC 0100 - FUNDAMENTALS OF WESTERN MUSIC

BA Requirements

Choose one of the following courses

- MUSIC 0222 - HISTRY OF WESTERN MUSC TO 1750
- MUSIC 0224 - HISTRY OF WEST MUSC SINCE 1750

All of the following courses

- MUSIC 0411 - THEORY 1
- MUSIC 0412 - MUSICIANSHIP 1
- MUSIC 0416 - MUSICIANSHIP 2

Choose one of the following courses

- MUSIC 0711 - HISTORY OF JAZZ
- MUSIC 1326 - AFRICAN-AMERICAN MUSIC IN U.S.

All of the following courses

- MUSIC 1310 - GLOBAL AND POPULAR MUSIC
- MUSIC 1903 - SPECIAL TOPICS-DIRCTED RSRCH
- MUSIC 1904 - SENIOR SEMINAR
  Three MUSIC performance courses, at 1 credit each

Composition Track

Students pursuing the Composition track must take MUSIC 0222 MUSIC 0222 - HISTRY OF WESTERN MUSC TO 1750, indicated in the core course list.

- MUSIC 0224 - HISTRY OF WEST MUSC SINCE 1750
- MUSIC 0415 - THEORY 2
- MUSIC 0417 - THEORY 3
- MUSIC 0419 - THEORY 4
- MUSIC 1421 - COMPOSITION 1
- MUSIC 1422 - COMPOSITION 2
  One elective course at the 1200- to 1400-level

Global & Popular Music Track

- MUSIC 0415 - THEORY 2
- ANTH 0780 - INTRO TO CULTURAL ANTHROPOLOGY
  One upper-level popular music course
  Three upper-level ethno-music courses with the MUSIC subject code

Jazz Track

Choose one of the following courses

Of these two courses, students must take the one that was not taken as a core course.

- MUSIC 0711 - HISTORY OF JAZZ
- MUSIC 1326 - AFRICAN-AMERICAN MUSIC IN U.S.

The following course

- MUSIC 1450 - MUSIC PRODUCTION AND RECORDING

Choose one of the following courses

- MUSIC 1731 - JAZZ COMPOSITION & ARRANGING 1
- MUSIC 1732 - JAZZ COMPOSITION & ARRANGING 2

All of the following courses

- MUSIC 1741 - JAZZ IMPROVISATION 1
- MUSIC 1742 - JAZZ IMPROVISATION 2
  Six MUSIC performance courses, at 1 credit each

Music & Cultural History Track

All of the following courses

- MUSIC 0224 - HISTRY OF WEST MUSC SINCE 1750
- MUSIC 0415 - THEORY 2

Choose one of the following courses

- MUSIC 0711 - HISTORY OF JAZZ
- MUSIC 1326 - AFRICAN-AMERICAN MUSIC IN U.S.

All of the following courses

- Two MUSIC courses at the 1200-level
- Two MUSIC courses at the 1200- to 1400-level
- Three MUSIC performance courses, at 1 credit each

Performance Track

All of the following courses

- MUSIC 0224 - HISTRY OF WEST MUSC SINCE 1750
- MUSIC 0415 - THEORY 2

- MUSIC 0417 - THEORY 3
- MUSIC 0419 - THEORY 4

Choose one of the following courses

Of these two courses, students must take the one that was not taken as a core course.

- MUSIC 0711 - HISTORY OF JAZZ
- MUSIC 1326 - AFRICAN-AMERICAN MUSIC IN U.S.

Six performance courses

Six MUSIC performance courses, at 1 credit each

One of the following composition courses

- MUSIC 1421 - COMPOSITION 1
- MUSIC 1422 - COMPOSITION 2
- MUSIC 1431 - INSTRUMNTATION & ORCHESTRATION
- MUSIC 1441 - ELECTRONIC & COMPUTER MUSIC 1
- MUSIC 1442 - ELECTRONIC & COMPUTER MUSIC 2

Other requirements

- Students may test out of MUSIC 0100 MUSIC 0100 - FUNDAMENTALS OF WESTERN MUSIC by passing the Music Theory placement exam, which is administered in the Dietrich School Advising Center, 201 Thackeray Hall.
- A minimum GPA of 2.0 in departmental courses is required for graduation.
- No course that counts toward the major can be taken on an S/NC basis.
- Students must complete at least one W-course in the major.
- All students interested in taking private lessons must complete a Request for Private Lessons form, available in 110 Music Building. Music majors have first priority in scheduling private lessons, which cost an additional $395 per term.
- To graduate with departmental honors, a student must earn a minimum 3.25 GPA overall, a minimum 3.50 GPA in the music courses with no grade lower than a B-.

Minor

Music Minor

The music minor offers a coherent sequence of courses that will provide students with a reasonably broad introduction to the historical, theoretical, and practical branches of music. Required courses, totaling 19 credits, are as follows.

Prerequisite theory course

- MUSIC 0100 - FUNDAMENTALS OF WESTERN MUSIC

Required courses

- MUSIC 0222 - HISTRY OF WESTERN MUSC TO 1750

or

- MUSIC 0224 - HISTRY OF WEST MUSC SINCE 1750
- MUSIC 0411 - THEORY 1
- MUSIC 0412 - MUSICIANSHIP 1
- MUSIC 0416 - MUSICIANSHIP 2
- MUSIC 0711 - HISTORY OF JAZZ
  or
- MUSIC 1326 - AFRICAN-AMERICAN MUSIC IN U.S.
- MUSIC 1310 - GLOBAL AND POPULAR MUSIC
  Three performance courses, at 1 credit each

Note

The department recommends that students considering a music minor take the prerequisite courses in the freshman year.

It is possible for students to test out of one or more of the required keyboard harmony, music theory, and/or musicianship courses; students should consult with the undergraduate advisor and/or the course instructor. The Satisfactory/No Credit (S/NC) grading option is not permitted for courses required for the minor. All students interested in taking private lessons must complete a Request for Private Lessons form in the office fo the Department of Music, Room 110, Music Building. Music majors have first priority in scheduling private lessons, which cost an additional $395 per term.

Department of Neuroscience

Neuroscience is the study of the biology and function of the central nervous system, with a special focus on the brain. The field has emerged during the past two decades as part of the explosive growth of research and interest in the neural sciences. An autonomous major in neuroscience was developed at the University of Pittsburgh in 1983, and it is among the largest undergraduate programs in neuroscience in the country, with nearly 300 students as majors.

The Bachelor of Science degree in neuroscience prepares students for the following:

- Advanced study in health-related fields, such as medicine, dentistry, pharmacy, public health, physical therapy, physician assistant, and exercise physiology;
- Graduate training in neuroscience and related fields in the biological sciences, and for a future career in a university, research institute, pharmaceutical company, or hospital;
- Research assistant positions in pharmaceutical, hospital, and university settings; and
- Public and private high school teaching following the completion of the teacher certification program in the School of Education.

The neuroscience major is designed to provide a broad and challenging sequence of courses in biological sciences, chemistry, mathematics, and physics, in addition to introductory and advanced courses in neuroscience. Students also may receive credit for original research projects they conduct in collaboration with faculty members. The relatively small size of the upper-level courses, the excellence of teaching, and the opportunity for research have been found to be especially attractive features of the major. A minor in neuroscience is also available. For more information on the major, the minor, and the Department of Neuroscience, see www.neuroscience.pitt.edu.

Major

Neuroscience, BS

Major Requirements

Neuroscience majors must complete a minimum of 59 credits, detailed as follows:

Required Courses

- NROSCI 1000 - INTRO TO NEUROSCIENCE or
- NROSCI 1003 - UHC INTRO TO NEUROSCIENCE

- NROSCI 1011 - FUNCTIONAL NEUROANATOMY or
- NROSCI 1013 - FUNCTIONAL NEUROANATOMY

- NROSCI 1012 - NEUROPHYSIOLOGY
- NROSCI 1017 - SYNAPTIC TRANSMISSION

One of the following writing courses

- NROSCI 1800 - NEUROSCIENCE/WRITING PRACTCM 1
- NROSCI 1801 - NEUROSCIENCE/WRITING PRACTCM 2
- NROSCI 1962 - THESIS RESEARCH/WRITING PRAC

Two advanced electives to be chosen from:

- NROSCI 1014 - SPEAKING OF SCIENCE
- NROSCI 1026 - CLINICAL NEUROPHYSIOLOGY
- NROSCI 1030 - PSYCHTRC DISORDERS & BRN FUNCN
- NROSCI 1032 - FNCTNL ORGZTN HUMN NERVOS SYS
- NROSCI 1033 - NEURAL BASIS OF VISION
- NROSCI 1034 - NEURAL BASIS OF COGNITION
- NROSCI 1036 - NEUROBIOLOGY OF AGING
- NROSCI 1040 - BIO BASES OF LEARNING & MEMORY
- NROSCI 1041 - DEVELOPMENTAL NEUROSCIENCE
- NROSCI 1042 - NEUROCHEMICAL BASIS BEHAVIOR
- NROSCI 1043 - NEURAL PLASTICITY
- NROSCI 1140 - BIO BASIS LEARNING MEMORY-UHC

Capstone Requirement

Choose one of the following courses

- NROSCI 1027 - NEUROSCIENCE PROSEMINAR
- NROSCI 1901 - INDEPENDENT STUDY

Note:

Course descriptions and current syllabi can be found by clicking on the Teaching Faculty link on the right of the Neuroscience Undergraduate home page at www.neuroscience.pitt.edu/programs/undergraduate

Co-requisite Courses

It is recommended that students complete introductory biology, chemistry, and physics courses during freshman and sophomore years. Premed students should also take PHYS 0212 - INTRO TO LABORATORY PHYSICS or PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG and a statistics course to meet medical school requirements.

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1 *

- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2 *
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2
- BIOSC 1000 - BIOCHEMISTRY

- BIOSC 1250 - HUMAN PHYSIOLOGY or
- NROSCI 1250 - HUMAN PHYSIOLOGY

- CHEM 0110 - GENERAL CHEMISTRY 1 *
- CHEM 0120 - GENERAL CHEMISTRY 2 *
- CHEM 0310 - ORGANIC CHEMISTRY 1
- CHEM 0320 - ORGANIC CHEMISTRY 2
- CHEM 0345 - ORGANIC LABORATORY
- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- PHYS 0110 - INTRODUCTION TO PHYSICS 1
- PHYS 0111 - INTRODUCTION TO PHYSICS 2

  * Students must complete these courses with a letter grade of C or better to declare the major.

Grade requirements for the major are as follows:

- Students majoring in neuroscience must take all required courses for a letter grade.
- NROSCI 1000 - INTRO TO NEUROSCIENCE or NROSCI 1003 - UHC INTRO TO NEUROSCIENCE must be passed with a B- or better. Grades in the remaining core courses and two advanced electives are averaged. All of these courses must be passed, and the average GPA must be 2.00 or better.
- In the co-requisites, a passing grade below C may be accepted only if it is balanced with higher grades, so that the total GPA in co-requisite courses is 2.0 or better. This requirement applies collectively to corequisite courses taught in the Department of Neuroscience (e.g., NROSCI 1070 - HUMAN PHYSIOLOGY-UHC) and those taught in other departments.
- Majors must have a grade of B- in NROSCI 1000 - INTRO TO NEUROSCIENCE or NROSCI 1003 - UHC INTRO TO NEUROSCIENCE as a prerequisite to taking any other departmental core or advanced elective courses.
- The co-requisite courses in biology and chemistry satisfy the related area requirement for this major.

Department Honors and Undergraduate Research

- To qualify for departmental honors, students need to maintain a minimum overall GPA of 3.25 as well as a GPA of 3.25 in the neuroscience major. In addition, students must complete a substantial amount of experimental neuroscience research on an approved research project and give a public presentation of the work. The full faculty of the department approves departmental honors after consideration of all eligible students.
- The Department of Neuroscience encourages interested undergraduate majors to gain research experience within an active neuroscience laboratory. The department is a world-class research department committed to high quality research and sharing the excitement of scientific exploration with trainees. Majors are encouraged to take advantage of the opportunity to do meaningful neuroscience research while still undergraduates. It is not unusual for majors to report their research at scientific meetings and to be published. While research experience itself has strong benefits, it is also useful for interacting more closely with professors and enhancing preparation for graduate or medical school. Most undergraduates who enroll in research for credit are interested in completing an independent project that results in an undergraduate thesis.

Minor

Neuroscience Minor

Minor Requirements

A minimum of 14 credits is required for a neuroscience minor. The minor includes the following:

- NROSCI 1000 - INTRO TO NEUROSCIENCE or NROSCI 1003 - UHC INTRO TO NEUROSCIENCE with a grade of C or better
- Three core courses:
    - NROSCI 1011 - FUNCTIONAL NEUROANATOMY
    - NROSCI 1012 - NEUROPHYSIOLOGY
    - NROSCI 1017 - SYNAPTIC TRANSMISSION
- As an alternative to the three core courses, students may take two of the core courses and at least one advanced elective from the following list.
    - NROSCI 1030 - PSYCHTRC DISORDERS & BRN FUNCN
    - NROSCI 1032 - FNCTNL ORGZTN HUMN NERVOS SYS
    - NROSCI 1034 - NEURAL BASIS OF COGNITION
    - NROSCI 1035 - CONTROL OF MOVEMENT
    - NROSCI 1036 - NEUROBIOLOGY OF AGING
    - NROSCI 1040 - BIO BASES OF LEARNING & MEMORY
    - NROSCI 1041 - DEVELOPMENTAL NEUROSCIENCE
    - NROSCI 1042 - NEUROCHEMICAL BASIS BEHAVIOR

Department of Philosophy

The University of Pittsburgh has one of the best philosophy departments in the country, one with a long tradition of fine teaching. A major in philosophy provides excellent preparation for such professions as law, medicine, and business. The conceptual sophistication imparted by training in philosophy is invaluable in virtually any field of learning or any serious profession. For example, students who are majoring in biology, psychology, history, or computer science would do well to pick up a second major in philosophy, something the Department of Philosophy encourages by offering a standard major track along with its more time-consuming intensive major track. A minor in philosophy is also available. While the department encourages students to major in philosophy, either alone or as a second major, only rarely does it encourage students to pursue philosophy in graduate school as preparation for a scholarly career. Students who do especially well in either the standard or intensive major program are graduated with honors in philosophy. Because of the national reputation of the philosophy department, a major in philosophy or honors in philosophy should materially help University of Pittsburgh graduates get into good graduate schools or professional schools. For more information on the program and the Department of Philosophy, see www.philosophy.pitt.edu.

Major

Philosophy - Intensive Track, BA

Major Requirements

The standard philosophy major track requires at least 24 credits, while the intensive philosophy major track requires a minimum of 36 credits, as detailed below:

- An acceptable senior paper. The student must sign up either for PHIL 1940 - HONORS THESIS/MAJORS (3 credits) or PHIL 1940 - HONORS THESIS/MAJORS and PHIL 1941 - HONORS THESIS 2/MAJORS (6 credits), with the prior permission of a faculty member who has agreed to supervise the student's work. Neither PHIL 1940 nor PHIL 1941 counts toward the five 1000-level courses mentioned above.
- The following rules and requirements apply to all philosophy majors, regardless of the track chosen:
    - Only those philosophy courses completed with a grade of C or better will count for the major.
    - No restrictions are placed on the number of courses taken under the S/NC option (formerly the S/N option).
    - Arrangements for credit by examination in appropriate cases may be made through departmental advisors.
    - There are no departmental second language requirements; however, students who plan to pursue philosophy in graduate school are strongly encouraged to develop at least a good reading competence in one or more second languages of special relevance to philosophy (e.g., Greek, Latin, French, and German).
    - Joint majors are not double majors but multidisciplinary majors offered by two or more departments. Presently, the Department of Philosophy offers a joint major in politics and philosophy with the Department of Political Science (see Politics and

Philosophy major information under non-departmental A&S Majors) as well as a joint major in mathematics and philosophy with the Department of Mathematics (see Mathematics-Philosophy).

- Students who complete the philosophy major (standard or intensive track) or joint major will be graduated with honors in philosophy if they have earned a grade of A- or better in at least six 1000-level philosophy courses exclusive of PHIL 1902 - DIRECTED STUDY--UNDERGRADUATE, PHIL 1903 - DIRCTED RESEARCH--UNDERGRADUT, PHIL 1940 - HONORS THESIS/MAJORS, PHIL 1941 - HONORS THESIS 2/MAJORS, and PHIL 1942 - HONORS THESIS 3/MAJORS.

The intensive major track requires the following courses:

NOTE: the intensive major has no official standing and should be thought of as a recommendation only.

- PHIL 0500 - INTRODUCTION TO LOGIC or
- PHIL 1500 - SYMBOLIC LOGIC

- PHIL 0200 - HISTORY OF ANCIENT PHILOSOPHY or
- PHIL 1020 - PLATO or
- PHIL 1040 - ARISTOTLE

- PHIL 0210 - HISTORY OF MODERN PHILOSOPHY or
- PHIL 1110 - RATIONALISM or
- PHIL 1140 - EMPIRICISM

At least five 1000-level courses

Beyond those counted above to include at least one course from each of the four groups:

- PHIL 1020-PHIL 1190 History of Philosophy
- PHIL 1300-PHIL 1390 Value Theory
- PHIL 1420-PHIL 1490 Metaphysics and Epistemology
- PHIL 1500-PHIL 1690 Logic and Philosophy of Science

Philosophy - Standard Track, BA

Major Requirements

The standard philosophy major track requires at least 24 credits, while the intensive philosophy major track requires a minimum of 36 credits, as detailed below:

- An acceptable senior paper. The student must sign up either for PHIL 1940 - HONORS THESIS/MAJORS (3 credits) or PHIL 1940 - HONORS THESIS/MAJORS and PHIL 1941 - HONORS THESIS 2/MAJORS (6 credits), with the prior permission of a faculty member who has agreed to supervise the student's work. Neither PHIL 1940 nor PHIL 1941 counts toward the five 1000-level courses mentioned above.
- The following rules and requirements apply to all philosophy majors, regardless of the track chosen:
  - Only those philosophy courses completed with a grade of C or better will count for the major.
  - No restrictions are placed on the number of courses taken under the S/NC option (formerly the S/N option).
  - Arrangements for credit by examination in appropriate cases may be made through departmental advisors.
  - There are no departmental second language requirements; however, students who plan to pursue philosophy in graduate school are strongly encouraged to develop at least a good reading competence in one or more second languages of special relevance to philosophy (e.g., Greek, Latin, French, and German).
  - Joint majors are not double majors but multidisciplinary majors offered by two or more departments. Presently, the Department of Philosophy offers a joint major in politics and philosophy with the Department of Political Science (see Politics and Philosophy major information under non-departmental A&S Majors) as well as a joint major in mathematics and philosophy with the Department of Mathematics (see Mathematics-Philosophy).

- Students who complete the philosophy major (standard or intensive track) or joint major will be graduated with honors in philosophy if they have earned a grade of A- or better in at least six 1000-level philosophy courses exclusive of PHIL 1902 - DIRECTED STUDY--UNDERGRADUATE, PHIL 1903 - DIRCTED RESEARCH--UNDERGRADUT, PHIL 1940 - HONORS THESIS/MAJORS, PHIL 1941 - HONORS THESIS 2/MAJORS, and PHIL 1942 - HONORS THESIS 3/MAJORS.

The standard major track requires the following courses:

- PHIL 0500 - INTRODUCTION TO LOGIC or
- Any 1500 level course (Logic group)

- PHIL 0200 - HISTORY OF ANCIENT PHILOSOPHY or
- PHIL 1020 - PLATO or
- PHIL 1040 - ARISTOTLE

- PHIL 0210 - HISTORY OF MODERN PHILOSOPHY or
- PHIL 1110 - RATIONALISM or
- PHIL 1140 - EMPIRICISM

- PHIL 0300 - INTRODUCTION TO ETHICS or
- Any 300 or 1300-level course (the value theory group)

- Any four 1000-level courses beyond those outlined above

Minor

Philosophy Minor

Minor Requirements

The philosophy minor requires six 3-credit courses (18 credits total) to be distributed as follows:

- PHIL 0500 - INTRODUCTION TO LOGIC or
- One 1500 level course (Logic group)

- PHIL 0200 - HISTORY OF ANCIENT PHILOSOPHY or
- PHIL 1020 - PLATO

- PHIL 0210 - HISTORY OF MODERN PHILOSOPHY or
- PHIL 1110 - RATIONALISM or
- PHIL 1140 - EMPIRICISM

- Any course in the 1300s Value Theory, Social and Political Philosophy
- Two additional 1000-level courses must be completed.

Any course in moral, social, or political philosophy

PHIL 0300 - INTRODUCTION TO ETHICS is preferred, but any of the following is acceptable:

- PHIL 0320 - SOCIAL PHILOSOPHY
- PHIL 0330 - POLITICAL PHILOSOPHY
- PHIL 0350 - PHILOSOPHY AND PUBLIC ISSUES

- PHIL 0360 - MORALITY AND MEDICINE

Note:

At least one of the above four courses (numbers one-four) must be taken at the 1000 level.

Department of Physics and Astronomy

The Department of Physics and Astronomy offers three major degree options: a BS in physics, a BS in physics and astronomy, and a BA in astronomy. The BS degrees are intended for students who wish to prepare for graduate school in a scientific or technical discipline or who are interested in professional careers in which a background in physics or astronomy is appropriate. The BA degree are designed primarily for students who wish to develop a general scientific background appropriate for many careers including health-related professions or MBA programs. The Certificate in Photonics may be added by students in the bachelor of science physics program.

Students planning to pursue a degree within the department are urged to consult a departmental advisor at any time during the freshman year and should obtain a copy of the department's brochure for undergraduates in 100 Allen Hall.

*The department offers the physics minor, best suited for students from other schools. The department wishes to emphasize that its 0080s courses, in both physics and astronomy, use little mathematics and are especially designed for liberal arts students.

Major

Astronomy - Science Breadth Concentration, BA

Major Requirements

The BA in Astronomy requires 39 credits of course work as follows.

Specifications

- **Grade requirements:** A minimum GPA of 2.0 in departmental courses is required for graduation.
- **Satisfactory/No Credit option:** No PHYS or ASTRON courses beyond the introductory level may be taken on an S/NC basis.
- **Writing requirement:** Students must complete at least one W-course in the major.
- **Related area:** Mathematics satisfies the related area requirement for the Astronomy major.

Introductory Physics courses

Select one group

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

- PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1 and
- PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

Introductory Astronomy course

- ASTRON 0113 - INTRODUCTION TO ASTRONOMY

Intermediate and advanced Physics courses

- PHYS 0477 - INT THERMAL AND MODERN PHYSICS
- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
- PHYS 1310 - UNDERGRADUATE SEMINAR
- PHYS 1331 - MECHANICS

Laboratory courses

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG or
- PHYS 0520 - MODERN PHYSICS MEASUREMENTS

- ASTRON 1263 - TECHNIQUES OF ASTRONOMY

Intermediate and advanced Astronomy courses

Choose at least six credits

- ASTRON 1120 - STARS; STELLAR STRUCT & EVOLT
- ASTRON 1121 - GALAXIES AND COSMOLOGY
- ASTRON 1122 - SOLR SYS EXTRASOLAR PLANETS *

Note:

* GEOL 1701 - GEOLOGY OF THE PLANETS may be substituted

Science electives

Choose at least six credits *

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
- BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2

- CHEM 0110 - GENERAL CHEMISTRY 1 or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1

- CHEM 0120 - GENERAL CHEMISTRY 2 or
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

- CHEM 0310 - ORGANIC CHEMISTRY 1 or
- CHEM 0730 - UHC ORGANIC CHEMISTRY 1

- CHEM 0320 - ORGANIC CHEMISTRY 2 or
- CHEM 0740 - UHC ORGANIC CHEMISTRY 2

- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CHEM 1420 - PHYSICAL CHEMISTRY 2
- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0445 - DATA STRUCTURES

- GEOL 0040 - PHYSICAL GEOLOGY
- GEOL 1410 - EXPLORATION GEOPHYSICS
- GEOL 1701 - GEOLOGY OF THE PLANETS **

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG or
- MATH 1180 - LINEAR ALGEBRA 1 or
- MATH 1185 - HONORS LINEAR ALGEBRA

- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS
- PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS
- PHYS 1341 - THERMDYNMC & STATISCAL MECHANC
- PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM
- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1
- PHYS 1378 - INT TO NUCLR & PARTCL PHYSICS
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Note:

* Some of these courses have prerequisites

** If this course is taken as a science elective, it cannot be used to satisfy the requirement for nine credits of intermediate and advanced courses.

Prerequisite Mathematics courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

- MATH 0290 - DIFFERENTIAL EQUATIONS or
- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

Course in the history and philosophy of science or science policy/management

Choose at least three credits

- BUSERV 1915 - INTRODUCTION TO MANAGEMENT
- PHYS 0086 - PHYSICS AND PUBLIC POLICY
- PHYS 0087 - PHYSICS AND SOCIETY
- PUBSRV 1315 - MANAGING PROJECTS & CONTRACTS
- Any course in the Department of History and Philosophy of Science (HPS)

Writing or communication courses

Choose at least three credits

- COMMRC 0320 - MASS COMMUNICATION PROCESS
- COMMRC 0520 - PUBLIC SPEAKING
- COMMRC 1105 - TELEVISION AND SOCIETY
- ENGCMP 0400 - WRITTEN PROFESSNL COMMUNICTN

- ENGCMP 1101 - LANGUAGE OF SCIENCE & TECHNLGY
- ENGCMP 1400 - GRANT AND PROPOSAL WRITING
- ENGWRT 1330 - INTERMEDIATE NONFICTION
- ENGWRT 1340 - ADVANCED NONFICTION
- ENGWRT 1394 - SCIENCE WRITING
- LING 1000 - INTRODUCTION TO LINGUISTICS

Science Breadth concentration

This concentration provides broader exposure to other sciences in comparison to the standard Astronomy BA, while going into greater depth in physics and astronomy than a more generic natural science major. With proper selection of courses, this concentration provides the necessary requirements to apply for admission to medical school while roughly matching the credit requirements of the Astronomy BA.

Reduced physics requirements

- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2 *

Note:

* PHYS 0481 is required for the Physics minor

Reduced writing requirements

The three credit writing or communication requirement is waived for students pursuing this concentration.

Added science requirements

Choose two of the three groups, totaling at least 16 credits

- CHEM 0110 - GENERAL CHEMISTRY 1 or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1

- CHEM 0120 - GENERAL CHEMISTRY 2 or
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

- GEOL 0040 - PHYSICAL GEOLOGY
- GEOL 0050 - PHYSICAL GEOLOGY
- GEOL 0890 - OCEANOGRAPHY

One of the following course groups

- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2
- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2 or
- BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2
- BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
- BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2

Added science electives

Choose one of the three tracks totaling at least six credits

Track 1

- CHEM 0310 - ORGANIC CHEMISTRY 1 or
- CHEM 0730 - UHC ORGANIC CHEMISTRY 1

- CHEM 0320 - ORGANIC CHEMISTRY 2 or
- CHEM 0740 - UHC ORGANIC CHEMISTRY 2

- CHEM 0345 - ORGANIC LABORATORY

Track 2

- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0445 - DATA STRUCTURES

Track 3

- Two advanced courses in Biological Sciences (BIOSC), Bioengineering (BIOE), Chemistry (CHEM), Computer Science (CS), or Geology (GEOL).

Astronomy - Science Communication Concentration, BA

Major Requirements

The BA in Astronomy requires 39 credits of course work as follows.

Specifications

- **Grade requirements:** A minimum GPA of 2.0 in departmental courses is required for graduation.
- **Satisfactory/No Credit option:** No PHYS or ASTRON courses beyond the introductory level may be taken on an S/NC basis.
- **Writing requirement:** Students must complete at least one W-course in the major.
- **Related area:** Mathematics satisfies the related area requirement for the Astronomy major.

Introductory Physics courses

Select one group

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

- PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1 and
- PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

Introductory Astronomy course

- ASTRON 0113 - INTRODUCTION TO ASTRONOMY

Intermediate and advanced Physics courses

- PHYS 0477 - INT THERMAL AND MODERN PHYSICS
- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
- PHYS 1310 - UNDERGRADUATE SEMINAR
- PHYS 1331 - MECHANICS

Laboratory courses

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG or
- PHYS 0520 - MODERN PHYSICS MEASUREMENTS

- ASTRON 1263 - TECHNIQUES OF ASTRONOMY

Intermediate and advanced Astronomy courses

Choose at least six credits

- ASTRON 1120 - STARS; STELLAR STRUCT & EVOLT
- ASTRON 1121 - GALAXIES AND COSMOLOGY
- ASTRON 1122 - SOLR SYS EXTRASOLAR PLANETS *

Note:

* GEOL 1701 - GEOLOGY OF THE PLANETS may be substituted

Science electives

Choose at least six credits *

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
- BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2

- CHEM 0110 - GENERAL CHEMISTRY 1 or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1

- CHEM 0120 - GENERAL CHEMISTRY 2 or
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

- CHEM 0310 - ORGANIC CHEMISTRY 1 or
- CHEM 0730 - UHC ORGANIC CHEMISTRY 1

- CHEM 0320 - ORGANIC CHEMISTRY 2 or
- CHEM 0740 - UHC ORGANIC CHEMISTRY 2

- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CHEM 1420 - PHYSICAL CHEMISTRY 2

- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0445 - DATA STRUCTURES
- GEOL 0040 - PHYSICAL GEOLOGY
- GEOL 1410 - EXPLORATION GEOPHYSICS
- GEOL 1701 - GEOLOGY OF THE PLANETS **

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG or
- MATH 1180 - LINEAR ALGEBRA 1 or
- MATH 1185 - HONORS LINEAR ALGEBRA

- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS
- PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS
- PHYS 1341 - THERMDYNMC & STATISCAL MECHANC
- PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM
- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1
- PHYS 1378 - INT TO NUCLR & PARTCL PHYSICS
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Note:

* Some of these courses have prerequisites

** If this course is taken as a science elective, it cannot be used to satisfy the requirement for nine credits of intermediate and advanced courses.

Prerequisite Mathematics courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

- MATH 0290 - DIFFERENTIAL EQUATIONS or
- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

Course in the history and philosophy of science or science policy/management

Choose at least three credits

- BUSERV 1915 - INTRODUCTION TO MANAGEMENT
- PHYS 0086 - PHYSICS AND PUBLIC POLICY
- PHYS 0087 - PHYSICS AND SOCIETY
- PUBSRV 1315 - MANAGING PROJECTS & CONTRACTS
- Any course in the Department of History and Philosophy of Science (HPS)

Writing or communication courses

Choose at least three credits

- COMMRC 0320 - MASS COMMUNICATION PROCESS
- COMMRC 0520 - PUBLIC SPEAKING

- COMMRC 1105 - TELEVISION AND SOCIETY
- ENGCMP 0400 - WRITTEN PROFESSNL COMMUNICTN
- ENGCMP 1101 - LANGUAGE OF SCIENCE & TECHNLGY
- ENGCMP 1400 - GRANT AND PROPOSAL WRITING
- ENGWRT 1330 - INTERMEDIATE NONFICTION
- ENGWRT 1340 - ADVANCED NONFICTION
- ENGWRT 1394 - SCIENCE WRITING
- LING 1000 - INTRODUCTION TO LINGUISTICS

Science Communication concentration

This concentration replaces the three credit writing or communication course with a three credit writing course and 12 credits of communication courses. Students pursuing this concentration may replace the six credits of science electives with the communication course requirements.

Required writing course

- ENGCMP 0400 - WRITTEN PROFESSNL COMMUNICTN

Communication courses

Choose at least 12 credits

- ENGCMP 1101 - LANGUAGE OF SCIENCE & TECHNLGY
- ENGCMP 1400 - GRANT AND PROPOSAL WRITING
- COMMRC 0320 - MASS COMMUNICATION PROCESS
- COMMRC 0520 - PUBLIC SPEAKING
- COMMRC 1105 - TELEVISION AND SOCIETY
- ENGWRT 0610 - INTRO JOURNALISM & NONFICTION
- ENGWRT 1330 - INTERMEDIATE NONFICTION
- ENGWRT 1340 - ADVANCED NONFICTION
- ENGWRT 1394 - SCIENCE WRITING
- LING 1000 - INTRODUCTION TO LINGUISTICS

Astronomy, BA

Major Requirements

The BA in Astronomy requires 39 credits of course work as follows.

Specifications

- **Grade requirements:** A minimum GPA of 2.0 in departmental courses is required for graduation.
- **Satisfactory/No Credit option:** No PHYS or ASTRON courses beyond the introductory level may be taken on an S/NC basis.
- **Writing requirement:** Students must complete at least one W-course in the major.
- **Related area:** Mathematics satisfies the related area requirement for the Astronomy major.

Introductory Physics courses

Select one group

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

- PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1 and
- PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

Introductory Astronomy course

- ASTRON 0113 - INTRODUCTION TO ASTRONOMY

Intermediate and advanced Physics courses

- PHYS 0477 - INT THERMAL AND MODERN PHYSICS
- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
- PHYS 1310 - UNDERGRADUATE SEMINAR
- PHYS 1331 - MECHANICS

Laboratory courses

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG or
- PHYS 0520 - MODERN PHYSICS MEASUREMENTS

- ASTRON 1263 - TECHNIQUES OF ASTRONOMY

Intermediate and advanced Astronomy courses

Choose at least six credits

- ASTRON 1120 - STARS; STELLAR STRUCT & EVOLT
- ASTRON 1121 - GALAXIES AND COSMOLOGY
- ASTRON 1122 - SOLR SYS EXTRASOLAR PLANETS *

Note:

* GEOL 1701 - GEOLOGY OF THE PLANETS may be substituted

Science electives

Choose at least six credits *

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
- BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2

- CHEM 0110 - GENERAL CHEMISTRY 1 or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1

- CHEM 0120 - GENERAL CHEMISTRY 2 or
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

- CHEM 0310 - ORGANIC CHEMISTRY 1 or
- CHEM 0730 - UHC ORGANIC CHEMISTRY 1

- CHEM 0320 - ORGANIC CHEMISTRY 2 or
- CHEM 0740 - UHC ORGANIC CHEMISTRY 2

- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CHEM 1420 - PHYSICAL CHEMISTRY 2
- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0445 - DATA STRUCTURES
- GEOL 0040 - PHYSICAL GEOLOGY
- GEOL 1410 - EXPLORATION GEOPHYSICS
- GEOL 1701 - GEOLOGY OF THE PLANETS **

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG or
- MATH 1180 - LINEAR ALGEBRA 1 or
- MATH 1185 - HONORS LINEAR ALGEBRA

- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS
- PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS
- PHYS 1341 - THERMDYNMC & STATISCAL MECHANC
- PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM
- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1
- PHYS 1378 - INT TO NUCLR & PARTCL PHYSICS
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Note:

* Some of these courses have prerequisites

** If this course is taken as a science elective, it cannot be used to satisfy the requirement for nine credits of intermediate and advanced courses.

Prerequisite Mathematics courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

- MATH 0290 - DIFFERENTIAL EQUATIONS or
- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

Course in the history and philosophy of science or science policy/management

Choose at least three credits

- BUSERV 1915 - INTRODUCTION TO MANAGEMENT
- PHYS 0086 - PHYSICS AND PUBLIC POLICY
- PHYS 0087 - PHYSICS AND SOCIETY
- PUBSRV 1315 - MANAGING PROJECTS & CONTRACTS

- Any course in the Department of History and Philosophy of Science (HPS)

Writing or communication courses

Choose at least three credits

- COMMRC 0320 - MASS COMMUNICATION PROCESS
- COMMRC 0520 - PUBLIC SPEAKING
- COMMRC 1105 - TELEVISION AND SOCIETY
- ENGCMP 0400 - WRITTEN PROFESSNL COMMUNICTN
- ENGCMP 1101 - LANGUAGE OF SCIENCE & TECHNLGY
- ENGCMP 1400 - GRANT AND PROPOSAL WRITING
- ENGWRT 1330 - INTERMEDIATE NONFICTION
- ENGWRT 1340 - ADVANCED NONFICTION
- ENGWRT 1394 - SCIENCE WRITING
- LING 1000 - INTRODUCTION TO LINGUISTICS

Physics - Education Concentration, BS

Major Requirements

- A minimum GPA of 2.0 in departmental courses is required for graduation. Honors majors must attain a minimum GPA of 3.2 in physics courses, a cumulative GPA of 3.09 or higher, completes PHYS 1903 Directed Research, submits a paper detailing the research within the department and presents the research in a public forum (i.e. at the University's Science Symposium or the Undergraduate Poster Fair hosted by UHC).
- No PHYS courses beyond the introductory level may be taken on an S/NC basis.
- Students must complete at least one W-course in the major; students should consult with their department advisor about this requirement.
- The mathematics courses required for the major fulfill the related area requirement for all majors in this department.

Physics major, BS

The physics major requires the completion of 47 credits in physics distributed as follows.

Note:

While not required, the introductory level honors courses, PHYS 0475, PHYS 0476, and PHYS 0520 are appropriate particularly for students seeking degrees in physics.

Introductory Physics courses:

(select one group)

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

- PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1 and
- PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

Intermediate and advanced Physics courses

- PHYS 0477 - INT THERMAL AND MODERN PHYSICS
- PHYS 1310 - UNDERGRADUATE SEMINAR
- PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS
- PHYS 1331 - MECHANICS
- PHYS 1341 - THERMDYNMC & STATISCAL MECHANC
- PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM
- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1

Laboratory courses

Choose at least 10 credits

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG or
- PHYS 0520 - MODERN PHYSICS MEASUREMENTS

- PHYS 0525 - ANALOG AND DIGITAL ELECTRONICS
- PHYS 1361 - WAVE MOTION AND OPTICS
- PHYS 1426 - MODERN PHYSICS LABORATORY
- ASTRON 1263 - TECHNIQUES OF ASTRONOMY

Science electives

Choose at least nine credits from groups A and B. At least three credits must come from a course in group B.

Group A

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
- BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2

- CHEM 0110 - GENERAL CHEMISTRY 1 or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1

- CHEM 0120 - GENERAL CHEMISTRY 2 or
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

- CHEM 0310 - ORGANIC CHEMISTRY 1 or
- CHEM 0730 - UHC ORGANIC CHEMISTRY 1

- CHEM 0320 - ORGANIC CHEMISTRY 2 or
- CHEM 0740 - UHC ORGANIC CHEMISTRY 2

- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0445 - DATA STRUCTURES
- ENGR 0240 - NANOTECHN & NANOENGINEERING
- GEOL 0040 - PHYSICAL GEOLOGY
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Group B

- ASTRON 1120 - STARS; STELLAR STRUCT & EVOLT
- ASTRON 1121 - GALAXIES AND COSMOLOGY
- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CHEM 1420 - PHYSICAL CHEMISTRY 2
- CHEM 1620 - ATOMS, MOLECULES AND MATERIALS
- ECE 1232 - INTRO LASERS & OPTCL ELECTNC
- ECE 1247 - SEMICONDUCTOR DEVICE THEORY
- GEOL 1410 - EXPLORATION GEOPHYSICS
- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS
- MEMS 1054 - MATERIALS SCIENCE I
- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
- PHYS 1374 - SOLID STATE PHYSICS
- PHYS 1375 - FOUNDATIONS OF NANOSCIENCE
- PHYS 1376 - INTRO TO BIOLOGICAL PHYSICS
- PHYS 1378 - INT TO NUCLR & PARTCL PHYSICS

Prerequisite Mathematics courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG or
- MATH 1180 - LINEAR ALGEBRA 1 or
- MATH 1185 - HONORS LINEAR ALGEBRA

- MATH 0290 - DIFFERENTIAL EQUATIONS or
- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

Departmental honors requirements

Honors in physics is granted if in addition to fulfilling all requirements for the major, the student maintains a GPA of 3.2 or higher in courses required for the major, maintains a cumulative GPA of 3.0 or higher, completes MATH 1903 Directed Research, submits a paper detailing the research within the department, and presents the research in a public forum (i.e. at the University's Science Symposium, or the Undergraduate Poster Fair hosted by UHC).

Education concentration

This concentration removes up to 10 credits of physic courses from the standard Physics major requirements. This concentration requires seven credits of lab courses instead of the standard 10 credits.

Additional education related courses

(6 credits)

- PSYED 1001 - INTRO EDUCATIONAL PSYCHOLOGY
- IL 1580 - FOUNDATIONS OF SPECIAL EDUC

Additional courses

Emphasizing the broader impact of science; choose at least three credits.

- PHYS 0086 - PHYSICS AND PUBLIC POLICY
- PHYS 0087 - PHYSICS AND SOCIETY
- Any course offered by the Department of History and Philosophy of Science

Required courses from the Science electives

Group A

- CHEM 0110 - GENERAL CHEMISTRY 1 or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1

- CHEM 0120 - GENERAL CHEMISTRY 2 or
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

Group B

- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2

Physics courses removed

- PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS
- PHYS 1341 - THERMDYNMC & STATISCAL MECHANC
- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1

Physics - Graduate School Preparation Concentration, BS

Major Requirements

- A minimum GPA of 2.0 in departmental courses is required for graduation. Honors majors must attain a minimum GPA of 3.2 in physics courses, a cumulative GPA of 3.09 or higher, completes PHYS 1903 Directed Research, submits a paper detailing the research within the department and presents the research in a public forum (i.e. at the University's Science Symposium or the Undergraduate Poster Fair hosted by UHC).
- No PHYS courses beyond the introductory level may be taken on an S/NC basis.
- Students must complete at least one W-course in the major; students should consult with their department advisor about this requirement.
- The mathematics courses required for the major fulfill the related area requirement for all majors in this department.

Physics major, BS

The physics major requires the completion of 47 credits in physics distributed as follows.

Note:

While not required, the introductory level honors courses, PHYS 0475, PHYS 0476, and PHYS 0520 are appropriate particularly for students seeking degrees in physics.

Introductory Physics courses:

(select one group)

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

- PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1 and
- PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

Intermediate and advanced Physics courses

- PHYS 0477 - INT THERMAL AND MODERN PHYSICS
- PHYS 1310 - UNDERGRADUATE SEMINAR
- PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS
- PHYS 1331 - MECHANICS
- PHYS 1341 - THERMDYNMC & STATISCAL MECHANC
- PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM
- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1

Laboratory courses

Choose at least 10 credits

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG or
- PHYS 0520 - MODERN PHYSICS MEASUREMENTS

- PHYS 0525 - ANALOG AND DIGITAL ELECTRONICS
- PHYS 1361 - WAVE MOTION AND OPTICS
- PHYS 1426 - MODERN PHYSICS LABORATORY
- ASTRON 1263 - TECHNIQUES OF ASTRONOMY

Science electives

Choose at least nine credits from groups A and B. At least three credits must come from a course in group B.

Group A

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
- BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2

- CHEM 0110 - GENERAL CHEMISTRY 1 or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1

- CHEM 0120 - GENERAL CHEMISTRY 2 or
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

- CHEM 0310 - ORGANIC CHEMISTRY 1 or
- CHEM 0730 - UHC ORGANIC CHEMISTRY 1

- CHEM 0320 - ORGANIC CHEMISTRY 2 or
- CHEM 0740 - UHC ORGANIC CHEMISTRY 2

- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0445 - DATA STRUCTURES
- ENGR 0240 - NANOTECHN & NANOENGINEERING
- GEOL 0040 - PHYSICAL GEOLOGY
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Group B

- ASTRON 1120 - STARS; STELLAR STRUCT & EVOLT
- ASTRON 1121 - GALAXIES AND COSMOLOGY
- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CHEM 1420 - PHYSICAL CHEMISTRY 2
- CHEM 1620 - ATOMS, MOLECULES AND MATERIALS
- ECE 1232 - INTRO LASERS & OPTCL ELECTNC
- ECE 1247 - SEMICONDUCTOR DEVICE THEORY
- GEOL 1410 - EXPLORATION GEOPHYSICS
- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS
- MEMS 1054 - MATERIALS SCIENCE I
- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
- PHYS 1374 - SOLID STATE PHYSICS
- PHYS 1375 - FOUNDATIONS OF NANOSCIENCE
- PHYS 1376 - INTRO TO BIOLOGICAL PHYSICS
- PHYS 1378 - INT TO NUCLR & PARTCL PHYSICS

Prerequisite Mathematics courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG or
- MATH 1180 - LINEAR ALGEBRA 1 or
- MATH 1185 - HONORS LINEAR ALGEBRA

- MATH 0290 - DIFFERENTIAL EQUATIONS or
- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

Departmental honors requirements

Honors in physics is granted if in addition to fulfilling all requirements for the major, the student maintains a GPA of 3.2 or higher in courses required for the major, maintains a cumulative GPA of 3.0 or higher, completes MATH 1903 Directed Research, submits a paper detailing the research within the department, and presents the research in a public forum (i.e. at the University's Science Symposium, or the Undergraduate Poster Fair hosted by UHC).

Graduate School Preparation concentration

This concentration adds at least six credits of Physics courses to the standard Physics major requirements. This concentration requires seven credits of lab courses instead of the standard 10 credits.

Additional intermediate and advanced Physics courses

- PHYS 1371 - INTRO TO QUANTUM MECHANICS 2
- PHYS 1372 - ELECTROMAGNETIC THEORY
- PHYS 1373 - MATHEMATCL METHODS IN PHYSICS

Physics and Astronomy - Education Concentration, BS

Major Requirements

The BS in physics and astronomy requires the completion of 50 credits in physics and astronomy distributed as follows.

Introductory Physics courses:

(select one group)

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

- PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1 and
- PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

Introductory Astronomy course

- ASTRON 0113 - INTRODUCTION TO ASTRONOMY

Intermediate and advanced Physics courses

- PHYS 0477 - INT THERMAL AND MODERN PHYSICS
- PHYS 1310 - UNDERGRADUATE SEMINAR
- PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS
- PHYS 1331 - MECHANICS
- PHYS 1341 - THERMDYNMC & STATISCAL MECHANC
- PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM
- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1

Laboratory courses

Choose at least seven credits

Required courses

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG or
- PHYS 0520 - MODERN PHYSICS MEASUREMENTS

- ASTRON 1263 - TECHNIQUES OF ASTRONOMY

Additional courses

- PHYS 0525 - ANALOG AND DIGITAL ELECTRONICS
- PHYS 1361 - WAVE MOTION AND OPTICS
- PHYS 1426 - MODERN PHYSICS LABORATORY

Intermediate and advanced Astronomy courses

- ASTRON 1120 - STARS; STELLAR STRUCT & EVOLT
- ASTRON 1121 - GALAXIES AND COSMOLOGY
- ASTRON 1122 - SOLR SYS EXTRASOLAR PLANETS *

Note:

* GEOL 1701 - GEOLOGY OF THE PLANETS may be substituted for this course.

Science elective

Choose at least three credits *

- CHEM 0110 - GENERAL CHEMISTRY 1 or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1

- CHEM 0120 - GENERAL CHEMISTRY 2 or
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0445 - DATA STRUCTURES
- GEOL 0040 - PHYSICAL GEOLOGY
- GEOL 1410 - EXPLORATION GEOPHYSICS
- GEOL 1701 - GEOLOGY OF THE PLANETS **
- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS
- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
- PHYS 1371 - INTRO TO QUANTUM MECHANICS 2
- PHYS 1372 - ELECTROMAGNETIC THEORY
- PHYS 1373 - MATHEMATCL METHODS IN PHYSICS
- PHYS 1378 - INT TO NUCLR & PARTCL PHYSICS
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Note:

* Some of these courses have prerequisites

** If this course is taken as a science elective, it cannot be used to satisfy the requirement for the nine credits of intermediate and advanced courses.

Prerequisite Mathematics courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2

- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG or
- MATH 1180 - LINEAR ALGEBRA 1 or
- MATH 1185 - HONORS LINEAR ALGEBRA

- MATH 0290 - DIFFERENTIAL EQUATIONS or
- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

Honors major requirements

Honors in physics and astronomy is granted if in addition to fulfilling all requirements for the major, the student meets the following requirements.

- Maintains a GPA of 3.2 or higher in the major
- Maintains a cumulative GPA of 3.0 or higher
- Completes ASTRON 1903 - DIRECTED RESEARCH or PHYS 1903 - DIRECTED RESEARCH
- Submits a paper detailing the research within the department and presents the research in a public forum (i.e. at the University's Science Symposium or the Undergraduate Poster Fair hosted by the University Honors College).

Education concentration

This concentration removed nine credits from the standard Physics and Astronomy major requirements if one of the courses listed below is taken as a science elective.

Additional education related courses

- PSYED 1001 - INTRO EDUCATIONAL PSYCHOLOGY
- IL 1580 - FOUNDATIONS OF SPECIAL EDUC

Physics courses removed

- PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS
- PHYS 1341 - THERMDYNMC & STATISCAL MECHANC
- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1

Required laboratory courses

Choose at least eight credits

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG or
- PHYS 0520 - MODERN PHYSICS MEASUREMENTS

- PHYS 1361 - WAVE MOTION AND OPTICS
- ASTRON 1263 - TECHNIQUES OF ASTRONOMY

Required selection of science electives

- CHEM 0110 - GENERAL CHEMISTRY 1
- CHEM 0120 - GENERAL CHEMISTRY 2
- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2

Physics and Astronomy - Graduate School Preparation Concentration, BS

Major Requirements

The BS in physics and astronomy requires the completion of 50 credits in physics and astronomy distributed as follows.

Introductory Physics courses:

(select one group)

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

- PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1 and
- PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

Introductory Astronomy course

- ASTRON 0113 - INTRODUCTION TO ASTRONOMY

Intermediate and advanced Physics courses

- PHYS 0477 - INT THERMAL AND MODERN PHYSICS
- PHYS 1310 - UNDERGRADUATE SEMINAR
- PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS
- PHYS 1331 - MECHANICS
- PHYS 1341 - THERMDYNMC & STATISCAL MECHANC
- PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM
- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1

Laboratory courses

Choose at least seven credits

Required courses

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG or
- PHYS 0520 - MODERN PHYSICS MEASUREMENTS

- ASTRON 1263 - TECHNIQUES OF ASTRONOMY

Additional courses

- PHYS 0525 - ANALOG AND DIGITAL ELECTRONICS
- PHYS 1361 - WAVE MOTION AND OPTICS
- PHYS 1426 - MODERN PHYSICS LABORATORY

Intermediate and advanced Astronomy courses

- ASTRON 1120 - STARS; STELLAR STRUCT & EVOLT
- ASTRON 1121 - GALAXIES AND COSMOLOGY
- ASTRON 1122 - SOLR SYS EXTRASOLAR PLANETS *

Note:

* GEOL 1701 - GEOLOGY OF THE PLANETS may be substituted for this course.

Science elective

Choose at least three credits *

- CHEM 0110 - GENERAL CHEMISTRY 1 or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1

- CHEM 0120 - GENERAL CHEMISTRY 2 or
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0445 - DATA STRUCTURES
- GEOL 0040 - PHYSICAL GEOLOGY
- GEOL 1410 - EXPLORATION GEOPHYSICS
- GEOL 1701 - GEOLOGY OF THE PLANETS **
- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS
- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
- PHYS 1371 - INTRO TO QUANTUM MECHANICS 2
- PHYS 1372 - ELECTROMAGNETIC THEORY
- PHYS 1373 - MATHEMATCL METHODS IN PHYSICS
- PHYS 1378 - INT TO NUCLR & PARTCL PHYSICS
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Note:

* Some of these courses have prerequisites

** If this course is taken as a science elective, it cannot be used to satisfy the requirement for the nine credits of intermediate and advanced courses.

Prerequisite Mathematics courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG or
- MATH 1180 - LINEAR ALGEBRA 1 or
- MATH 1185 - HONORS LINEAR ALGEBRA

- MATH 0290 - DIFFERENTIAL EQUATIONS or

- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

Honors major requirements

Honors in physics and astronomy is granted if in addition to fulfilling all requirements for the major, the student meets the following requirements.

- Maintains a GPA of 3.2 or higher in the major
- Maintains a cumulative GPA of 3.0 or higher
- Completes ASTRON 1903 - DIRECTED RESEARCH or PHYS 1903 - DIRECTED RESEARCH
- Submits a paper detailing the research within the department and presents the research in a public forum (i.e. at the University's Science Symposium or the Undergraduate Poster Fair hosted by the University Honors College).

Graduate School Preparation concentration

This concentration adds six credits to the standard Physics and Astronomy major requirements if one of the courses listed below is taken as a science elective.

Additional intermediate and advanced Physics courses

- PHYS 1371 - INTRO TO QUANTUM MECHANICS 2
- PHYS 1372 - ELECTROMAGNETIC THEORY
- PHYS 1373 - MATHEMATCL METHODS IN PHYSICS

Physics and Astronomy, BS

Major Requirements

The BS in physics and astronomy requires the completion of 50 credits in physics and astronomy distributed as follows.

Introductory Physics courses:

(select one group)

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

- PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1 and
- PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

Introductory Astronomy course

- ASTRON 0113 - INTRODUCTION TO ASTRONOMY

Intermediate and advanced Physics courses

- PHYS 0477 - INT THERMAL AND MODERN PHYSICS
- PHYS 1310 - UNDERGRADUATE SEMINAR
- PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS
- PHYS 1331 - MECHANICS

- PHYS 1341 - THERMDYNMC & STATISCAL MECHANC
- PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM
- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1

Laboratory courses

Choose at least seven credits

Required courses

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG or
- PHYS 0520 - MODERN PHYSICS MEASUREMENTS

- ASTRON 1263 - TECHNIQUES OF ASTRONOMY

Additional courses

- PHYS 0525 - ANALOG AND DIGITAL ELECTRONICS
- PHYS 1361 - WAVE MOTION AND OPTICS
- PHYS 1426 - MODERN PHYSICS LABORATORY

Intermediate and advanced Astronomy courses

- ASTRON 1120 - STARS; STELLAR STRUCT & EVOLT
- ASTRON 1121 - GALAXIES AND COSMOLOGY
- ASTRON 1122 - SOLR SYS EXTRASOLAR PLANETS *

Note:

* GEOL 1701 - GEOLOGY OF THE PLANETS may be substituted for this course.

Science elective

Choose at least three credits *

- CHEM 0110 - GENERAL CHEMISTRY 1 or
- CHEM 0710 - UHC GENERAL CHEMISTRY 1

- CHEM 0120 - GENERAL CHEMISTRY 2 or
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0445 - DATA STRUCTURES
- GEOL 0040 - PHYSICAL GEOLOGY
- GEOL 1410 - EXPLORATION GEOPHYSICS
- GEOL 1701 - GEOLOGY OF THE PLANETS **
- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS

- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
- PHYS 1371 - INTRO TO QUANTUM MECHANICS 2
- PHYS 1372 - ELECTROMAGNETIC THEORY
- PHYS 1373 - MATHEMATCL METHODS IN PHYSICS
- PHYS 1378 - INT TO NUCLR & PARTCL PHYSICS
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Note:

* Some of these courses have prerequisites

** If this course is taken as a science elective, it cannot be used to satisfy the requirement for the nine credits of intermediate and advanced courses.

Prerequisite Mathematics courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG or
- MATH 1180 - LINEAR ALGEBRA 1 or
- MATH 1185 - HONORS LINEAR ALGEBRA

- MATH 0290 - DIFFERENTIAL EQUATIONS or
- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

Honors major requirements

Honors in physics and astronomy is granted if in addition to fulfilling all requirements for the major, the student meets the following requirements.

- Maintains a GPA of 3.2 or higher in the major
- Maintains a cumulative GPA of 3.0 or higher
- Completes ASTRON 1903 - DIRECTED RESEARCH or PHYS 1903 - DIRECTED RESEARCH
- Submits a paper detailing the research within the department and presents the research in a public forum (i.e. at the University's Science Symposium or the Undergraduate Poster Fair hosted by the University Honors College).

Physics, BS

Major Requirements

- A minimum GPA of 2.0 in departmental courses is required for graduation. Honors majors must attain a minimum GPA of 3.2 in physics courses, a cumulative GPA of 3.09 or higher, completes PHYS 1903 Directed Research, submits a paper detailing the research within the department and presents the research in a public forum (i.e. at the University's Science Symposium or the Undergraduate Poster Fair hosted by UHC).
- No PHYS courses beyond the introductory level may be taken on an S/NC basis.
- Students must complete at least one W-course in the major; students should consult with their department advisor about this requirement.
- The mathematics courses required for the major fulfill the related area requirement for all majors in this department.

Physics major, BS

The physics major requires the completion of 47 credits in physics distributed as follows.

Note:

While not required, the introductory level honors courses, PHYS 0475, PHYS 0476, and PHYS 0520 are appropriate particularly for students seeking degrees in physics.

Introductory Physics courses:

(select one group)

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD) and
- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

- PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1 and
- PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

Intermediate and advanced Physics courses

- PHYS 0477 - INT THERMAL AND MODERN PHYSICS
- PHYS 1310 - UNDERGRADUATE SEMINAR
- PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS
- PHYS 1331 - MECHANICS
- PHYS 1341 - THERMDYNMC & STATISCAL MECHANC
- PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM
- PHYS 1370 - INTRO TO QUANTUM MECHANICS 1

Laboratory courses

Choose at least 10 credits

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG or
- PHYS 0520 - MODERN PHYSICS MEASUREMENTS

- PHYS 0525 - ANALOG AND DIGITAL ELECTRONICS
- PHYS 1361 - WAVE MOTION AND OPTICS
- PHYS 1426 - MODERN PHYSICS LABORATORY
- ASTRON 1263 - TECHNIQUES OF ASTRONOMY

Science electives

Choose at least nine credits from groups A and B. At least three credits must come from a course in group B.

Group A

- BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
- BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2

- CHEM 0110 - GENERAL CHEMISTRY 1 or

- CHEM 0710 - UHC GENERAL CHEMISTRY 1

- CHEM 0120 - GENERAL CHEMISTRY 2 or
- CHEM 0720 - UHC GENERAL CHEMISTRY 2

- CHEM 0310 - ORGANIC CHEMISTRY 1 or
- CHEM 0730 - UHC ORGANIC CHEMISTRY 1

- CHEM 0320 - ORGANIC CHEMISTRY 2 or
- CHEM 0740 - UHC ORGANIC CHEMISTRY 2

- CS 0401 - INTRMEDT PROGRMMING USING JAVA
- CS 0445 - DATA STRUCTURES
- ENGR 0240 - NANOTECHN & NANOENGINEERING
- GEOL 0040 - PHYSICAL GEOLOGY
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Group B

- ASTRON 1120 - STARS; STELLAR STRUCT & EVOLT
- ASTRON 1121 - GALAXIES AND COSMOLOGY
- CHEM 1410 - PHYSICAL CHEMISTRY 1
- CHEM 1420 - PHYSICAL CHEMISTRY 2
- CHEM 1620 - ATOMS, MOLECULES AND MATERIALS
- ECE 1232 - INTRO LASERS & OPTCL ELECTNC
- ECE 1247 - SEMICONDUCTOR DEVICE THEORY
- GEOL 1410 - EXPLORATION GEOPHYSICS
- MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
- MATH 1550 - VECTOR ANLYSIS & APPLICATIONS
- MATH 1560 - COMPLEX VARIABLES & APPLICATNS
- MEMS 1054 - MATERIALS SCIENCE I
- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
- PHYS 1374 - SOLID STATE PHYSICS
- PHYS 1375 - FOUNDATIONS OF NANOSCIENCE
- PHYS 1376 - INTRO TO BIOLOGICAL PHYSICS
- PHYS 1378 - INT TO NUCLR & PARTCL PHYSICS

Prerequisite Mathematics courses

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG or
- MATH 1180 - LINEAR ALGEBRA 1 or
- MATH 1185 - HONORS LINEAR ALGEBRA

- MATH 0290 - DIFFERENTIAL EQUATIONS or
- MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

Departmental honors requirements

Honors in physics is granted if in addition to fulfilling all requirements for the major, the student maintains a GPA of 3.2 or higher in courses required for the major, maintains a cumulative GPA of 3.0 or higher, completes MATH 1903 Directed Research, submits a paper detailing the research within the department, and presents the research in a public forum (i.e. at the University's Science Symposium, or the Undergraduate Poster Fair hosted by UHC).

Minor

Physics Minor

Select one course

- PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
- PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1

Select one course

- PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
- PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

Select one course

- PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG
- PHYS 0520 - MODERN PHYSICS MEASUREMENTS

Both courses

- PHYS 0479 - PRINCIPLES OF MODERN PHYSICS 1
- PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2

Department of Political Science

A major in political science is designed to help students understand the complexity of political developments in the United States and throughout the world. The major also provides students with a broad education that will help them to prepare for a wide variety of careers in various levels of government service, law, education, journalism, business, and the nonprofit sector. Those interested in government service careers may wish to complement their study of political science with courses in public service offered through the College of General Studies and the Graduate School of Public and International Affairs.

The political science department offers many courses that meet the international/foreign cultures requirements of the core curriculum of the Dietrich School of Arts and Sciences, as well as requirements for the wide range of certificate programs sponsored by the University Center for International Studies (African Studies, Asian Studies, European Union Studies, Global Studies, Latin American Studies, Russian and East European Studies, West European Studies, Global Service Center).

Major

Political Science, BA

Political Science, BA

Major Requirements

The major requires the completion of 33 credits.

The political science department offers a large number of courses in four substantive fields: American Politics, Comparative Politics, International Relations, and Political Theory. Core courses provide a survey of each field and with the methods employed in the contemporary study of politics. The field courses, at 1000-level, provide students with advanced coursework in each of these areas of specialization. The combination of core and field courses provides students with a comprehensive overview of political science as a discipline while permitting students to concentrate in a particular field or fields.

Core Courses

Students take all five of the core courses, which provide first and second year students with a survey of each of these fields and with the methods employed in the contemporary study of politics.

- PS 0200 American Political Process: An introduction to the institutions and political processes in the United States. The course surveys the presidency, Congress, and the judicial system as well as political behavior, public opinion, political attitudes, and the party system.
- PS 0300 Comparative Politics: An introduction to political systems outside the United States. The course surveys a variety of theoretical approaches to the comparison of political systems and an examination of the political processes, institutions, and current political developments in a variety of political systems in all of the major regions of the world.
- PS 0500 World Politics: An introduction to the study of foreign policy, covering the international political environment in which nation-states and other actors operate, as well as the specific policies adopted by particular states.
- PS 0600 Political Theory and Analysis: An introduction to the history of Western political ideas, including the thought of Plato, Aristotle, Machiavelli, Locke, Mill, and Marx.
- PS 0700 Research Methods in Political Science: An introduction to the methods used in political science research, covering the logic of social scientific inquiry, the basics of research design, and the quantitative and qualitative methods that are commonly used by political scientists to investigate important questions about the political world.

Field Courses

At the 1000 level, students must take a total of six courses (18 credits), distributed across a major field (three courses), a minor field (two courses) and one course in an elective field. In the major field, one of the courses must be a capstone seminar.

In each of the four substantive undergraduate fields of political science, a wide variety of advanced (1000-level) courses is offered on a regular basis. Some courses are offered annually, while others are offered less frequently. For details on course offerings and content, see the Undergraduate Course Descriptions.

American Politics

- PS 1201 - CONSTITUTION & CIVIL LIBERTIES
- PS 1202 - AMERICAN CONSTITUTIONAL LAW
- PS 1203 - JUDICIAL POLITICS
- PS 1204 - WOMEN IN POLITICS
- PS 1211 - LEGISLATIVE PROCESS
- PS 1212 - AMERICAN PRESIDENCY
- PS 1213 - LAW AND POLITICS
- PS 1230 - INTEREST GROUP POLITICS
- PS 1231 - POLITICAL PARTIES & ELECTIONS
- PS 1233 - POLITICAL PSYCHOLOGY
- PS 1234 - ELECTRL BEHAVR & DEMOCRTC PROC

- PS 1235 - MEDIA AND POLITICS
- PS 1252 - STATE GOVERNMENT
- PS 1261 - AMERICAN PUBLIC POLICY
- PS 1275 - RELIGION & AMERICAN POLITICS
- PS 1281 - CAPSTONE SEM AMERICAN POLITICS

Comparative Politics

- PS 1302 - POLITICAL DEVELOPMENT
- PS 1311 - WESTERN EURP GOVERMNT & POLIT
- PS 1314 - GERMAN GOVERNMENT AND POLITICS
- PS 1317 - POLITICS OF THE EUROPEAN UNION
- PS 1321 - LATIN AMERICAN POLITICS
- PS 1324 - US-LATIN AMERICAN RELATIONS
- PS 1330 - EUROPEAN UNION SEMINAR
- PS 1332 - GVRNT & POLIT IN CNTMPRY CHINA
- PS 1333 - GOVERNMENT & POLITICS OF JAPAN
- PS 1336 - CONTEM CHIN POLIT, SOCTY ECONY
- PS 1341 - GVRNT & POLIT USSR/RUSS FEDRTN
- PS 1348 - XENOPHOBIA IN MODERN EUROPE
- PS 1350 - RUSSA, CIS EXPNDNG EURPN UNIN
- PS 1351 - GOVERMNT & POLITICS MIDDL EAST
- PS 1352 - INTRODUCTION TO AFRCN POLITICS
- PS 1353 - AFRICAN LIBERATION MOVEMENTS
- PS 1361 - COMPARTV POLITCL PRTY SYSTEMS
- PS 1381 - CAPSTONE SEMINAR COMP POLITICS

International Relations

- PS 1501 - THEORY OF INTERNATIONAL RELTN
- PS 1503 - INTERNATIONAL ORGANIZATION
- PS 1504 - NATIONALISM
- PS 1509 - CONFLICT AND WAR THEORY
- PS 1510 - COLDWAR:SOVT UNIN WEST 1917-91
- PS 1511 - AMERICAN FOREIGN POLICY
- PS 1513 - FORGN POLICIES--CHANGNG WORLD
- PS 1521 - EASTRN EURP IN WORLD POLITICS
- PS 1522 - LATIN AMERC IN WORLD POLITICS
- PS 1523 - EAST ASIA IN WORLD POLITICS
- PS 1530 - NEW INT'L RELATIONS OF EUROPE
- PS 1542 - GLOBAL ENVIRONMENTAL POLITICS
- PS 1543 - GLOBALIZATION & INT'L POLITICS
- PS 1551 - INTERNATIONAL COOPERATION
- PS 1581 - CAPSTONE SEM INT'L RELATIONS

Political Theory and Analysis

- PS 1601 - ANCIENT & MEDIEVAL POL THOUGHT
- PS 1602 - EARLY MODERN POLITICAL THOUGHT
- PS 1603 - MODERN & CONTEM POL THOUGHT

- PS 1607 - AMERICAN POLITICAL THOUGHT
- PS 1610 - POL THRY OF THE AMER FOUNDING
- PS 1614 - THEORIES OF JUSTICE
- PS 1622 - WOMEN AND POLITICAL THEORY
- PS 1629 - TOPICS IN POLITICAL THEORY
- PS 1681 - CAPSTONE SEM POLITICAL THEORY

Additional Offerings

- PS 1701 - FLD METHODS POLITICAL RESEARCH
- PS 1702 - ANLYSIS OF POLITICAL VARIABLES
- PS 1710 - STRATEGY AND GAMES OF POLITICS
- PS 1900 - INTERNSHIP
- PS 1901 - INDEPENDENT STUDY
- PS 1902 - DIRECTED READING
- PS 1903 - DIRECTED RESEARCH

Capstone seminar

The University of Pittsburgh requires students to complete one writing-intensive course in their major. The Capstone Seminar, which is taken in the major field, fulfills the university-wide requirement of an intensive writing course (W-course) in the major and allows students to undertake advanced work under the direction of faculty in a smaller seminar setting.

Departmental honors requirements

Departmental honors are conferred upon students who maintain an overall GPA of 3.5 and achieve a GPA of 3.7 or better in political science.

Related area

A minimum of 12 credits is required in any one Arts and Sciences department chosen in consultation with the major advisor. The completion of an official Arts and Sciences minor or an Arts and Sciences or UCIS certificate also satisfies this requirement.

Grade requirements

A minimum GPA of 2.0 in departmental courses is required for graduation. In addition, a student must earn a grade of at least C- for a course to satisfy a PS requirement.

Satisfactory/No Credit option

No course to be counted toward the major can be taken on an S/NC basis.

Political Science, BPHIL

Major Requirements

The major requires the completion of 33 credits.

The political science department offers a large number of courses in four substantive fields: American Politics, Comparative Politics, International Relations, and Political Theory. Core courses provide a survey of each field and with the methods employed in the contemporary study of politics. The field courses, at 1000-level, provide students with advanced coursework in each of these areas of specialization. The combination of core and

field courses provides students with a comprehensive overview of political science as a discipline while permitting students to concentrate in a particular field or fields.

BS and BPhil in Political Science

Outstanding and motivated students seeking an even more challenging academic experience, especially those who are considering graduate school, should consult with an advisor about the option of a BS or BPhil in Political Science. The BS degree requires the departmental minor field to be Methods and Models in Political Science (PS 1702 and PS 1710), as well as 12 credits of additional coursework in cognate fields and an original paper of high quality. The BPhil degree, which is offered through the University Honors College (UHC), requires a plan of cognate fieldwork and a thesis approved by the department and UHC. For more information on the BPhil, see http://www.honorscollege.pitt.edu/bphildegree.

Second Language

None required beyond the requirements of Arts and Sciences. Study of a second language is highly recommended for students with an interest in politics outside of the United States and for all those considering graduate work in comparative politics or a career in government agencies concerned with international affairs.

Statistics

Not required for majors, but highly recommended for all those interested in graduate education in political science, business, or public policy.

Independent Study

Students who have completed the field course may explore a particular subject in greater depth in a tutorial with the appropriate faculty member. Permission of the instructor is required.

Political Science, BS

Major Requirements

The major requires the completion of 33 credits.

The political science department offers a large number of courses in four substantive fields: American Politics, Comparative Politics, International Relations, and Political Theory. Core courses provide a survey of each field and with the methods employed in the contemporary study of politics. The field courses, at 1000-level, provide students with advanced coursework in each of these areas of specialization. The combination of core and field courses provides students with a comprehensive overview of political science as a discipline while permitting students to concentrate in a particular field or fields.

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Statistics

Not required for majors, but highly recommended for all those interested in graduate education in political science, business, or public policy.

Independent Study

Students who have completed the field course may explore a particular subject in greater depth in a tutorial with the appropriate faculty member. Permission of the instructor is required.

Minor

Political Science, Minor

A minor in political science is composed of one core course and four field courses in one of the four fields of political science.

Internships

A wide range of internships related to the study of politics at the local, national, and international levels are available in both the public and private sectors in Pittsburgh, Washington D.C., and other major cities. Students must work closely with a faculty advisor to assure full academic credit.

Study Abroad

Majors in political science receive full academic credit for participation in all study abroad programs. The University of Pittsburgh is a participant in a wide range of programs of international study.

Honors Society

Students who have achieved a GPA of 3.0 in political science are encouraged to join Pi Sigma Alpha, the national honors society in political science. This society sponsors many extracurricular activities linked to the study of politics.

Advising

Questions about courses, departmental requirements, and extracurricular opportunities should be addressed to the undergraduate advisors.

Department of Psychology

The psychology major is part of the liberal arts program in the Dietrich School. As such, it provides students with the skills needed to succeed in a job and in graduate school, to think critically and communicate effectively about human behavior and related topics. The Department of Psychology also functions from the perspective that psychology is a natural science. The emphasis it places on research is evident in the foundation courses required to declare the psychology major (e.g., statistics, research methods), as well as in the focus on the scientific methods throughout the content of all other psychology courses. To complement their arts and sciences training, the department also encourages students to participate in directed research and/or supervised field placement opportunities. For more information on the psychology department and its programs, please visit www.psychology.pitt.edu

Psychology majors can participate in one of two major options:

Major

Psychology, BS

The psychology major is part of the liberal arts program in the Dietrich School. As such, it provides students with the skills needed to succeed in a job and in graduate school, to think critically and communicate effectively about human behavior and related topics. The Department of Psychology also functions from the perspective that psychology is a natural science. The emphasis it places on research is evident in the foundation courses required to declare the psychology major (e.g., statistics, research methods), as well as in the focus on the scientific methods throughout the content of all other psychology courses. To complement their arts and sciences training, the department also encourages students to participate in directed research and/or supervised field placement opportunities. For more information on the psychology department and its programs, please visit the Department of Psychology Web site.

Psychology majors an participate in one of two major options: General major in Psychology, and Honors in Psychology. Students who declare the Psychology major are automatically enrolled in the general major track. This track provides students with a broad background in psychology and a firm understanding of the scientific method. The majority of students remain in this track.

In addition to Dietrich School skills and General Education Requirements, psychology majors must complete 34 to 35 credits in psychology, four credits in statistics, and nine to10 credits of co-requirements as described below. The honors track offers students a challenging and unique opportunity: to conduct their own, independent research study under the guidance of a faculty member. Additional course and GPA requirements apply. Students interested in pursuing the honors track should speak with an advisor in the Psychology Advising Office.

Foundation courses

Three courses are required to declare the major; students must earn a C or better in all three foundation courses if they wish to graduate with a psychology major.

- PSY 0010 - INTRODUCTION TO PSYCHOLOGY
- PSY 0035 - RESEARCH METHODS

One course in Statistics

Choose one of the following courses.

- STAT 0200 - BASIC APPLIED STATISTICS
- STAT 1000 - APPLIED STATISTICAL METHODS
- STAT 1100 - STAT & PROBLTY FOR BUS MGT

Core courses

Choose five courses from the following list

- PSY 0105 - INTRODUCTION TO SOCIAL PSYCH
- PSY 0160 - PSYCHOLOGY OF PERSONALITY
- PSY 0310 - DEVELOPMENTAL PSYCHOLOGY
- PSY 0422 - COGNITIVE PSYCHOLOGY
- PSY 0505 - INTRO TO BIOPSYCHOLOGY
  or
- NROSCI 1000 - INTRO TO NEUROSCIENCE
- PSY 1205 - ABNORMAL PSYCHOLOGY

Upper level

Choose two 1000-level courses, not to include the following courses

- PSY 1205 - ABNORMAL PSYCHOLOGY

- PSY 1900 - SUPERVISED FIELD PLACEMENT
- PSY 1902 - DIRECTED INDIVIDUAL READING
- PSY 1903 - DIRECTED INDIVIDUAL RESEARCH
- PSY 1950 - PSYCHOLOGY SENIOR SEMINAR
- PSY 1970 - UNDERGRAD TEACHING EXPERIENCE
- PSY 1973 - HONORS DIRECTED RESEARCH
- PSY 1975 - HONORS THESIS/MAJORS

Electives

Choose a course from any of the following levels.

- PSY 0100-level
- PSY 0300-level
- PSY 0400-level
- PSY 0500-level
- PSY 1000-level

The elective course cannot include any course used to fulfill a core requirement, any 1000-level requirement, or lab methods requirement. Experiential learning courses - PSY 1900 PSY 1900 - SUPERVISED FIELD PLACEMENT , PSY 1902 PSY 1902 - DIRECTED INDIVIDUAL READING , and PSY 1903 PSY 1903 - DIRECTED INDIVIDUAL RESEARCH may be used to fulfill this requirement. PSY 1950 PSY 1950 - PSYCHOLOGY SENIOR SEMINAR , PSY 1970 PSY 1970 - UNDERGRAD TEACHING EXPERIENCE , PSY 1973 PSY 1973 - HONORS DIRECTED RESEARCH , and PSY 1975 PSY 1975 - HONORS THESIS/MAJORS may not be used to fulfill this requirement.

Laboratory

Choose one of the following courses.

- PSY 0405 - LEARNING AND MOTIVATION
- PSY 0423 - COGNITIVE PSYCHOLOGY LAB
- PSY 1025 - TESTS AND MEASUREMENT
- PSY 1059 - TOPCS IN ADVNCD RSRCH METHDS
- PSY 1112 - PSYLGCL ASPCT SEXLTY RES WRIT
- PSY 1305 - EXPERIMENTAL CHILD PSYCHOLOGY
- PSY 1471 - MAPPING BRAIN CONNECTIVITY
- PSY 1975 - HONORS THESIS/MAJORS

Co-requirements

The Department of Psychology requires that students further develop their scientific skills through certain approved courses in math, biological sciences, and social sciences. A list of these approved courses is available in the Psychology Advising Office. The co-requirements may be used to fulfill Dietrich School General Education Requirements, where appropriate, or can be taken as separate courses.

Psychology majors must also follow these rules and requirements:

- Students who wish to delcare a major in psychology must first complete PSY 0010 PSY 0010 - INTRODUCTION TO PSYCHOLOGY and one of the foundation statistics courses with a letter grade of C or better and must be enrolled in PSY 0035 PSY 0035 - RESEARCH METHODS .
- New majors must complete an online orientation prior to scheduling an appointment with tehir assigned psychology advisors. Students will receive an e-mail with instructions and dates approximately the fourth week of each fall and spring term.
- Psychology majors must maintain at least a 2.0 GPA in their departmental courses.
- All psychology and statistics courses used to fulfill requirements for the major must be taken for a letter grade.
- Majors must take one of the writing-intensive courses (W-courses) offered within the department. PSY 0035 PSY 0035 - RESEARCH METHODS is offered every term and is a W-course. Other W-courses offered in the department are PSY 0420 PSY 0420 - COGNITV

PSYCHOLOGY FOR MAJORS , PSY 1112 PSY 1112 - PSYLGCL ASPCT SEXLTY RES WRIT, and PSY 1305 PSY 1305 - EXPERIMENTAL CHILD PSYCHOLOGY.

- In addition to their major requirements, all Dietrich School students are required to complete a related area, minor, or certificate. Students should consult a psychology advisor when deciding which courses they would like to pursue to fulfill this requirement.

Department of Religious Studies

Religion is one of the creative expressions of the human spirit. As such, it has shaped and, in turn, been shaped by virtually all historical traditions as well as by many other forms of human activity such as the arts, literature, political thinking, and social behavior. Therefore, the academic study of religion should be carried out through diverse scholarly methodologies, and it should treat experiences in a variety of cultural contexts in different periods. Students who wish to understand the manner in which religion, in its broadest terms, has contributed to the shaping of the human experience are encouraged to pursue a course of study that will expand their methodological skills as well as give them a firm command of a particular cultural or historical context. Courses in the study of religion tend to emphasize the human search for meaning and value in history; the manner in which particular religious traditions, practices, thoughts, and orientations have evolved over time; and the degree to which religious views have interacted creatively with other systems of thought and other meaningful expressions of human activity. In addition to courses in the Department of Religious Studies, other departments, such as anthropology, classics, history, philosophy, and sociology, offer related courses. For more information on the Department or Religious Studies and its programs, visit www.religiousstudies.pitt.edu.

Major

Religious Studies, BA

Major Requirements

Students pursuing a major in Religious Studies are required to complete 10 courses, to include:

- Two designated introductory courses, RELGST 0105 - RELIGIONS OF THE WEST and RELGST 0505 - RELIGION IN ASIA.
- Two courses acquainting the student with specific methodological approaches to the study of religions (one methods course reflecting historical approaches the other reflecting a philosophical, social scientific, or literary approach)
- Three courses at the 1000-level from each of three different categories reflecting different areas of the world and different historical periods (religions of the East, pre-modern religions in the West, and modern/contemporary religions in the West)
- Two additional courses in Religious Studies, at least one of which must be a 1000-level course
- A capstone seminar that satisfies the Arts and Sciences requirement for a writing course in the major

Majors must earn a grade of C or better in each departmental course taken. Courses required for the major must be taken on a letter-grade basis. Students should check with the departmental advisor for the credit by examination option.

The required A&S 12-credit related area may encompass study of literature, language, art, or history of a culture the student is seeking to understand or disciplines or processes that are related to religion, such as social change, mythology, symbolism, and literature. Students may use second languages as their related area, but those languages must show some relationship to the primary religion or cultural context within the major. Students planning to attend graduate school should know that competence in those languages related to the culture they will be studying is mandatory. The department strongly encourages development of language skills during undergraduate years.

Minor

Religious Studies Minor

Students pursuing a minor in Religious Studies are required to take:

- Two courses from a list of survey and introductory courses
- One course at the 1000-level in western religion from a designated list
- One course at the 1000-level in eastern religion from a designated list

- One elective course at the 1000-level

Department of Slavic Languages and Literatures

The Department of Slavic Languages and Literatures offers majors in Russian and Slavic Studies. These majors provide students with the opportunity to study the languages, literatures, and cultures of Russia and of the Slavic-speaking Eastern European countries, including Poland, Ukraine, Slovakia, Serbia, and Croatia.

Students in the Department of Slavic Languages and Literature include those whose primary interest is languages and/or literature, those who wish to enhance their career opportunities in a special way, those who have an interest in the politics and culture of Russia and the Slavic speaking Eastern European countries, and those who have a desire to explore their ethnic heritage. Many majors continue their studies in graduate or professional school and then go on to careers in business, government, teaching, law, medicine, social work, other health-related professions as well as the CIA, FBI and various NGOs and public policy institutions. Knowledge of a Slavic language has been valuable in working in local Western Pennsylvania institutions, politics, business, health-related professions, and the media because of the large population of those ethnicities in this region. Students are advised to begin language study early in order to gain as complete a command of the language as possible. For more information on the Department of Slavic Languages and Literatures and its programs, see www.slavic.pitt.edu.

During the fall and spring terms, the department offers language courses in Russian, Polish, Slovak and Ukrainian, with Serbian and Croatian available through the Language Acquisition Institute. Any student with prior experience in Russian or Ukrainian (including heritage speakers and those who studied a language in high school or abroad) are required to consult with the instructor before being admitted to any language courses in the department. Placement tests are offered to test suitability.

Summer term intensive courses in Russian, Polish, Slovak, Serbian, Croatian, Bulgarian, Macedonian, Ukrainian as well as Romanian and Hungarian are offered through the Slavic Department's Summer Language Institute [SLI]. Summer language courses are intensive and cover an entire year of study. First through fourth year level courses may be offered. These courses afford students the opportunity to make rapid progress through the language in order to qualify for advanced courses and for various study abroad opportunities. Summer study in the SLI now offers the opportunity to study for the first half of the course in Pittsburgh and the second part in the target country, with excursions to major cities and monuments. Scholarships are available for the SLI programs.

Deserving of special mention is the department's program in Slovak language, literature and culture-the only such program in the United States, and one that additionally offers the opportunity for several students each year to study abroad in Slovakia.

Major

Russian, BA

Major Requirements

The Russian major requires at least 33 distributed as follows.

Prerequisite courses

These courses do not count toward the 33 credits required for the major.

- RUSS 0010 - ELEMENTARY RUSSIAN 1
- RUSS 0020 - ELEMENTARY RUSSIAN 2
- RUSS 0030 - INTERMEDIATE RUSSIAN 1
- RUSS 0040 - INTERMEDIATE RUSSIAN 2

Language courses

- RUSS 0400 - ADVANCED RUSSIAN 1

- RUSS 0410 - ADVANCED RUSSIAN 2
- RUSS 0420 - RUSSIAN NEWSPAPERS & MAGAZINES
- RUSS 0430 - READINGS IN RUSSIAN LITERATURE
- RUSS 1420 - FOURTH-YEAR RUSSIAN 1
- RUSS 1430 - FOURTH-YEAR RUSSIAN 2

Literature and culture courses

- RUSS 0800 - MASTERPIECES 19THC RUSSIAN LIT
- RUSS 0810 - MASTERPIECES 20THC RUSSIAN LIT
- RUSS 0850 - EARLY RUSSIAN CULTURE
- RUSS 0860 - MODERN RUSSIAN CULTURE
- One 1000-level Russian elective course

Note:

Additional courses at the 1000 level in Russian literature are strongly recommended. Prospective majors are encouraged to take RUSS 0800 - MASTERPIECES 19THC RUSSIAN LIT and RUSS 0810 - MASTERPIECES 20THC RUSSIAN LIT as early as possible as an introduction to Russian literature.

The following rules and requirements apply to Russian majors.

- Advanced placement assessment and credit by examination may be arranged through consent of the instructor and the department chair.
- RUSS 0800 - MASTERPIECES 19THC RUSSIAN LIT and RUSS 0810 - MASTERPIECES 20THC RUSSIAN LIT are offered regularly as W courses and will satisfy the departmental W-course requirement.
- A grade of C or better is required in each course that counts toward the major. A grade of B- or better in language courses is required to advance to the next level. A minimum GPA of 2.0 in departmental courses is required for graduation.
- No course that counts toward the major may be taken on an S/NC basis.

Honors in the major

Honors in Russian is granted if, in addition to fulfilling all requirements for the major, the student meets the following conditions.

- Maintain a GPA of 3.75 or higher in RUSS courses.
- Maintain an overall GPA of 3.25 or higher.
- Complete at least one additional RUSS 1000-level course.
- Complete a 20-page paper involving Russian primary-source research and a two-page summary in Russian, under the supervision of an appointed faculty committee.
- Consulted with the undergraduate advisor in their junior year.

Study abroad

Students are encouraged to participate in an approved study-abroad program for a semester or the summer term. The department will adjust the course requirements in individual cases to accommodate this participation without delaying the student's graduation. Majors often apply for Nationality Rooms Program Scholarships for summer study abroad. The Summer Language Institute (SLI) offers generous scholarships as well. The following represents a partial list of study abroad opportunities available to students.

- **Summer study in Moscow:** The Department of Slavic Languages and Literatures currently sponsors a ten-credit summer-study program as part of the SLI in Pittsburgh (5 weeks) and Moscow (5 weeks) at the Moscow State University. Students may study first through fourth year Russian, covering one full year language study in ten weeks. Similar programs exist for study in Poland and Bulgaria. The Slavic department can be reached at 412-624-5096 or via e-mail at slavic@pitt.edu.
- **The University of Pittsburgh** is affiliated with a number of organizations holding both summer and semester, or year-long study in Russia. The Study Abroad Office, located in 802 William Pitt Union, can be reached at 412-647-7413.

- **The Russian and East European Study Center** regularly organizes summer study abroad programs in languages and social sciences in locations from the Czech Republic to Slovakia. REES makes scholarships available for many of these programs. Nadia Kirkov, the REES undergraduate advisor, can be reached at 412-648-7418.
- **The Nationality Rooms Program** offers a wide variety of competitive scholarships for summer study abroad in many parts of the world, including Central and Eastern Europe. Applications are due in January. The NRP, located in 1209 CL, can be reached at 412-624-6510.

For more information, see www.slavic.pitt.edu/undergraduate/russian/index.php.

Slavic Studies - Option 1, BA

Major Requirements

Academic requirements for the Slavic studies major may be fulfilled through one of two options.

Option 1

1. Three to four courses (two years) of a Slavic language above the intermediate level

- RUSS 0400 - ADVANCED RUSSIAN 1
- RUSS 0410 - ADVANCED RUSSIAN 2
- RUSS 0420 - RUSSIAN NEWSPAPERS & MAGAZINES
- RUSS 0430 - READINGS IN RUSSIAN LITERATURE
  or

- POLISH 0400 - ADVANCED POLISH THROUGH FILM
- POLISH 0410 - ADVANCED POLISH 2
- POLISH 1901 - INDEPENDENT STUDY
  or

- SLOVAK 0400 - ADVANCED SLOVAK 1
- SLOVAK 0410 - ADVANCED SLOVAK 2
- SLOVAK 1901 - INDEPENDENT STUDY
  or

- SERCRO 0400 - ADV BOSNIAN/CROATIAN/SERBIAN 5
- SERCRO 0410 - ADV BOSNIAN/CROATIAN/SERBIAN 6
- Fourth year Serbian/Croatian (LAI or study abroad)

Note:

1. Eighteen credits of designated Slavic department courses in literature, film, and culture. Students must take three literature courses, one film course, and two courses in Slavic culture. One of the above must be a W-course. *Six credits of Dietrich School courses with a strong Slavic component (courses found in the Russian and East European studies listings) may be substituted, with the advisor's approval.*
2. Six credits of Study Abroad or designated Slavic courses in any of the categories above. If students choose a language course, the number of credits may be six to ten.

Note:

The first two years of language study do not count as credits toward the major, unless the first-year language course is taken as part of Option 2.

Slavic Studies - Option 2, BA

Major Requirements

Academic requirements for the Slavic studies major may be fulfilled through one of two options.

Option 2

- One year of primary Slavic language above the intermediate level. The language may be Russian, Polish, Slovak, or Bosnian/Serbian/Croatian.
- One year of a second Slavic language at any level. The language can be Russian, Polish, Slovak, Bosnian/Serbian/Croatian, Ukranian, Bulgarian, Macedonian, or Czech.
- Eighteen credits of designated Slavic department courses in literature, film, and culture. Students must take three literature courses, one film course, and two courses in Slavic culture. One of the above must be a W-course. *Six credits of Dietrich School courses with a strong Slavic component (courses found in the Russian and East European studies listings) may be substituted, with the advisor's approval.*
- Six credits of Study Abroad or designated Slavic courses in any of the categories above. If students choose a language course, the number of credits may be six to ten.

Note:

The first two years of language study do not count as credits toward the major, unless the first-year language course is taken as part of Option 2.

Minor

Slovak Studies Minor - Culture Option

Minor in Slovak Studies

An undergraduate minor in Slovak studies motivates students to continue with their language and culture studies in a meaningful way. This program would be particularly useful for students majoring in anthropology, political science, and history, many of whom focus their work on Slovakia or Central Europe and see Slovak language and culture as a gateway to the study of the area. Several of the graduates with considerable work in Slovak at Pitt have been offered jobs at the Pentagon, international nonprofit and nongovernmental organizations (NGOs), Radio Free Europe, and the U.S. Department of State.

Students who are interested in the minor may tailor their course selections according to the focus of their interest in the Slovak language or in Slovak culture.

Culture Option

The Slovak culture option requires the following distribution of courses for a total of 17 credits.

- SLOVAK 0010 - ELEMENTARY SLOVAK 1
- SLOVAK 0020 - ELEMENTARY SLOVAK 2

Three of the following

- SLOVAK 0030 - INTERMEDIATE SLOVAK 3
- SLOVAK 0380 - SLOVAK TRANSATLANTIC CULTURES
- SLOVAK 0890 - SLOVAK, CZECH & CNTR EURPN FLM
- SLOVAK 1250 - A CULTURAL HISTORY OF SLOVAKIA
- SLOVAK 1260 - SURVEY OF SLOVAK LIT & CULTURE
- SLOVAK 1270 - SLOVAKIA TODAY

- SLOVAK 1865 The Year Communism Crumbled - 3 credits

Slovak Studies Minor - Language Option

Minor in Slovak Studies

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Students who are interested in the minor may tailor their course selections according to the focus of their interest in the Slovak language or in Slovak culture.

Language Option

The Slovak language option requires the following distribution of courses for a total of 17 credits.

- SLOVAK 0010 - ELEMENTARY SLOVAK 1
- SLOVAK 0020 - ELEMENTARY SLOVAK 2
- SLOVAK 0030 - INTERMEDIATE SLOVAK 3
- SLOVAK 0040 - INTERMEDIATE SLOVAK 4
- SLOVAK 0400 - ADVANCED SLOVAK 1

Department of Sociology

This is an exciting time of dramatic social change, both nationally and internationally. Global processes are integrating the world and creating the "global village." At the same time, old hostilities based on ethnic solidarity are re-emerging and tearing the social fabric of various parts of the world. The U.S. economy is undergoing structural change, which, in turn, is altering the occupational structure; the United States is becoming more multicultural, and the meanings of "community" are shifting. In these changes there are huge benefits for some and heavy costs for others. "Social problems" (e.g., health care availability, poverty, crime, or threats to the environment) are not marginal to societies but integral to them.

Sociologists try to understand these phenomena. For some, this means informing public policy; for others, the social world is simply one of the most interesting things to study. Sociologists study social organization. For some, this means examining societies-how they are structured, how they work, and how they change. Other sociologists study how small social groups work and how they change. This includes the social networks that people form as part of their social life. Issues of race, class, and gender affect the opportunities and constraints faced by different groups in society. Sociologists study how people belong to families, groups, and organizations-how people develop identities and how their social organizations become real. Sociologists also focus on broad patterns of social organization socialization, education, welfare, health care, etc. In short, the social world is endlessly fascinating.

For more information on the sociology major, the sociology minor, and the Department of Sociology, see www.sociology.pitt.edu.

Major

Sociology, BA

Major Requirements

A total of 27 credits in sociology and four credits in statistics, distributed as follows, are required for completion of the major.

One of the Following Courses

- SOC 0002 - SOCIOLOGY OF EVERYDAY LIFE
- SOC 0005 - SOCIETIES
- SOC 0010 - INTRODUCTION TO SOCIOLOGY

Both of the Following Courses

- SOC 0230 - SOCIAL RESEARCH METHODS
- SOC 0150 - SOCIAL THEORY

One of the Following Courses

- STAT 0200 - BASIC APPLIED STATISTICS
- STAT 1000 - APPLIED STATISTICAL METHODS
- Research practicum course
- SOC 1500 - CAPSTONE RESEARCH PRACTICUM
- At least 6 credits from advanced-level courses (1000-level). Internships and directed study do not count toward these 6 credits.
- Nine additional elective credits in SOC courses must be taken to complete the major.

In Addition, Sociology Majors Must Adhere to These Rules and Requirements

- A minimum 2.00 cumulative GPA in all departmental courses is required to graduate.
- Sociology majors may take no more than 6 of their 27 credits under the S/NC option. After declaring the sociology major, students may not take SOC 0150 - SOCIAL THEORY and SOC 0230 - SOCIAL RESEARCH METHODS on the S/NC basis.
- Sociology majors must complete the 12-credit required Dietrich School related area. Acceptable related areas include anthropology, Africana studies, computer science, economics, history, mathematics, philosophy, political science, psychology, or religious studies. In special cases, the sociology advisor may approve some other field to satisfy this requirement, such as the study of an international area or second language.

The Department of Sociology Offers Courses that are Particularly Suitable for the Following Special Programs

Pre-Education

- SOC 0426 - SOCIETY AND THE CHILD
- SOC 0478 - YOUTH AND SOCIETY

Pre-Law

- SOC 0471 - DEVIANCE AND SOCIAL CONTROL
- SOC 0472 - INTRODUCTION TO CRIMINOLOGY
- SOC 0474 - SOCIETY AND THE LAW
- SOC 1443 - JUVENILE DELINQUENCY
- SOC 1516 - ORGANIZED CRIME
- SOC 1518 WHITE COLLAR CRIME

Pre-Social Work

- SOC 0424 - SMALL GROUPS
- SOC 0438 - SOCIOLOGY OF THE FAMILY
- SOC 0460 - MINORITY GROUPS
- SOC 0471 - DEVIANCE AND SOCIAL CONTROL
- SOC 0477 - MEDICAL SOCIOLOGY
- SOC 1413 - MARRIAGE
- SOC 1450 - HEALTH AND ILLNESS

Pre-Medical

- SOC 0312 - SCIENCE IN SOCIETY
- SOC 0441 - PROFESSIONS AND DYING PATIENT
- SOC 0475 - SOCIOLOGY OF AGING
- SOC 0477 - MEDICAL SOCIOLOGY
- SOC 1370 - GENDER AND HEALTH WORLDWIDE
- SOC 1450 - HEALTH AND ILLNESS
- SOC 1467 - TOPICS MENTAL HEALTH & ILLNESS
- SOC 1470 - RESEARCH ON AGING
- SOC 1488 - HISTORY MEDICINE & HEALTH CARE

Gender, Sexuality, and Women's Studies

- SOC 0436 - SOCIAL ASPECTS OF SEXUALITY
- SOC 0446 - SOCIOLOGY OF GENDER
- SOC 1333 - COMPARATV PERSPECTVS ON WOMEN
- SOC 1365 - RACE, GENDER AND DEVELOPMENT
- SOC 1448 - WORKING WOMEN

Minor

Sociology Minor

Minor Requirements

A minor in sociology requires the following distribution of courses for a total of 15 credits:

- SOC 0150 - SOCIAL THEORY
- SOC 0230 - SOCIAL RESEARCH METHODS
- An elective in sociology
- One elective upper-level sociology course (1000-2000)

One of the Following Courses

- SOC 0002 - SOCIOLOGY OF EVERYDAY LIFE
- SOC 0005 - SOCIETIES
- SOC 0010 - INTRODUCTION TO SOCIOLOGY

Department of Statistics

The field of statistics is concerned with ways of understanding variability in measurements. It is the science and art of making informed decisions in the face of uncertainty. Statistical reasoning is fundamental to research in many scientific fields. For example, probabilistic models of learning are used in education and psychology, and time series and regression models guide research in engineering, chemistry, economics, biology, and medicine. Recent high-profile court cases have shown the importance of the use of probability and statistics in law, especially in the fields of forensic medicine and DNA fingerprinting. Statisticians have also been instrumental in developing methods by which observations are obtained in many disciplines. Examples include randomized clinical trials in medicine and complex sampling surveys in social and political science. Probability and statistics are basic to the actuarial sciences. When lists are compiled of the most important scientific theories and discoveries of the last century, a substantial number of these developments are seen to be inherently statistical in nature.

The Department of Statistics offers course work leading to a Bachelor of Science degree in statistics, a minor in applied statistics, and a combined five-year bachelor and master's degree in statistics. The department also offers a wide array of introductory service courses for general undergraduate audiences that deal with statistical methods in applications (and which require only high school mathematics). A joint major in economics and statistics is also available. Interested students should consult the requirements listed under Economics. Students considering majoring in statistics should consult with a department advisor early in their studies, preferably during their freshman year. For more information on the major, other programs, and the Department of Statistics, visit www.stat.pitt.edu.

Major

Statistics, BS

Requirements for a BS in Statistics

The statistics major requires a minimum of 50 credits, including the following required courses:

Required Course

- STAT 1000 - APPLIED STATISTICAL METHODS *

Note:

* With approval of the major advisor, students may substitute STAT 1000 under the following conditions.

- Complete STAT 0200 with a grade of B- or better; or
- Receive advanced placement for STAT 0200; or
- Complete STAT 1100 if the student is a Statistics-Business dual major.

All of the Following Courses

- STAT 1221 - APPLIED REGRESSION
- STAT 1223 - APPLD REGRESSN WRIT COMPONENT
- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Two of the Following Introductory Applied Statistics Courses

- STAT 1201 - APPLD NONPARAMETRIC STATISTICS
- STAT 1211 - APPLD CATEGORICAL DATA ANLYSIS
- STAT 1231 - APPLIED EXPERIMENTAL DESIGN
- STAT 1241 - APPLIED SAMPLING
- STAT 1251 - STATISTICAL QUALITY CONTROL
- STAT 1291 - TOPICS APPLIED STAT 1

- STAT 1292 - TOPICS IN APPLIED STATISTICS 2
- STAT 1293 - TOPICS IN APPLIED STATISTICS 3
- STAT 1294 - TOPICS IN APPLIED STATISTICS 4

One Intermediate Applied Statistics Course from the Following List:

- STAT 1301 - STATISTICAL PACKAGES
- STAT 1311 - APPLIED MULTIVARIATE ANALYSIS
- STAT 1321 - APPLIED TIME SERIES

Both of the Following Courses

- STAT 1631 - INTERMEDIATE PROBABILITY
- STAT 1632 - INTERMEDIATE MATHEMATICAL STAT

One Statistics Course from the Following List

- STAT 1651 - BAYESIAN STATISTICS
- STAT 1661 - LINEAR REGRESSION
- STAT 1662 - NONLINEAR REGRESSION
- STAT 1731 - STOCHASTIC PROCESSES
- STAT 1741 - APPLIED PROBABILITY THEORY
- STAT 1761 - GAME THEORY
- STAT 1781 - COMBINATORICS
- STAT 1791 - TOPICS PROBABILITY & STAT 2
- STAT 1792 - TOPICS IN PROBABILITY AND STATISTICS 2
- STAT 1793 - TOPICS IN PROBABILITY AND STATISTICS 3
- STAT 1794 - TOPICS IN PROBABILITY AND STATISTICS 4

Mathematics Courses:

Choose one group.

Group 1

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

Group 2

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0235 - HONORS 1 - VARIABLE CALCULUS
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

One of the Following Courses

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG
- MATH 1180 - LINEAR ALGEBRA 1

- MATH 1185 - HONORS LINEAR ALGEBRA

Elective Courses

Because professional statisticians collaborate with other scientists, students are encouraged to take elective courses from the behavioral, natural, physical, and social sciences.

Statistics Majors Must Adhere to the Following Rules and Requirements as Well:

- Students must earn at least a C grade in each course required for the major.
- Students may not take required courses on the S/NC option .
- Since 15 credits of mathematics is one of the corequisites for the major, students who complete the major automatically fulfill the Dietrich School 12-credit related area requirement.
- Courses in technical writing and public speaking are recommended.
- Students planning to continue their studies in a graduate program are strongly encouraged to take MATH 0413 - INTRO THEORETICAL MATHEMATICS, MATH 0420 - INTRO THEORY 1-VARIABLE CALCUL, MATH 1180 - LINEAR ALGEBRA 1, and as many additional mathematics courses in advanced calculus, numerical analysis, and computer sciences as possible.

In order to qualify for departmental honors at graduation, students must

- Have a GPA of at least 3.50 in all mathematics and statistics courses taken
- Have a GPA of at least 3.70 in all 1000-level courses taken within the department and
- Complete all other requirements for the statistics major.

Statistics, BS/MA

Requirements for a Combined Five-Year Bachelor's and Master's Degree in Statistics

Admission to the program requires the approval of both the undergraduate and graduate directors. The minimum requirements for admission are:

1. Two letters of recommendation,
2. minimum high school GPA of 3.25 or top 10 percent of class, and
3. an SAT score of at least 1270 with a math score of at least 650.

Requirements for a Combined BS and MA in Statistics

1. Introductory Mathematics Courses:

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG or
- MATH 1180 - LINEAR ALGEBRA 1

2.

- STAT 1000 - APPLIED STATISTICAL METHODS
- STAT 1221 - APPLIED REGRESSION

- STAT 1223 - APPLD REGRESSN WRIT COMPONENT where STAT 1223 is a W (writing) course

3. Three Introductory Applied Statistics Courses from the Following List:

- STAT 1201 - APPLD NONPARAMETRIC STATISTICS
- STAT 1211 - APPLD CATEGORICAL DATA ANLYSIS
- STAT 1231 - APPLIED EXPERIMENTAL DESIGN
- STAT 1241 - APPLIED SAMPLING
- STAT 1251 - STATISTICAL QUALITY CONTROL
- STAT 1291 - TOPICS APPLIED STAT 1
- STAT 1292 - TOPICS IN APPLIED STATISTICS 2
- STAT 1293 - TOPICS IN APPLIED STATISTICS 3
- STAT 1294 - TOPICS IN APPLIED STATISTICS 4

4. One Intermediate Applied Statistics Course from the Following List:

- STAT 1301 - STATISTICAL PACKAGES
- STAT 1311 - APPLIED MULTIVARIATE ANALYSIS
- STAT 1321 - APPLIED TIME SERIES

5.

- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS

6.

- STAT 1631 - INTERMEDIATE PROBABILITY
- STAT 1632 - INTERMEDIATE MATHEMATICAL STAT

7.

- STAT 2131 - APPLIED STATISTICAL METHODS 1
- STAT 2132 - APPLIED STATISTICAL METHODS 2

8.

- STAT 2381 - SUPERVISED STATISTICAL CONSULTING

9. Electives in Statistics:

Three additional courses, at least two of which must be graduate-level courses. STAT 2711 and 2712 are excluded, and courses at the 3000 level must be approved by the student's advisor

10.

One graduate-level course from outside of the department, chosen in consultation with the graduate advisor

11.

Master's pass on Preliminary Examination

Requirements for a Combined BS and MS in Statistics

Requirements one through 11 as above, except that requirement nine is reduced to one undergraduate or graduate course. In addition, the student must write and successfully defend a master's thesis.

- Grade requirement: Students in the program must earn at least a B grade in each required course as well as maintain a 3.25 GPA.

Typical Schedule

First Year:

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- STAT 1000 - APPLIED STATISTICAL METHODS
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- STAT 1221 - APPLIED REGRESSION
- STAT 1223 - APPLD REGRESSN WRIT COMPONENT

Second Year:

- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
- STAT 1200-level course
- MATH 0280 - INTRO TO MATRICES & LINEAR ALG
- STAT 1200-level course

Third Year:

- STAT 1151 - INTRODUCTION TO PROBABILITY
- STAT 1200-level course
- STAT 1152 - INTRO TO MATHEMATCL STATISTICS
- STAT 1300-level course

Fourth Year:

- STAT 1631 - INTERMEDIATE PROBABILITY
- STAT 2131 - APPLIED STATISTICAL METHODS 1
- STAT 1632 - INTERMEDIATE MATHEMATICAL STAT
- STAT 2132 - APPLIED STATISTICAL METHODS 2
- STAT 2000-level course

Fifth Year:

- Take Comprehensive Exam
- STAT 2381 - SUPERVISED STATISTICAL CONSULTING
- Two STAT electives or master's thesis
- One outside graduate-level course

Comparison of Programs

Separately, the Bachelor of Science in statistics requires 50 credits, and the Master of science in applied statistics requires 33 credits, of which 21 must be graduate level. The combined program requires 69 credits, of which 18 must be graduate level.

Minor

Applied Statistics Minor

Requirements for a Minor in Applied Statistics

Professionals in many fields use statistical procedures regularly. Decisions based on numerical information or data, if the data are collected and analyzed properly, are typically better decisions. The minor in applied statistics was designed to give students additional statistical tools and a better understanding of statistical reasoning.

The minor in applied statistics requires 16 credits, consisting of the following courses

- STAT 1000 - APPLIED STATISTICAL METHODS
- STAT 1221 - APPLIED REGRESSION
- Three additional courses from STAT 1200 through STAT 1700, excluding
- STAT 1223 - APPLD REGRESSN WRIT COMPONENT

Note:

* Acceptable substitutes include STAT 1100 Statistics and Probability for Business Management, ENGR 0020 Probability and Statistics for Engineers 1, and STAT 0200 Basic Applied Statistics.

Department of Studio Arts

The practice of art is among the oldest and most fundamental forms of human expression. The Department of Studio Arts provides the opportunity for students to explore the visual arts through foundation courses and through upper-level courses in painting, sculpture, drawing, printmaking, and graphic design. Studio activities are designed to intensify students' visual perception of the formal and expressive means of art, to develop understanding of a variety of technical processes, and to encourage insight into the significance of making art today. Course offerings of the department address the following goals:

- Provide a degree program for art majors who desire a liberal education and want to prepare for graduate art school or pursue a career in an art-related field;
- Provide a related area in studio arts for majors in other departments by taking the four foundation courses or by completing 12 credits in a specified studio area;
- Facilitate development of art-making skills and concepts through the foundation courses for all undergraduate students, while satisfying the Dietrich School creative expression requirement; and
- Provide a 15-credit minor in studio arts.

The Department of Studio Arts sponsors an annual student exhibition and a biannual faculty exhibition in the University of Pittsburgh Art Gallery. The University's Frick Fine Arts Library is one of the finest available. Also in close proximity is The Carnegie, with its museum and library providing access for research and study. For more information on the major, the minor, and the Department of Studio Arts, see http://www.studioarts.pitt.edu/.

Major

Studio Arts, BA

Major Requirements

Majors must complete a minimum of 36 credits in studio arts (SA) courses and 12 credits in history of art and architecture (HA&A) courses, distributed as follows:

Foundation Courses

- SA 0110 - VISUAL THINKING
- SA 0120 - PAINTING STUDIO 1
- SA 0130 - DRAWING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1

Upper-Level Required Courses

- SA 1220 - PAINTING STUDIO 2
- SA 1230 - DRAWING STUDIO 2
- SA 1240 - SCULPTURE STUDIO 2
- SA 1260 - PRINT STUDIO: INTAGLIO
- SA 1270 - DIGITAL STUDIO: IMAGING

Upper-Level Elective Courses

- Three courses from SA 1330-SA 1900 (Check the department Web site for the titles of courses in these levels.)

History of Art and Architecture Required Courses

- HAA 0010 - INTRODUCTION TO WORLD ART
- HAA 0030 - INTRODUCTION TO MODERN ART

History of Art and Architecture Elective Courses

- Students must take two elective HAA courses, one of which should be a writing intensive (W) course.

Studio Arts Majors Must Also Adhere to These Rules and Requirements:

- Students must attain at least a 2.00 GPA in the major.
- No department course that counts toward the major may be taken on the S/NC basis. Credit by exam is generally not available.
- Students should take one of the HAA courses required for the major as a W course.
- Students who earn a 3.50 GPA in the major and an overall 3.25 GPA receive departmental honors.
- Corequirements in HAA automatically fulfill the Dietrich School required 12-credit related area.
- Seniors are expected to exhibit their work in the Annual Student Exhibition at the University of Pittsburgh Art Gallery.
- In addition to required courses, focus in a particular medium is possible through directed study. Internships are also available in art-related fields.
- Majors may take special workshops and courses when offered, but only if they have fulfilled the prerequisites, or by departmental permission. The department recommends that a student take no more than two studio arts courses in one term.

Courses for Non-Studio Arts Majors

All level-one core courses are open to non-art majors. Non-art majors may take level-two courses but must complete the prerequisites for the specific courses. A related area in studio arts requires 12 credits. A student may elect one of the following options: 12 credits in level-one foundation courses

or 12 credits within a specific field with prerequisites. Non majors may take special workshops and advanced courses when offered, but only if they have fulfilled the prerequisites, or by departmental permission.

Minor

Studio Arts Minor - Option 1

Minor Requirements

The studio arts minor requires the completion of 15 credits in any of five options.

Four Foundation Courses:

This option may not be declared after September 4, 2015.

- SA 0110 - VISUAL THINKING
- SA 0120 - PAINTING STUDIO 1
- SA 0130 - DRAWING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1

Any Level History of Art and Architecture Course

Note:

The department recommends completing SA 0110 Foundation Design and SA 0130 Foundation Drawing before enrolling in SA 0120 Foundation Painting.

Option 1: Five Introductory-Level SA Courses

- SA 0110 - VISUAL THINKING
- SA 0120 - PAINTING STUDIO 1
- SA 0130 - DRAWING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1
- SA 0180 - DIGITAL STUDIO: PHOTOGRAPHY

Studio Arts Minor - Option 2

Minor Requirements

The studio arts minor requires the completion of 15 credits in any of five options.

Four Foundation Courses:

This option may not be declared after September 4, 2015.

- SA 0110 - VISUAL THINKING
- SA 0120 - PAINTING STUDIO 1
- SA 0130 - DRAWING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1

Any Level History of Art and Architecture Course

Note:

The department recommends completing SA 0110 Foundation Design and SA 0130 Foundation Drawing before enrolling in SA 0120 Foundation Painting.

Option 2: Four Introductory-Level SA Courses and One Three-Credit HAA Course

- SA 0110 - VISUAL THINKING
- SA 0130 - DRAWING STUDIO 1
- HAA three-credit course

Two of the Following Courses

- SA 0120 - PAINTING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1
- SA 0180 - DIGITAL STUDIO: PHOTOGRAPHY

Studio Arts Minor - Option 3

Minor Requirements

The studio arts minor requires the completion of 15 credits in any of five options.

Four Foundation Courses:

This option may not be declared after September 4, 2015.

- SA 0110 - VISUAL THINKING
- SA 0120 - PAINTING STUDIO 1
- SA 0130 - DRAWING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1

Any Level History of Art and Architecture Course

Note:

The department recommends completing SA 0110 Foundation Design and SA 0130 Foundation Drawing before enrolling in SA 0120 Foundation Painting.

Option 3: Four Introductory-Level SA Courses and One 1200-Level SA Course

- SA 0110 - VISUAL THINKING
- SA 0130 - DRAWING STUDIO 1
- SA 1200-level course

Two of the Following Courses

- SA 0120 - PAINTING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1
- SA 0180 - DIGITAL STUDIO: PHOTOGRAPHY

Studio Arts Minor - Option 4

Minor Requirements

The studio arts minor requires the completion of 15 credits in any of five options.

Four Foundation Courses:

This option may not be declared after September 4, 2015.

- SA 0110 - VISUAL THINKING
- SA 0120 - PAINTING STUDIO 1
- SA 0130 - DRAWING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1

Any Level History of Art and Architecture Course

Note:

The department recommends completing SA 0110 Foundation Design and SA 0130 Foundation Drawing before enrolling in SA 0120 Foundation Painting.

Option 4: Three Introductory-Level SA Courses, One 1200-Level SA Course, and One Three-Credit HAA Course

- SA 0110 - VISUAL THINKING
- SA 0130 - DRAWING STUDIO 1
- SA 1200-level course
- HAA three-credit course

One of the Following Courses

- SA 0120 - PAINTING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1
- SA 0180 - DIGITAL STUDIO: PHOTOGRAPHY

Studio Arts Minor - Option 5

Minor Requirements

The studio arts minor requires the completion of 15 credits in any of five options.

Four Foundation Courses:

This option may not be declared after September 4, 2015.

- SA 0110 - VISUAL THINKING
- SA 0120 - PAINTING STUDIO 1
- SA 0130 - DRAWING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1

Any Level History of Art and Architecture Course

Note:

The department recommends completing SA 0110 Foundation Design and SA 0130 Foundation Drawing before enrolling in SA 0120 Foundation Painting.

Option 5: Three Introductory-Level SA Courses and Two Upper-Level SA Courses Sequenced in the Same Media

- SA 0110 - VISUAL THINKING
- SA 0130 - DRAWING STUDIO 1
- SA 1200-level course
- SA 1300-level course in same medium as the 1200-level course

One of the Following Courses

- SA 0120 - PAINTING STUDIO 1
- SA 0140 - SCULPTURE STUDIO 1
- SA 0180 - DIGITAL STUDIO: PHOTOGRAPHY

Department of Theatre Arts

The Department of Theatre Arts offers training in both the practical and academic aspects of theatre. Undergraduates may specialize in acting, directing, design and technical theatre, theatre history and criticism, or any combination of these.

While the department is not a professional school, the presence of strong graduate programs creates the atmosphere of professional training. Instead of the protected environment of a conservatory, undergraduate theatre training at Pitt takes place within the context of the liberal-arts experience at a large, urban university.

The department recommends that students declare this major as early as possible. For more information, please contact the Director of Undergraduate Studies, Don Mangone at dmangone@pitt.edu.

Major

Theatre Arts, BA

The Department of Theatre Arts offers training in both the practical and academic aspects of theatre. Undergraduates may specialize in acting, directing, design and technical theatre, theatre history and criticism, or any combination of these areas. While the department is not a professional school, the presence of strong graduate programs creates the atmosphere of professional training. Instead of the protected environment of a conservatory, undergraduate theatre training at Pitt takes place within the context of the liberal-arts experience at a large, urban university. The

department recommends that students declare this major as early as possible. For more information, please contact the department's Director of Undergraduate Studies.

This major requires 42 credits of course work as follows.

Introductory courses

- THEA 0804 - THEATRE AND COLLABORATION
- THEA 0810 - INTRODUCTION TO DRAMATIC ART

Performance courses

Choose three of the following courses.

- THEA 0830 - INTRODUCTION TO PERFORMANCE
- THEA 1100 - VOICE AND MOVEMENT 1
- THEA 1101 - VOICE AND MOVEMENT 2
- THEA 1102 - ACTING 1
- THEA 1103 - ACTING 2
- THEA 1104 - ACTING 3
- THEA 1110 - DIRECTING 1
- THEA 1111 - DIRECTING 2
- THEA 1121 - THEATRE FOR CHILDREN
- THEA 1229 - STAGE MANAGEMENT 1
- THEA 1338 - MUSICAL THEATRE PERFORMANCE
- THEA 1392 - SPECIAL TOPICS: PERFORMANCE

Design/Technical courses

- THEA 0842 - INTRODUCTION TO STAGECRAFT
- THEA 0880 - THEATRICAL PRODUCTION
  Students will take this course three times: once as Construction; and twice as Run Crew.
- THEA 1240 - COSTUME PRODUCTION TECHNOLOGY

Choose one of the following courses

- THEA 0840 - INTRODUCTION TO THEATRE DESIGN
- THEA 1230 - STAGE LIGHTING 1
- THEA 1235 - SCENE DESIGN 1
- THEA 1246 - COSTUME DESIGN 1

Playwriting, History, and Criticism

Choose two of the following courses

- THEA 1341 - WORLD THEATRE: 500 BCE TO 1640
- THEA 1342 - WORLD THEATRE: 1640 TO 1890
- THEA 1343 - WORLD THEATRE: 1890-1970

Choose one of the following courses

Choose one of the following writing-intensive courses.

- THEA 1360 - THEATRE CRITICISM
- THEA 1903 - SEMINAR IN THEATRE ARTS

Choose one elective from the Playwriting, History, and Criticism category

- THEA 0505 - ENJOY PERFORMANCES
- THEA 0810 - INTRODUCTION TO DRAMATIC ART
- THEA 0825 - CONTEMPORARY GLOBAL STAGES
- THEA 1341 - WORLD THEATRE: 500 BCE TO 1640
- THEA 1342 - WORLD THEATRE: 1640 TO 1890
- THEA 1343 - WORLD THEATRE: 1890-1970
- THEA 1350 - AMERICAN THEATRE
- THEA 1360 - THEATRE CRITICISM (writing-intensive)
- THEA 1365 - PLAYWRITING 1 (writing-intensive)
- THEA 1366 - PLAYWRITING 2 (writing-intensive)
- THEA 1390 - SPECIAL TOPICS
- THEA 1903 - SEMINAR IN THEATRE ARTS (writing-intensive)

Elective course

Students must take one course selected from offerings in Performance, Design / Tech, or Playwriting / History / Criticism. Directed study (THEA 1480 - THEA 1485) and independent study (THEA 1900 - THEA 1901) courses cannot be used to satisfy this requirement.

In addition, theatre arts majors should adhere to these rules and requirements.

- Students are encouraged to declare this major early and register with the departmental advisor.
- Majors must maintain at least a 2.0 GPA in all theatre arts courses.
- Students must check with the program advisor to determine the appropriateness of using the Satisfactory/No Credit (S/NC) grade option in departmental courses. No more than two courses in the major may be taken on an S/NC basis.
- A minimum of 12 credits is required in a related area. Any area that corresponds with the student's interests is appropriate, but Studio Arts is strongly suggested. Also recommended are: Anthropology; Africana Studies; Classics; English; History of Art and Architecture; a second language; History; Music; Philosophy; Psychology; Sociology; and Communication and Rhetoric.

For more information on the major and the Department of Theatre Arts, visit their Web site.

Minor

Theatre Arts Minor

Minor Requirements

Required Courses for the Minor

- THEA 0880 - THEATRICAL PRODUCTION : Run Crew

Choose two of the following courses

These courses cannot count for both the required course and the playwriting / history / criticism track.

- THEA 0505 - ENJOY PERFORMANCES
- THEA 0804 - THEATRE AND COLLABORATION
- THEA 0810 - INTRODUCTION TO DRAMATIC ART

Choose three courses from among one of the following groups.

Performance courses

- THEA 0804 - THEATRE AND COLLABORATION
- THEA 1100 - VOICE AND MOVEMENT 1
- THEA 1101 - VOICE AND MOVEMENT 2
- THEA 1102 - ACTING 1
- THEA 1103 - ACTING 2
- THEA 1104 - ACTING 3
- THEA 1108 - THEATRE PRACTICUM-PERFORMANCE
- THEA 1109 - PERFORMANCE LAB
- THEA 1110 - DIRECTING 1
- THEA 1111 - DIRECTING 2
- THEA 1120 - DRAM & PERFORMANCE IN CLSSROOM
- THEA 1121 - THEATRE FOR CHILDREN
- THEA 1229 - STAGE MANAGEMENT 1
- THEA 1338 - MUSICAL THEATRE PERFORMANCE
- THEA 1390 - SPECIAL TOPICS
- THEA 1392 - SPECIAL TOPICS: PERFORMANCE
- THEA 1483 - DIRCTED PROJECT DIRCTING/PERF
- THEA 1500 - MODERN ACTING
- THEA 1501 - SHAKESPEARE ACTING

Design/Technical courses

- THEA 0840 - INTRODUCTION TO THEATRE DESIGN
- THEA 0842 - INTRODUCTION TO STAGECRAFT
- THEA 0880 - THEATRICAL PRODUCTION
- THEA 1227 - SCENE PAINTING
- THEA 1230 - STAGE LIGHTING 1
- THEA 1235 - SCENE DESIGN 1
- THEA 1240 - COSTUME PRODUCTION TECHNOLOGY
- THEA 1241 - HISTORY OF COSTUME
- THEA 1245 - STAGE MAKEUP
- THEA 1246 - COSTUME DESIGN 1
- THEA 1405 - COSTUMES AND RUN CREW
- THEA 1480 - DIRECTED PROJECT SCENERY/PROPS
- THEA 1481 - DIRECTED PROJECT CSTUME/MAKEUP
- THEA 1482 - DIRCTED PROJECT LIGHTING/SOUND
- THEA 1484 - DIRECTED PROJECT BUSINESS MGT
- THEA 1485 - DIRECTED PROJECT STAGE MGMNT

Playwriting, History, and Criticism courses

- THEA 0505 - ENJOY PERFORMANCES
- THEA 0804 - THEATRE AND COLLABORATION
- THEA 0810 - INTRODUCTION TO DRAMATIC ART
- THEA 0825 - CONTEMPORARY GLOBAL STAGES
- THEA 1341 - WORLD THEATRE: 500 BCE TO 1640
- THEA 1342 - WORLD THEATRE: 1640 TO 1890
- THEA 1343 - WORLD THEATRE: 1890-1970
- THEA 1350 - AMERICAN THEATRE
- THEA 1360 - THEATRE CRITICISM
- THEA 1365 - PLAYWRITING 1
- THEA 1366 - PLAYWRITING 2
- THEA 1390 - SPECIAL TOPICS
- THEA 1903 - SEMINAR IN THEATRE ARTS

Department of Urban Studies

While urban studies is not a department, it is an administrative unit offering a major in urban studies for students who have an interest in unraveling the complexities of the urban world. The major is interdisciplinary, meaning that students learn about cities as historical, social, cultural, economic, and political phenomena. The major is "real world" in the sense that students apply what they learn to the world beyond the classroom. Finally, the major is career oriented in that, after graduation, students attempt to find roles for themselves in the urban environment. To accomplish all of these goals, the urban studies curriculum integrates "knowing" with "doing." The major combines courses offered by the program with courses offered through other social science departments. For more information, see www.urbanstudies.pitt.edu.

Major

Urban Studies, BA

Major Requirements

The Urban Studies Major Requires 33 Credits, Distributed as Follows:

- URBNST 0080 - INTRODUCTION TO URBAN STUDIES
- URBNST 1300 - URBAN SKILLS SEMINAR
- URBNST 1500 - URBAN RESEARCH SEMINAR
- URBNST 1900 - URBAN FIELD PLACEMENT - six credits

- STAT 0200 - BASIC APPLIED STATISTICS or
- STAT 1000 - APPLIED STATISTICAL METHODS is strongly recommended but not required

- URBNST 1200 - URBAN STUDIES FLD RESEARCH SEM is not required but fills the elective requirement. This seminar is offered only in the summer.
- URBNST 1700 - INTERNATIONAL URBANISM SEMINAR is required for comparative urbanism students.

Additional Rules and Requirements:

- Students are encouraged to take URBNST 0080 Introduction to Urban Studies as early as possible, ideally in the fall or spring of the freshman year, and to develop a broad background in the social sciences among lower-level social science courses such as the following:
    - ANTH 0780 - INTRO TO CULTURAL ANTHROPOLOGY
    - AFRCNA 0031 - INTRODUCTION TO AFRCNA STUDIES
    - ECON 0110 - INTRO MACROECONOMIC THEORY
    - HIST 0601 - UNITED STATES 1865-PRESENT
    - PS 0200 - AMERICAN POLITICS
    - SOC 0010 - INTRODUCTION TO SOCIOLOGY
- Students must have at least a 2.00 GPA in all courses to be applied to the major.
- Students may take as many courses on the S/NC basis as they wish.
- URBNST 1500 - URBAN RESEARCH SEMINAR, which is required for the major, satisfies the W course requirement.
- Students are required by Dietrich School to complete a 12-credit related area. Particularly appropriate areas are sociology, economics, political science, anthropology, Africana studies, and history, although students may consult with their advisor about other possibilities.

University Honors College

The University Honors College (UHC) seeks to create opportunities for dedicated and engaged students to explore their interests in great depth and with great rigor. The UHC offers a variety of carefully designed courses from the humanities, social sciences, and natural sciences, along with supplemental advising opportunities, academic activities, and a distinctive baccalaureate degree in any undergraduate school of the University.

Contact Information

University of Pittsburgh
University Honors College
3600 Cathedral of Learning
Pittsburgh, PA 15260
412-624-6880
www.honorscollege.pitt.edu

Admission Requirements

A distinctive feature of the University Honors College (UHC) is that unlike honors programs and colleges at virtually all other universities, students do not apply for membership, students are not accepted into the UHC, and students are not rejected for membership. Rather, all undergraduate students who seek an enriched education are invited to pursue the rigorous academic opportunities provided by the UHC.

Advising

The UHC offers multiple forms of advising that are intended to complement the advising students receive from their primary advisor. These include supplemental academic advising, Health Professions Advising, national scholarships advising, community engagement advising, and Politics and Philosophy major advising.

Please note that all students are welcome to meet with UHC advisors and are encouraged to either make an appointment online or simply email the relevant advisor.

Supplemental Academic Advising

UHC supplemental academic advisors help students explore interests and goals, assist in matching them to relevant opportunities in research, student groups, and academics within the UHC and at Pitt; assist in planning double majors and/or an interdisciplinary approach to their education; provide

general academic advice on courses, majors, and research; and aid in the preparation of personal statements for scholarships and graduate study. For more information: http://www.honorscollege.pitt.edu/advising

Health Professions Advising

Health professions advising assists students as they explore major choices, course selection, long range planning, and successful application to both the health professions committee and to medical, dental, optometry, podiatry, and veterinary schools. Advisors assess student goals and then recommend academic and experiential opportunities that mesh with student interests. For more information: http://www.honorscollege.pitt.edu/health-professions-advising

National Scholarships

The office of National Scholarships works closely with students to identify scholarships relevant to their academic and personal goals, and explore the steps to become competitive applicants for these awards. National scholarship advising can help students attain a broader perspective and refined understanding of their personal, academic, and professional goals; strengthen their writing skills through the creation and revision of personal statements and grant proposals; and develop the resourcefulness to identify opportunities to conduct meaningful research and/or incorporate service and international experiences into their educational plan. For more information: http://www.honorscollege.pitt.edu/nationalscholarships-advising

Community Engagement

Community Engagement Advising and programming provides students with opportunities to use their academic interests and skills to positively impact their communities. Community Engagement Advising introduces students to pertinent social issues in the city of Pittsburgh as well as key organizations, leaders, and advocates who are involved with those issues; connects students to research, fellowships, experiential learning opportunities, and other scholarly projects that relate to public service and social change; supports students in designing independent experiences and research projects that integrate academic skills and interests with investigating and addressing community issues. For more information: http://www.honorscollege.pitt.edu/community-engagement-advising

Politics and Philosophy Major

This interdisciplinary major in the Kenneth P. Dietrich School of Arts and Sciences is advised through the UHC and provides students with training in the conceptual, empirical, and normative foundations of various fields of public policy. It enhances understanding of the moral and political complexities of public life and offers preparation in both theory and practice to students interested in pursuing careers in social and public affairs. For more information: http://www.honorscollege.pitt.edu/politics-philosophy

The Bachelor of Philosophy Degree

The Bachelor of Philosophy (BPhil) degree is jointly awarded by the UHC and any undergraduate school/college at Pitt. The BPhil degree signifies the highest level of research/scholarship attainable by an undergraduate student. To receive the BPhil degree, students must fulfill the degree requirements (major, general education, and/or other curricular requirements) of their "home school" (e.g., Kenneth P. Dietrich School of Arts and Sciences, Swanson School of Engineering, College of Business Administration, School of Nursing, etc.) and maintain a 3.50 cumulative GPA. The UHC adds two requirements: a more demanding program of study which should have breadth, depth, and focus and independent research/scholarship under the guidance of a faculty member culminating in a written thesis that is defended before a faculty examination committee that includes a visiting external examiner from another college or university. For more information: http://www.honorscollege.pitt.edu/bphil-degree

Special Academic Opportunities

Student Publications

The UHC advises and directs the publishing of four undergraduate publications: Collision (prose and poetry), Pittsburgh Undergraduate Review (analytical and scholarly essays), Three Rivers Review (literary magazine), Pitt Political Review (political writing). All publications are student run and always interested in new members. Consult the UHC publications page for more information: http://www.honorscollege.pitt.edu/activities/student-publications

Research Opportunities

The UHC provides research opportunities in the fall and spring semesters as well as the summer. These include the Brackenridge Research Fellowships, Health Sciences Summer Research Fellowships, and Chancellor's Undergraduate Research Fellowships just to name a few. For more in depth information about these programs and their application deadlines, please visit: http://www.honorscollege.pitt.edu/fall-and-spring-research-opportunities and http://www.honorscollege.pitt.edu/summer-research-opportunities

Housing

The UHC offers First-Year Honors Housing, located in Sutherland West, and Upper-Class Honors Housing in Pennsylvania Hall and Forbes Craig Apartments. Honors Housing is unique in that it connects highly motivated students from across schools and majors in communities that are shaped by their shared academic, cultural, and personal interests. To learn more about Honors Housing, visit: http://www.honorscollege.pitt.edu/housing

Major and Minor Descriptions

Major

Politics and Philosophy, BA

The politics and philosophy major, a major in the Kenneth P. Dietrich School of Arts and Sciences, advised through the University Honors College, provides students with interdisciplinary training in the conceptual, empirical, and normative foundations of various fields of public policy. It enhances students' understanding of the moral and political complexities of public life and it offers preparation in both theory and practice to students interested in pursuing careers in social and public affairs.

By combining course work from different disciplines -- political science, philosophy, and economics -- the program's scope is broad, yet the structure of the curriculum also requires depth. The thematic nature of the major allows for flexibility in course selection. In collaboration with the major advisor, students design a cohesive program of study tailored to meet their individual post-graduate/career interests and needs.

The politics and philosophy major is a rigorous, but rewarding, program. Upon graduation, an academic career is certainly a possible pursuit; the major also provides excellent preparation for careers in law, government, community organizations, and social action groups.

The major is comprised of elements from the political science, philosophy, and economics departments and involves a minimum of 51 credits distributed as follows: political science - 21 credits; philosophy - 21 credits; economics - 9 credits. A capstone, which may have associated credits, is also required.

Required Courses

Political Science Courses

Students must complete seven courses in political science. At least four of those courses must be upper level (numbered 1000 or above). One of the courses must be a W-course; the W-course may be either upper- or lower-level.

Philosophy Courses

Students must complete seven courses in philosophy. At least four of those courses must be upper level (numbered 1000 or above). One of the courses must be a W-course; the W-course may be either upper- or lower-level.

Economics Courses

- ECON 0100 - INTRO MICROECONOMIC THEORY
- ECON 0110 - INTRO MACROECONOMIC THEORY
- ECON XXXX any course (no course in the 0800 series may count toward this requirement)

Capstone Requirement

In consultation with the major advisor, students may opt for one of the following.

- completion of the Bachelor of Philosophy thesis through the University Honors College (UHC);
- participation in a graduate-level seminar (with permission from the instructor); or
- completion of a Directed Research Project, an Independent Study, or an Internship.

Grade requirements: A minimum GPA of 2.0 is required in those courses that count toward the major.

Satisfactory/No Credit option: There is no limit on the number of courses in the major that can be taken on an S/NC basis, but it is suggested that these courses be taken for a letter grade.

Writing (W) requirement: The W courses listed under the political science and philosophy requirements satisfy the W requirement for the major.

Related area: A related area is not required due to the interdisciplinary nature of the major.

Dietrich School of Arts and Sciences Faculty

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Brooks	Robin	Assistant Professor	Africana Studies	PhD	Florida, University of
Covington	Yolanda	Assistant Professor	Africana Studies	PhD	Michigan, Ann Arbor, University of
Germain	Felix	Assistant Professor	Africana Studies	PhD	California, Berkeley, University of
Reid	Michele	Assistant Professor	Africana Studies	PhD	Texas, Austin, University of
Sharif	Oronde	Lecturer	Africana Studies	MSW	Pittsburgh, Main, University of
Taylor	Jerome	Associate Professor	Africana Studies	PhD	Indiana State University, Main
Temple	Christel	Associate Professor	Africana Studies	PhD	Temple University
Tillotson	Michael	Assistant Professor	Africana Studies	PhD	Temple University
Allen	Kathleen	Senior Lecturer	Anthropology	PhD	State University of New York, Buffalo
Alter	Joseph	Professor	Anthropology	PhD	California, Berkeley, University of
Arkush	Elizabeth	Associate Professor	Anthropology	PhD	California, Los Angeles, University of

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Barton	Loukas	Assistant Professor	Anthropology	PhD	California, Davis, University of
Bermann	Marc	Associate Professor	Anthropology	PhD	Michigan, Ann Arbor, University of
Brown	Laura	Assistant Professor	Anthropology	PhD	Michigan, Ann Arbor, University of
Constable	Nicole	Professor	Anthropology	PhD	California, Berkeley, University of
de Montmollin	Olivier	Associate Professor	Anthropology	PhD	Michigan, Ann Arbor, University of
Drennan	Robert	Distinguished Professor	Anthropology	PhD	Michigan, Ann Arbor, University of
Hanks	Bryan	Associate Professor	Anthropology	PhD	Cambridge, University of
Hayden	Robert	Professor	Anthropology	PhD	State University of New York, Buffalo
Judd	Margaret	Associate Professor	Anthropology	PhD	University of Alberta
Lukacs	Gabriella	Associate Professor	Anthropology	PhD	Duke University
Matza	Tomas	Assistant Professor	Anthropology	PhD	Stanford University
Musante	Kathleen	Professor	Anthropology	PhD	Connecticut, Main, University of
Schwartz	Jeffrey	Professor	Anthropology	PhD	Columbia University, Main Division
Siegel	Michael	Professor	Anthropology	PhD	City University of New York, Graduate Center
Strathern	Andrew	Andrew Mellon Professor	Anthropology	PhD	Cambridge, University of
Wanderer	Emily	Assistant Professor	Anthropology	PhD	Massachusetts Institute of Technology
Arndt	Karen	Professor	Biological Sciences	PhD	California, Berkeley, University of
Ashman	Tia-Lynn	Distinguished Professor	Biological Sciences	PhD	California, Davis, University of
Ashmore	Lesley	Lecturer	Biological Sciences	PhD	Pennsylvania, University of
Berman	Andrea	Assistant Professor	Biological Sciences	PhD	Yale University
Bledsoe	Anthony	Lecturer	Biological Sciences	PhD	Yale University
Boyle	Jon	Associate Professor	Biological Sciences	PhD	Wisconsin, Madison, University of
Brodsky	Jeffrey	Professor/(Avinoff Professor)	Biological Sciences	PhD	Harvard University
Campbell	Gerard	Associate Professor	Biological Sciences	PhD	Leicester, University of

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Carlson Rosenbaum	Anne	Assistant Professor	Biological Sciences	PhD	Washington, University of
Carson	Walter	Associate Professor	Biological Sciences	PhD	Cornell University Endowed Colleges
Chapman	Deborah	Associate Professor	Biological Sciences	PhD	Columbia University, Main Division
Crisucci	Elia	Lecturer	Biological Sciences	PhD	Pittsburgh, Main, University of
Curto	Karen	Lecturer II	Biological Sciences	PhD	West Virginia University
Czapski	Tiffaney	Lecturer	Biological Sciences	PhD	Duquesne University
Damiani	Candice	Lecturer	Biological Sciences	PhD	West Virginia University
Daniels	Lydia	Lecturer	Biological Sciences	PhD	Pittsburgh, Main, University of
Donovan	Samuel	Lecturer	Biological Sciences	PhD	Wisconsin, Madison, University of
Durrant	Jacob	Assistant Professor	Biological Sciences	PhD	California, San Diego, University of
Gardner	Kathryn	Lecturer	Biological Sciences	PhD	North Carolina, Chapel Hill, University of
Gharaibeh	Burhan	Lecturer II	Biological Sciences	PhD	Texas Tech University
Grabowski	Paula	Professor/(Assoc Invest Howard Hughes)	Biological Sciences	PhD	Colorado, Boulder, University of
Gribble	Suzanna	Lecturer II	Biological Sciences	PhD	Utah, University of
Hatfull	Graham	Professor/(Eberly Family Prof)	Biological Sciences	PhD	Edinburgh, University of
Hendrix	Roger	Distinguished Professor	Biological Sciences	PhD	Harvard University
Hildebrand	Jeffrey	Associate Professor	Biological Sciences	PhD	Virginia, University of
Jacobson	Lewis	Professor	Biological Sciences	PhD	Illinois, Urbana, University of
Kelsey	Ellen	Lecturer	Biological Sciences	MS	Rochester, University of
Kiselyov	Kirill	Associate Professor	Biological Sciences	PhD	Russian Academy of Science, Moscow
Lawrence	Jeffrey	Professor	Biological Sciences	PhD	Washington University
Lee	Miler	Assistant Professor	Biological Sciences	PhD	Pennsylvania, University of
Legg	Alison	Lecturer	Biological Sciences	PhD	Pittsburgh, Main, University of
McGreevy	Erica	Lecturer	Biological Sciences	PhD	Pittsburgh, Main, University of
Morehouse	Nathan	Assistant Professor	Biological Sciences	PhD	Arizona State University
Oke	Valerie	Lecturer	Biological Sciences	PhD	Harvard University

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Payne	Kimberly	Lecturer	Biological Sciences	PhD	Pittsburgh, Main, University of
Peebles	Craig	Professor	Biological Sciences	PhD	Chicago, University of
Pipas	James	Professor and Herbert W. and Grace Boyer Chair	Biological Sciences	PhD	Florida State University
Polinko	Eric	Lecturer	Biological Sciences	PhD	Indiana University Bloomington
Rebeiz	Mark	Associate Professor	Biological Sciences	PhD	California, San Diego, University of
Roberts	Laurel	Senior Lecturer	Biological Sciences	PhD	Pittsburgh, Main, University of
Rosenberg	John	Professor	Biological Sciences	PhD	Massachusetts Institute of Technology
Saunders	William	Associate Professor	Biological Sciences	PhD	Johns Hopkins University
Schmidt	Jean	Lecturer	Biological Sciences	MS	Duquesne University
Schwacha	Anthony	Associate Professor	Biological Sciences	PhD	Harvard University
Swigonova	Zuzana	Lecturer II	Biological Sciences	PhD	Rutgers University, New Brunswick
Twombly Jr	Vernon	Lecturer	Biological Sciences	PhD	Harvard University
Van Demark	Andrew	Associate Professor	Biological Sciences	PhD	Johns Hopkins University
Zapanta	Laura	Lecturer II	Biological Sciences	PhD	Pennsylvania State University, Main
Zawacki	Corinne	Associate Professor	Biological Sciences	PhD	Michigan, Ann Arbor, University of
Amemiya	Shigeru	Associate Professor	Chemistry	PhD	Tokyo, University of
Asher	Sanford	Distinguished Professor	Chemistry	PhD	California, Berkeley, University of
Bandik	George	Senior Lecturer	Chemistry	PhD	Pittsburgh, Main, University of
Brummond	Kay	Professor	Chemistry	PhD	Harvard University
Childers	William	Assistant Professor	Chemistry	PhD	Emory University
Chong	Lillian	Associate Professor	Chemistry	PhD	California, San Francisco, University of
Coalson	Rob	Professor	Chemistry	PhD	Harvard University
Cooper	N. John	Professor	Chemistry	DPhil	Oxford, University of
Curran	Dennis	Distinguished Service Professor/(Bayer Prof)	Chemistry	PhD	Rochester, University of
Deiters	Alexander	Professor	Chemistry	PhD	Munster, University of

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Floreancig	Paul	Professor	Chemistry	PhD	Stanford University
Fortney	Carol	Lecturer	Chemistry	PhD	Pittsburgh, Main, University of
Garrett-Roe	Sean	Assistant Professor	Chemistry	PhD	California, Berkeley, University of
Grabowski	Joseph	Associate Professor	Chemistry	PhD	Colorado, Boulder, University of
Horne	William	Associate Professor	Chemistry	PhD	Scripps Research Institute
Huston	Ericka	Senior Lecturer	Chemistry	PhD	Maryland, College Park, University of
Hutchison	Geoffrey	Associate Professor	Chemistry	PhD	Northwestern University
Islam	Kabirul	Assistant Professor	Chemistry	PhD	Indian Institute of Science, India
Jordan	Kenneth	Distinguished Professor and Richard King Mellon Professor	Chemistry	PhD	Massachusetts Institute of Technology
Koide	Kazunori	Associate Professor	Chemistry	PhD	California, San Diego, University of
Laaser	Jennifer	Assistant Professor	Chemistry	PhD	Wisconsin, Madison, University of
Lambrecht	Daniel	Assistant Professor	Chemistry	PhD	Tubingen, University of
Liu	Haitao	Associate Professor	Chemistry	PhD	California, Berkeley, University of
Liu	Peng	Assistant Professor	Chemistry	PhD	California State University, Los Angeles
Liu	Xinyu	Assistant Professor	Chemistry	PhD	Swiss Federal Institute of Technology
Maleckar	Susan	Lecturer	Chemistry	PhD	Pittsburgh, Main, University of
Meyer	Tara	Associate Professor	Chemistry	PhD	Iowa, University of
Michael	Adrian	Professor	Chemistry	PhD	Emory University
Millstone	Jill	Associate Professor	Chemistry	PhD	Northwestern University
Morris	Hannah	Lecturer	Chemistry	PhD	Pittsburgh, Main, University of
Nelson	Scott	Professor	Chemistry	PhD	Rochester, University of
Robinson	Rena	Assistant Professor	Chemistry	PhD	Indiana University Bloomington
Rosi	Nathaniel	Professor	Chemistry	PhD	Michigan, Ann Arbor, University of
Saxena	Sunil	Professor	Chemistry	PhD	Cornell University Endowed Colleges

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Star	Alexander	Professor	Chemistry	PhD	Tel Aviv University
Wagner II	Eugene	Senior Lecturer	Chemistry	PhD	North Georgia, University of
Waldeck	David	Professor	Chemistry	PhD	Chicago, University of
Ward	Michelle	Lecturer II	Chemistry	PhD	Pittsburgh, Main, University of
Weber	Stephen	Professor	Chemistry	PhD	McGill University
Wilcox	Craig	Professor	Chemistry	PhD	California Institute of Technology
Wipf	Peter	Distinguished University Professor	Chemistry	PhD	Zurich, University of
Bromberg	Jacques	Assistant Professor	Classics	PhD	Pennsylvania, University of
Hoenig	Christina	Assistant Professor	Classics	PhD	Cambridge, University of
Jones	Nicholas	Professor	Classics	PhD	California, Berkeley, University of
Possanza	D. Mark	Associate Professor	Classics	PhD	North Carolina, Chapel Hill, University of
Bannon	Michael	Lecturer II	Communication	PhD	Pittsburgh, Main, University of
Bruce	Caitlin	Assistant Professor	Communication	PhD	Northwestern University
Clarke	Lynn	Lecturer	Communication	PhD	Northwestern University
Daniel	Jack	Distinguished Service Professor	Communication	PhD	Pittsburgh, Main, University of
English	Eric	Lecturer	Communication	PhD	Pittsburgh, Main, University of
Fusfield	William	Associate Professor	Communication	PhD	Washington, University of
Gareis	John	Senior Lecturer	Communication	PhD	Pittsburgh, Main, University of
Guthrie	Meredith	Lecturer II	Communication	PhD	Bowling Green State University, Main
Hartelius	Elin	Assistant Professor	Communication	PhD	Texas, Austin, University of
Johnson	Paul	Assistant Professor	Communication	PhD	Iowa, University of
Kuchinskaya	Olga	Assistant Professor	Communication	PhD	California, San Diego, University of
Lyne	John	Professor	Communication	PhD	Wisconsin, Madison, University of
Malin	Brenton	Associate Professor	Communication	PhD	Iowa, University of
Marshall	David	Assistant Professor	Communication	PhD	Johns Hopkins University
Matheson	Calum	Assistant Professor	Communication	PhD	North Carolina, Chapel Hill, University of
Mitchell	Gordon	Associate Professor	Communication	PhD	Northwestern University

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Olson	Lester	Professor	Communication	PhD	Wisconsin, Madison, University of
Poulakos	John	Associate Professor	Communication	PhD	Kansas, Main, University of
Zboray	Ronald	Professor	Communication	PhD	New York University
Ahn	Daniel	Assistant Professor	Computer Science	PhD	Illinois, Urbana, University of
Chang	Shi-Kuo	Professor	Computer Science	PhD	California, Berkeley, University of
Childers	Bruce	Professor	Computer Science	PhD	Virginia, Main, University of
Chrysanthis	Panos	Professor	Computer Science	PhD	Massachusetts, Amherst, University of
Farnan	Nicholas	Lecturer	Computer Science	PhD	Pittsburgh, Main, University of
Hauskrecht	Milos	Professor	Computer Science	PhD	Massachusetts Institute of Technology
Hwa	Rebecca	Associate Professor	Computer Science	PhD	Harvard University
Kosiyatrakul	Thumrongsak	Lecturer	Computer Science	PhD	Syracuse University, Main
Kovashka	Adriana	Assistant Professor	Computer Science	PhD	Texas, Austin, University of
Labrinidis	Alexandros	Associate Professor	Computer Science	PhD	Maryland, College Park, University of
Lange	John	Associate Professor	Computer Science	PhD	Northwestern University
Lee	Adam	Associate Professor	Computer Science	PhD	Illinois, Urbana, University of
Litman	Diane	Professor	Computer Science	PhD	Rochester, University of
Melhem	Rami	Professor	Computer Science	PhD	Pittsburgh, Main, University of
Misurda	Jonathan	Lecturer II	Computer Science	PhD	Pittsburgh, Main, University of
Mosse	Daniel	Professor	Computer Science	PhD	Maryland, College Park, University of
Pruhs	Kirk	Professor	Computer Science	PhD	Wisconsin, Madison, University of
Ramirez	John	Senior Lecturer	Computer Science	PhD	Pittsburgh, Main, University of
Wang	Jingtao	Assistant Professor	Computer Science	PhD	California, Berkeley, University of
Wiebe	Janyce	Professor	Computer Science	PhD	State University of New York, Buffalo
Zhang	Youtao	Associate Professor	Computer Science	PhD	Arizona, University of
Znati	Taieb	Professor	Computer Science	PhD	Michigan State University

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Exley	Charles	Assistant Professor	East Asian Languages and Literatures	PhD	Yale University
Kim	Mi-Hyun	Lecturer	East Asian Languages and Literatures	PhD	Hawaii, Manoa, University of
Luft	Stephen	Lecturer	East Asian Languages and Literatures	PhD	Ohio State University Main
Nara	Hiroshi	Professor	East Asian Languages and Literatures	PhD	Kansas, Main, University of
Oyler	Elizabeth	Associate Professor	East Asian Languages and Literatures	PhD	Stanford University
Qian	Kun	Assistant Professor	East Asian Languages and Literatures	PhD	Cornell University Endowed Colleges
Sun	Cecile	Professor	East Asian Languages and Literatures	PhD	Indiana University Bloomington
Xu	Yi	Associate Professor	East Asian Languages and Literatures	PhD	Arizona, University of
Albanesi	Stefania	Professor	Economics	PhD	Northwestern University
Beeson	Patricia	Professor	Economics	PhD	Oregon, University of
Beresteanu	Arie	Associate Professor	Economics	PhD	Northwestern University
Berkowitz	Daniel	Professor	Economics	PhD	Columbia University, Main Division
Coen Pirani	Daniele	Associate Professor	Economics	PhD	Rochester, University of
DeJong	David	Professor	Economics	PhD	Iowa, University of
Gihleb	Rania	Assistant Professor	Economics	PhD	Boston University
Hanley	Douglas	Assistant Professor	Economics	PhD	Pennsylvania, University of
Hewitt	David	Lecturer	Economics	PhD	California, Irvine, University of
Huffman	David	Professor	Economics	PhD	California, Berkeley, University of
Hur	Sewon	Assistant Professor	Economics	PhD	Minnesota, Twin Cities, University of
Husted	Steven	Professor	Economics	PhD	Michigan State University
Kenkel	James	Associate Professor	Economics	PhD	Purdue University, Main
LaNauze	Andrea	Assistant Professor	Economics	PhD	Melbourne, University of
Maksymenko	Svitlana	Senior Lecturer	Economics	PhD	Temple University
Maloy	James	Lecturer II	Economics	PhD	London, University of

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Moroni	Sofia	Assistant Professor	Economics	PhD	Yale University
Mylovanov	Tymofiy	Associate Professor	Economics	PhD	Wisconsin, Madison, University of
Rawski	Thomas	Professor	Economics	PhD	Harvard University
Richard	Jean-Francois	Distinguished University Professor	Economics	PhD	Université catholique de Louvain
Rigotti	Luca	Associate Professor	Economics	PhD	Yale University
Ripoll	Marla	Associate Professor	Economics	PhD	Rochester, University of
Shaver	Kevin	Lecturer	Economics	PhD	Washington University
Shertzer	Allison	Assistant Professor	Economics	PhD	California, Los Angeles, University of
Teper	Roee	Assistant Professor	Economics	PhD	Tel Aviv University
Troesken Jr	Werner	Professor	Economics	PhD	Washington University
Vesterlund	Lise	Andrew Mellon Professor	Economics	PhD	Wisconsin, Madison, University of
Wallace	Elizabeth	Lecturer II	Economics	MA	Pittsburgh, Main, University of
Walsh	Randall	Associate Professor	Economics	PhD	Duke University
Wang	Stephanie	Associate Professor	Economics	PhD	Princeton University
Wilson	Alistair	Assistant Professor	Economics	PhD	New York University
Wolfe	Katherine	Lecturer II	Economics	MA	Pittsburgh, Main, University of
Zincenko	Federico	Assistant Professor	Economics	PhD	California, Los Angeles, University of
Anderson	Erin	Assistant Professor	English	PhD	Pittsburgh, Main, University of
Anderson	Mark	Associate Professor	English	PhD	Rochester, University of
Andrade	Susan	Associate Professor	English	PhD	Michigan, Ann Arbor, University of
Arac	Jonathan	Andrew Mellon Professor	English	PhD	Harvard University
Aziz	Jeffrey	Lecturer II	English	PhD	Pittsburgh, Main, University of
Bartholomae	David	Professor and Charles Crow Chair	English	PhD	Rutgers University, New Brunswick
Best	Mark	Lecturer II	English	PhD	Indiana University Bloomington
Bialostosky	Don	Professor	English	PhD	Chicago, University of
Bickford	Tyler	Assistant Professor	English	PhD	Columbia University, Main Division

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Bishop	Ellen	Lecturer II	English	PhD	Pittsburgh, Main, University of
Boone	Troy	Associate Professor	English	PhD	Rochester, University of
Bove	Carol	Senior Lecturer	English	PhD	State University of New York, Binghamton
Bove	Paul	Distinguished Professor	English	PhD	State University of New York, Binghamton
Breight	Curtis	Associate Professor	English	PhD	Yale University
Brumble III	H. David	Professor	English	PhD	Nebraska, Lincoln, University of
Campbell	Peter	Assistant Professor	English	PhD	Illinois, Urbana, University of
Campbell-Tanner	Lori	Lecturer II	English	PhD	Duquesne University
Carlson	Sten	Lecturer	English	MFA	Pittsburgh, Main, University of
Carr	Jean	Associate Professor	English	PhD	Michigan, Ann Arbor, University of
Carr	Stephen	Associate Professor	English	PhD	Michigan, Ann Arbor, University of
Cheong	Fiona	Associate Professor	English	MFA	Cornell University Endowed Colleges
Clarke	Robin	Lecturer	English	MFA	Pittsburgh, Main, University of
Clift	Robert	Assistant Professor	English	PhD	Indiana University Bloomington
Coles	Nicholas	Associate Professor	English	PhD	State University of New York, Buffalo
Cruz	Angie	Assistant Professor	English	MFA	New York University
Edelman	Barbara	Lecturer	English	MFA	Pittsburgh, Main, University of
Emanuel	Lynn	Professor	English	MFA	Iowa, University of
Farkas	Angela	Lecturer	English	PhD	Pittsburgh, Main, University of
Feuer	Jane	Professor	English	PhD	Central University of Iowa
Fielder	Elizabeth	Assistant Professor	English	MS	Columbia University, Main Division
Fischer	Lucy	Distinguished Professor	English	PhD	New York University
Gill-Peterson	Julian	Assistant Professor	English	PhD	Rutgers University, New Brunswick
Glazener	Nancy	Associate Professor	English	PhD	Stanford University
Glover	Geoffrey	Lecturer	English	PhD	Carnegie-Mellon University

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Grace	Jean	Senior Lecturer	English	PhD	Pittsburgh, Main, University of
Gramm	Marylou	Senior Lecturer	English	PhD	New York University
Harvey	Yona	Assistant Professor	English	MFA	Pittsburgh, Main, University of
Hayes	Terrance	Professor and Toi Derricotte Chair	English	MFA	Pittsburgh, Main, University of
Holding	Cory	Assistant Professor	English	PhD	Illinois, Urbana, University of
Horton	Zachary	Assistant Professor	English	PhD	California, Santa Barbara, University of
Johnson	Hannah	Associate Professor	English	PhD	Princeton University
Johnson	Jennifer	Lecturer	English	MFA	Warren Wilson College
Judy	Ronald	Professor	English	PhD	Minnesota, Twin Cities, University of
Kameen	Paul	Professor	English	DA	State University of New York, Albany
Kemp	Mark	Lecturer	English	PhD	Pittsburgh, Main, University of
Knapp	James	Professor	English	PhD	Connecticut, Main, University of
Kothari	Geeta	Senior Lecturer	English	MA	New York University
Kramer	Mark	Lecturer	English	MFA	Pittsburgh, Main, University of
Laskas	Jeanne	Professor	English	MFA	Pittsburgh, Main, University of
Leavens	Sarah	Lecturer	English	MFA	Mansfield State College
Lee	Jennifer	Senior Lecturer	English	MFA	Pittsburgh, Main, University of
Li	Jinying	Assistant Professor	English	PhD	New York University
Lowenstein	Adam	Professor	English	PhD	Chicago, University of
Lychack	William	Assistant Professor	English	MFA	Michigan, Ann Arbor, University of
Maccabe	Colin	Distinguished Professor	English	PhD	Cambridge, University of
Majumdar	Neepa	Associate Professor	English	PhD	Indiana University Bloomington
Martin	Dawn	Professor	English	PhD	Massachusetts, Amherst, University of
Matway	Elizabeth	Senior Lecturer	English	PhD	Pittsburgh, Main, University of
McDermott	Ryan	Associate Professor	English	PhD	Virginia, Main, University of
McMillan	Daniel	Lecturer	English	MFA	Pittsburgh, Main, University of
McWhorter	Thomas	Lecturer	English	MFA	Utah, University of

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Meyer	Michael	Associate Professor	English	MEd	California, Berkeley, University of
Miller	Benjamin	Assistant Professor	English	PhD	City University of New York, Graduate Center
Murray	Amy	Lecturer II	English	PhD	Pittsburgh, Main, University of
Newborg	Beth	Senior Lecturer	English	MA	Pittsburgh, Main, University of
Oaks	Jeffrey	Senior Lecturer	English	MFA	Pittsburgh, Main, University of
O'Brien	Pamela	Lecturer II	English	MA	Gannon University
Och	Dana	Lecturer II	English	PhD	Pittsburgh, Main, University of
Owens	Imani	Assistant Professor	English	PhD	Columbia University, Main Division
Patterson	Alison	Lecturer	English	PhD	Pittsburgh, Main, University of
Puri	Shalini	Professor	English	PhD	Ithaca College
Ramirez	Adriana	Lecturer	English	MFA	Pittsburgh, Main, University of
Reyn	Irina	Associate Professor	English	MFA	Bennington College
Rogers	Gayle	Associate Professor	English	PhD	Northwestern University
Salzer	Kenneth	Lecturer	English	PhD	Rochester, University of
Satyavolu	Uma	Lecturer II	English	PhD	West Virginia University
Scott Jr	William	Associate Professor	English	PhD	Johns Hopkins University
Skrzycki	Cynthia	Senior Lecturer	English	MA	American University
Smith	Ellen	Senior Lecturer	English	PhD	Duquesne University
Trachtenberg	Peter	Associate Professor	English	MA	City University of New York, Graduate Center
Twyning	John	Professor	English	PhD	East Anglia, University of
Vee	Annette	Assistant Professor	English	PhD	Wisconsin, Madison, University of
Waldron	Jennifer	Associate Professor	English	PhD	Princeton University
Weikle-Mills	Courtney	Associate Professor	English	PhD	Ohio State University Main
West	Michael	Professor	English	PhD	Harvard University
Whitney	Brenda	Lecturer II	English	PhD	Pittsburgh, Main, University of
Womack	Autumn	Assistant Professor	English	PhD	Columbia University, Main Division
Joshi	Sarah	Lecturer	Film Studies	PhD	London, University of

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Coleman	James	Assistant Professor	French and Italian Languages and Literatures	PhD	Yale University
Denman	Lorraine	Lecturer	French and Italian Languages and Literatures	MA	Pittsburgh, Main, University of
Doshi	Neil	Assistant Professor	French and Italian Languages and Literatures	PhD	Michigan, Ann Arbor, University of
Hogg	Chloe	Assistant Professor	French and Italian Languages and Literatures	PhD	Pennsylvania, University of
Insana	Lina	Associate Professor	French and Italian Languages and Literatures	PhD	Pennsylvania, University of
Kosinski	Renate	Distinguished Professor	French and Italian Languages and Literatures	PhD	Princeton University
Mecchia	Giuseppina	Associate Professor	French and Italian Languages and Literatures	PhD	Princeton University
Pettersen	David	Associate Professor	French and Italian Languages and Literatures	PhD	California, Berkeley, University of
Reeser	Todd	Professor	French and Italian Languages and Literatures	PhD	Michigan, Ann Arbor, University of
Savoia	Francesca	Professor	French and Italian Languages and Literatures	PhD	California, Los Angeles, University of
Walsh III	John	Associate Professor	French and Italian Languages and Literatures	PhD	Harvard University
Wells	Brett	Senior Lecturer	French and Italian Languages and Literatures	PhD	Stanford University
Beaulieu	Julie	Lecturer	Gender, Sexuality, and Women's Studies	PhD	Pittsburgh, Main, University of
Cohen	Frayda	Senior Lecturer	Gender, Sexuality, and Women's Studies	PhD	Pittsburgh, Main, University of
Abbott	Mark	Professor	Geology and Environmental Science	PhD	Minnesota, Twin Cities, University of
Bain	Daniel	Assistant Professor	Geology and Environmental Science	PhD	Johns Hopkins University
Capo	Rosemary	Associate Professor	Geology and Environmental Science	PhD	California, Los Angeles, University of
Collins	Mark	Lecturer	Geology and Environmental Science	MFA	Pittsburgh, Main, University of
Elliott	Emily	Associate Professor	Geology and Environmental Science	PhD	Johns Hopkins University

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Harbert	William	Professor	Geology and Environmental Science	PhD	Stanford University
Jones	Charles	Senior Lecturer	Geology and Environmental Science	PhD	Oxford, University of
McQuarrie	Nadine	Associate Professor	Geology and Environmental Science	PhD	Arizona, University of
Ramsey	Michael	Professor	Geology and Environmental Science	PhD	Arizona State University
Shelef	Eitan	Assistant Professor	Geology and Environmental Science	PhD	Stanford University
Stewart	Brian	Associate Professor	Geology and Environmental Science	PhD	California, Los Angeles, University of
Thomas	Brian	Assistant Professor	Geology and Environmental Science	PhD	Tufts University
Werne	Josef	Associate Professor	Geology and Environmental Science	PhD	Northwestern University
Whittinghill	Kyle	Lecturer	Geology and Environmental Science	PhD	Minnesota, Twin Cities, University of
Batista	Viktoria	Lecturer	German	PhD	Kansas, Main, University of
Colin	Amy	Associate Professor	German	PhD	Yale University
Halle	Randall	Klaus Jonas Professor	German	PhD	Wisconsin, Madison, University of
Harms	Viktoria	Lecturer	German	PhD	Pittsburgh, Main, University of
Lyon	John	Professor	German	PhD	Princeton University
Muenzer	Clark	Associate Professor	German	PhD	Princeton University
von Dirke	Sabine	Associate Professor	German	PhD	Stanford University
Balderston	Daniel	Andrew Mellon Professor	Hispanic Languages and Literatures	PhD	Princeton University
Beverley	John	Distinguished Professor	Hispanic Languages and Literatures	PhD	California, San Diego, University of
Branche	Jerome	Professor	Hispanic Languages and Literatures	PhD	New Mexico, University of
Carvalho	Ana	Lecturer II	Hispanic Languages and Literatures	MA	Pittsburgh, Main, University of
Chamberlain	Bobby	Associate Professor	Hispanic Languages and Literatures	PhD	California, Los Angeles, University of

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Duchesne-Winter	Juan	Professor	Hispanic Languages and Literatures	PhD	State University of New York, Stony Brook
Garcia	Armando	Assistant Professor	Hispanic Languages and Literatures	PhD	Cornell University
Kim	Junyoung	Assistant Professor	Hispanic Languages and Literatures	PhD	Cornell University Statutory Colleges
Lamana	Gonzalo	Associate Professor	Hispanic Languages and Literatures	PhD	Duke University
Lima-Vales	Dolores	Lecturer	Hispanic Languages and Literatures	PhD	Maryland, College Park, University of
Monasterios	Elizabeth	Professor	Hispanic Languages and Literatures	PhD	Toronto, University of
Nardone	Maria	Lecturer	Hispanic Languages and Literatures	PhD	Pennsylvania State University, Main
Perez-Cano	Tania	Lecturer	Hispanic Languages and Literatures	PhD	Iowa, University of
Sotomayor	Aurea	Professor	Hispanic Languages and Literatures	PhD	Stanford University
Adal	Raja	Assistant Professor	History	PhD	Harvard University
Andrews	G. Reid	Distinguished Professor	History	PhD	Wisconsin, Madison, University of
Carson	Carolyn	Senior Lecturer	History	PhD	Carnegie-Mellon University
Chase	William	Professor	History	PhD	Boston College
Frykman	Niklas	Assistant Professor	History	PhD	Pittsburgh, Main, University of
Glasco	Laurence	Associate Professor	History	PhD	State University of New York, Buffalo
Gobat	Michel	Associate Professor	History	PhD	Chicago, University of
Gotkowitz	Laura	Associate Professor	History	PhD	Chicago, University of
Greenberg	Janelle	Professor	History	PhD	Michigan, Ann Arbor, University of
Greenwald	Maurine	Associate Professor	History	PhD	Brown University
Hagerty	Bernard	Senior Lecturer	History	PhD	Pittsburgh, Main, University of
Hammond	Leslie	Lecturer II	History	PhD	Pittsburgh, Main, University of
Holstein	Diego	Associate Professor	History	PhD	Hebrew University of Jerusalem
Hoock	Holger	Carroll J. Amundson Professor	History	DPhil	Oxford, University of

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Karsten	Peter	Professor	History	PhD	Wisconsin, Madison, University of
Leung	Vincent	Assistant Professor	History	PhD	Harvard University
Livezeanu	Irina	Associate Professor	History	PhD	Michigan, Ann Arbor, University of
Mostern	Ruth	Associate Professor	History	PhD	California, Berkeley, University of
Muller	Edward	Professor	History	PhD	Wisconsin, Madison, University of
Novosel	Anthony	Senior Lecturer	History	PhD	Pittsburgh, Main, University of
Oestreicher	Richard	Associate Professor	History	PhD	Michigan State University
Pickett	James	Assistant Professor	History	PhD	Princeton University
Putnam	Lara	Professor	History	PhD	Michigan, Ann Arbor, University of
Rediker	Marcus	Distinguished Professor	History	PhD	Pennsylvania, University of
Roege	Pernille	Assistant Professor	History	PhD	Cambridge, University of
Ruck	Robert	Professor	History	PhD	Pittsburgh, Main, University of
Smith	Randy	Lecturer	History	PhD	Pittsburgh, Main, University of
Stoner	John	Lecturer II	History	PhD	Columbia University, Main Division
Thum	Gregor	Associate Professor	History	PhD	European University Viadrina
Tsoukas	Liann	Senior Lecturer	History	PhD	Indiana University Bloomington
Warsh	Molly	Assistant Professor	History	PhD	Johns Hopkins University
Webel	Mari	Assistant Professor	History	PhD	Columbia University, Main Division
Chirimuuta	Mazviita	Assistant Professor	History and Philosophy of Science	PhD	Cambridge, University of
Lennox	James	Professor	History and Philosophy of Science	PhD	Toronto, University of
Machamer	Peter	Professor	History and Philosophy of Science	PhD	Chicago, University of
Machery	Edouard	Distinguished Professor	History and Philosophy of Science	PhD	Paris VIII, University of
Mitchell	Sandra	Professor	History and Philosophy of Science	PhD	Pittsburgh, Main, University of

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Norton	John	Distinguished Professor	History and Philosophy of Science	PhD	New South Wales, University of
Palmieri	Paolo	Associate Professor	History and Philosophy of Science	PhD	London, University of
Williams	Porter	Assistant Professor	History and Philosophy of Science	PhD	Columbia University, Main Division
Woodward	James	Distinguished Professor	History and Philosophy of Science	PhD	Texas, Austin, University of
Armstrong	C. Drew	Associate Professor	History of Art and Architecture	PhD	Columbia University, Main Division
Bender	Gretchen	Senior Lecturer	History of Art and Architecture	PhD	Bryn Mawr College
Chartier	Isabelle	Lecturer	History of Art and Architecture	MA	Montreal, University of
Ellenbogen	Joshua	Associate Professor	History of Art and Architecture	PhD	Chicago, University of
Gerhart	Karen	Professor	History of Art and Architecture	PhD	Kansas, Main, University of
Jones	Shirin	Assistant Professor	History of Art and Architecture	PhD	Harvard University
Josten	Jennifer	Assistant Professor	History of Art and Architecture	PhD	Yale University
McCloskey	Barbara	Professor	History of Art and Architecture	PhD	Northwestern University
Nygren	Christopher	Assistant Professor	History of Art and Architecture	PhD	Johns Hopkins University
Peters	Erin	Lecturer	History of Art and Architecture	PhD	Iowa, University of
Rajagopalan	Mrinalini	Assistant Professor	History of Art and Architecture	PhD	California, Berkeley, University of
Savage	Kirk	Professor	History of Art and Architecture	PhD	California, Berkeley, University of
Smith	Terence	Andrew Mellon Professor	History Of Art And Architecture	PhD	Sydney, University of
Taylor	Alexander	Assistant Professor	History of Art and Architecture	PhD	Oxford, University of
Toker	Franklin	Professor	History of Art and Architecture	PhD	Harvard University

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Weis	H. Anne	Associate Professor	History of Art and Architecture	PhD	Bryn Mawr College
Attia	Amani	Lecturer	Linguistics	PhD	Alexandria, University of
Fricke	Melinda	Assistant Professor	Linguistics	PhD	California, Berkeley, University of
Gooden	Shelome	Associate Professor	Linguistics	PhD	Ohio State University Main
Han	Na-Rae	Lecturer	Linguistics	PhD	Pennsylvania, University of
Juffs	Alan	Professor	Linguistics	PhD	McGill University
Kanwit	Matthew	Assistant Professor	Linguistics	PhD	Indiana University Bloomington
Kiesling	Scott	Professor	Linguistics	PhD	Georgetown University
Mauk	Claude	Senior Lecturer	Linguistics	PhD	Texas, Austin, University of
McCormick	Dawn	Senior Lecturer	Linguistics	PhD	Pittsburgh, Main, University of
Mizera	Gregory	Lecturer	Linguistics	PhD	Pittsburgh, Main, University of
Ortega-Llebaria	Marta	Assistant Professor	Linguistics	PhD	Indiana University Bloomington
Park	Karen	Assistant Professor	Linguistics	PhD	Oxford, University of
Smith	Dorolyn	Lecturer	Linguistics	MA	Pittsburgh, Main, University of
Soudi	Abdesalam	Lecturer	Linguistics	PhD	Pittsburgh, Main, University of
Athanas	Angela	Lecturer II	Mathematics	MA	Pittsburgh, Main, University of
Bao	Shiting	Lecturer	Mathematics	PhD	Rutgers University, New Brunswick
Caginalp	Gunduz	Professor	Mathematics	PhD	Cornell University Endowed Colleges
Chadam	John	Professor	Mathematics	PhD	Massachusetts Institute of Technology
Chen	Ming	Assistant Professor	Mathematics	PhD	Brown University
Chen	Xinfu	Professor	Mathematics	PhD	Minnesota, University of
Constantine	Gregory	Professor	Mathematics	PhD	Illinois, Chicago, University of
Deblois	Jason	Assistant Professor	Mathematics	PhD	Texas, Austin, University of
Doiron	Brent	Associate Professor	Mathematics	PhD	Ottawa, University of
Ermentrout	G. Bard	Distinguished University Professor	Mathematics	PhD	Chicago, University of
Everest	Thomas	Lecturer	Mathematics	PhD	Pittsburgh, Main, University of
Gartside	Paul	Professor	Mathematics	PhD	Oxford, University of

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Hahn	Neale	Lecturer	Mathematics	MS	Pittsburgh, Main, University of
Hajlasz	Piotr	Professor	Mathematics	PhD	Warsaw, University of
Hales	Thomas	Andrew Mellon Professor	Mathematics	PhD	Princeton University
Hockensmith	Daniel	Lecturer	Mathematics	PhD	Illinois, Urbana, University of
Ion	Bogdan	Associate Professor	Mathematics	PhD	Princeton University
Jiang	Huiqiang	Associate Professor	Mathematics	PhD	New York University
Kaveh	Kiumars	Associate Professor	Mathematics	PhD	Toronto, University of
Layton	William	Professor	Mathematics	PhD	Tennessee, Knoxville, University of
Lennard	Christopher	Associate Professor	Mathematics	PhD	Kent State University, Main
Lewicka	Marta	Associate Professor	Mathematics	PhD	Scuola Internazional Superiore di Studi Avanzati
Manfredi	Juan	Professor	Mathematics	PhD	Washington University
Neilan	Michael	Associate Professor	Mathematics	PhD	Tennessee, Knoxville, University of
Pakzad	Mohammadreza	Associate Professor	Mathematics	PhD	École normale supérieure de Cachan
Pan	Yibiao	Professor	Mathematics	PhD	Princeton University
Rabier	Patrick	Professor	Mathematics	PhD	Paris VI-Curie, University of
Rubin	Jonathan	Professor	Mathematics	PhD	Brown University
Sati	Hisham	Assistant Professor	Mathematics	PhD	Michigan, Ann Arbor, University of
Sparling	George	Associate Professor	Mathematics	PhD	London, University of
Swigon	David	Associate Professor	Mathematics	PhD	Rutgers University, New Brunswick
Sysoeva	Inna	Lecturer II	Mathematics	PhD	Pennsylvania State University, Main
Trenchea	Catalin	Associate Professor	Mathematics	PhD	Iasi University
Trofimov	Evgueni	Lecturer	Mathematics	PhD	Pittsburgh, Main, University of
Vainchtein	Anna	Professor	Mathematics	PhD	Cornell University Statutory Colleges
Wang	Dehua	Professor	Mathematics	PhD	Chicago, University of
Wang	Linhong	Lecturer	Mathematics	PhD	Temple University
Wheeler	Jeffrey	Lecturer II	Mathematics	PhD	Memphis State University

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Xiong	Sheng	Lecturer	Mathematics	PhD	Temple University
Xu	Hao	Assistant Professor	Mathematics	PhD	Zhejiang University, School of Medicine
Yao	Song	Assistant Professor	Mathematics	PhD	Purdue University, Main
Yotov	Ivan	Professor	Mathematics	PhD	Rice University
Allen	Geri	Associate Professor	Music	MA	Pittsburgh, Main, University of
Ayyagari	Shalini	Assistant Professor	Music	PhD	California, Berkeley, University of
Helbig	Adriana	Associate Professor	Music	PhD	Columbia University, Main Division
Heller	Michael	Assistant Professor	Music	PhD	Harvard University
Johnson	Aaron	Assistant Professor	Music	PhD	Columbia University, Main Division
Moe	Eric	Andrew Mellon Professor	Music	PhD	California, Berkeley, University of
Rice	Susan	Senior Lecturer	Music	DMA	Illinois, Urbana, University of
Root	Deane	Professor	Music	PhD	Illinois, Urbana, University of
Rosenblum	Mathew	Professor	Music	PhD	Princeton University
Weintraub	Andrew	Professor	Music	PhD	California, Berkeley, University of
Williams	Amy	Associate Professor	Music	PhD	State University of New York, Buffalo
Zahab	Roger	Senior Lecturer	Music	MM	State University of New York, Stony Brook
Artim	Debra	Lecturer	Neuroscience	PhD	Pittsburgh, Main, University of
Barrionuevo	German	Professor	Neuroscience	MD	Buenos Aires, Universidad de
Cohen	Marlene	Associate Professor	Neuroscience	PhD	Stanford University
Colby	Carol	Professor	Neuroscience	PhD	Massachusetts Institute of Technology
Dong	Yan	Professor	Neuroscience	PhD	Chicago, University of
Fanselow	Erika	Lecturer	Neuroscience	PhD	Duke University
Grace	Anthony	Distinguished Professor	Neuroscience	PhD	Yale University
Johnson	Jon	Professor	Neuroscience	PhD	Stanford University
Meriney	Stephen	Professor	Neuroscience	PhD	Connecticut, Main, University of

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Moghaddam	Bita	Professor	Neuroscience	PhD	Kansas, Main, University of
Oswald	Anne Marie	Assistant Professor	Neuroscience	PhD	Ottawa, University of
Rinaman	Linda	Professor	Neuroscience	PhD	Pennsylvania, University of
Schluter	Oliver	Assistant Professor	Neuroscience	MD	Hannover, University of
Sesack	Susan	Professor	Neuroscience	PhD	Eastern Connecticut State University
Stricker	Edward	Distinguished University Professor	Neuroscience	PhD	Yale University
Sved	Alan	Professor	Neuroscience	PhD	Massachusetts Institute of Technology
Batterman	Robert	Professor	Philosophy	PhD	Michigan, Ann Arbor, University of
Berry	Thomas	Senior Lecturer	Philosophy	PhD	Pittsburgh, Main, University of
Brandom	Robert	Distinguished Professor	Philosophy	PhD	Princeton University
Caie	Michael	Assistant Professor	Philosophy	PhD	California, Berkeley, University of
Engstrom	Stephen	Professor	Philosophy	PhD	Chicago, University of
Gallow	Jeffrey	Assistant Professor	Philosophy	PhD	Michigan, Ann Arbor, University of
Gelber	Jessica	Assistant Professor	Philosophy	PhD	California, Berkeley, University of
Gupta	Anil	Distinguished Professor and Alan Ross Anderson Chair	Philosophy	PhD	Pittsburgh, Main, University of
Lederman	Harvey	Assistant Professor	Philosophy	PhD	Oxford, University of
Lewinsohn	Joseph	Assistant Professor	Philosophy	PhD	New York University
Manders	Kenneth	Associate Professor	Philosophy	PhD	California, Berkeley, University of
McDowell	John	Distinguished University Professor	Philosophy	MA	Oxford, University of
Pallikkathayil	Japa	Assistant Professor	Philosophy	PhD	Harvard University
Rescher	Nicholas	Distinguished University Professor	Philosophy	PhD	Princeton University
Ricketts	Thomas	Professor	Philosophy	PhD	Michigan, Ann Arbor, University of
Shaw	James	Associate Professor	Philosophy	PhD	Harvard University
Shumener	Erica	Assistant Professor	Philosophy	PhD	New York University

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Thompson	Michael	Professor	Philosophy	PhD	California, Los Angeles, University of
Valente	Giovanni	Assistant Professor	Philosophy	PhD	Maryland, College Park, University of
Whiting	Jennifer	Distinguished Professor	Philosophy	PhD	Cornell University Endowed Colleges
Wilson	Mark	Distinguished Professor	Philosophy	PhD	Harvard University
Badenes	Carlos	Assistant Professor	Physics and Astronomy	PhD	Universidad Politécnica de Puerto Rico
Batell	Brian	Assistant Professor	Physics and Astronomy	PhD	Minnesota, Twin Cities, University of
Boudreau	Joseph	Professor	Physics and Astronomy	PhD	Wisconsin, Madison, University of
Boyanovsky	Daniel	Professor	Physics and Astronomy	PhD	California, Santa Barbara, University of
Broccio	Matteo	Lecturer	Physics and Astronomy	PhD	Messina, University of
Clark	Russell	Senior Lecturer	Physics and Astronomy	PhD	Louisiana State University in Shreveport
Devaty	Robert	Associate Professor	Physics and Astronomy	PhD	Cornell University
D'Urso	Brian	Assistant Professor	Physics and Astronomy	PhD	Harvard University
Dutt	Gurudev	Associate Professor	Physics and Astronomy	PhD	Michigan, Ann Arbor, University of
Dytman	Steven	Professor	Physics and Astronomy	PhD	Carnegie-Mellon University
Freitas	Ayres	Associate Professor	Physics and Astronomy	PhD	Hamburg, University of
Frolov	Sergey	Assistant Professor	Physics and Astronomy	PhD	Illinois, Urbana, University of
Han	Tao	Distinguished Professor	Physics and Astronomy	PhD	Wisconsin, Madison, University of
Hatridge	Michael	Assistant Professor	Physics and Astronomy	PhD	California, Berkeley, University of
Hillier	Desmond	Professor	Physics and Astronomy	PhD	Australian National University
Hong	Tae Min	Assistant Professor	Physics and Astronomy	PhD	California, Santa Barbara, University of
Kosowsky	Arthur	Professor	Physics and Astronomy	PhD	Chicago, University of
Leibovich	Adam	Professor	Physics and Astronomy	PhD	California Institute of Technology
Levy	Jeremy	Distinguished Professor	Physics and Astronomy	PhD	California, Santa Barbara, University of

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Liu	Wensheng	Professor	Physics and Astronomy	PhD	Texas, Austin, University of
Maher	James	Distinguished Service Professor	Physics and Astronomy	PhD	Yale University
Mong	Roger	Assistant Professor	Physics and Astronomy	PhD	California, Berkeley, University of
Mueller	James	Associate Professor	Physics and Astronomy	PhD	Cornell University Endowed Colleges
Naples	Donna	Professor	Physics and Astronomy	PhD	Maryland, University of
Nero	David	Lecturer	Physics and Astronomy	PhD	Toledo, University of
Newman	Jeffrey	Professor	Physics and Astronomy	PhD	California, Berkeley, University of
Paolone	Vittorio	Professor	Physics and Astronomy	PhD	California, Davis, University of
Pekker	David	Assistant Professor	Physics and Astronomy	PhD	Illinois, Urbana, University of
Petek	Hrvoje	Richard King Mellon Professor	Physics and Astronomy	PhD	California, Berkeley, University of
Roskies	Ralph	Professor	Physics and Astronomy	PhD	Princeton University
Salman	Hanna	Associate Professor	Physics and Astronomy	PhD	Hebrew University of Jerusalem
Savinov	Vladimir	Professor	Physics and Astronomy	PhD	Minnesota, Twin Cities, University of
Schulte-Ladbeck	Regina	Professor	Physics and Astronomy	Dr. rer. nat.	Heidelberg, University of
Singh	Chandralekha	Professor	Physics and Astronomy	PhD	California, Santa Barbara, University of
Snoke	David	Professor	Physics and Astronomy	PhD	Illinois, Urbana, University of
Swanson	Eric	Professor	Physics and Astronomy	PhD	Toronto, University of
Turnshek	David	Professor	Physics and Astronomy	PhD	Arizona, University of
Wood-Vasey	William	Associate Professor	Physics and Astronomy	PhD	California, Berkeley, University of
Wu	Xiao-Lun	Professor	Physics and Astronomy	PhD	Cornell University Endowed Colleges
Zentner	Andrew	Associate Professor	Physics and Astronomy	PhD	Ohio State University Main
Aklin	Michael	Assistant Professor	Political Science	PhD	New York University
Alexiadou	Despoina	Assistant Professor	Political Science	PhD	European University Institute
Ames	Barry	Andrew Mellon Professor	Political Science	PhD	Stanford University
Bonneau	Christopher	Associate Professor	Political Science	PhD	Michigan State University
Ding	Yue	Assistant Professor	Political Science	PhD	Harvard University

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Finkel	Steven	Professor and Daniel Wallace Chair	Political Science	PhD	State University of New York, Stony Brook
Gochman	Charles	Associate Professor	Political Science	PhD	Michigan, Ann Arbor, University of
Goodhart	Michael	Associate Professor	Political Science	PhD	California, Los Angeles, University of
Hays	Jude	Associate Professor	Political Science	PhD	Minnesota, Twin Cities, University of
Hurwitz	Jonathan	Professor	Political Science	PhD	Minnesota, Duluth, University of
Kanthak	Kristin	Associate Professor	Political Science	PhD	Iowa, University of
Krause	George	Professor	Political Science	PhD	West Virginia University
Linden	Ronald	Professor	Political Science	PhD	Princeton University
Long	Meridith	Lecturer	Political Science	PhD	Vanderbilt University
Lotz	Andrew	Lecturer	Political Science	PhD	Pittsburgh, Main, University of
MacKenzie	Michael	Assistant Professor	Political Science	PhD	British Columbia, University of
Morgenstern	Scott	Associate Professor	Political Science	PhD	San Diego, University of
Paler	Laura	Assistant Professor	Political Science	PhD	Columbia University, Main Division
Panayides	Daniela	Associate Professor	Political Science	PhD	Yale University
Perez-Linan	Anibal	Professor	Political Science	PhD	Notre Dame, University of
Peters	B. Guy	M Falk Professor	Political Science	PhD	Michigan State University
Savun	Burcu	Associate Professor	Political Science	PhD	Rice University
Sbragia	Alberta	Professor	Political Science	PhD	Wisconsin, Madison, University of
Shineman	Victoria	Assistant Professor	Political Science	PhD	New York University
Spaniel	William	Assistant Professor	Political Science	PhD	Rochester, University of
Spoon	Jae-Jae	Associate Professor	Political Science	PhD	Michigan, Ann Arbor, University of
Woon	Jonathan	Associate Professor	Political Science	PhD	Stanford University
Binning	Kevin	Assistant Professor	Psychology	PhD	California, Los Angeles, University of
Brownell	Celia	Professor	Psychology	PhD	Minnesota, Duluth, University of
Ciccocioppo	Melinda	Lecturer	Psychology	PhD	Pittsburgh, Main, University of

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Cohn	Jeffrey	Professor	Psychology	PhD	Maryland, College Park, University of
Coutanche	Marc	Assistant Professor	Psychology	PhD	Pennsylvania, University of
Donny	Eric	Professor	Psychology	PhD	Pittsburgh, Main, University of
Erickson	Kirk	Associate Professor	Psychology	PhD	Illinois, Urbana, University of
Fiez	Julie	Professor	Psychology	PhD	Washington University
Forest	Amanda	Assistant Professor	Psychology	PhD	Waterloo, University of
Fraundorf	Scott	Assistant Professor	Psychology	PhD	Illinois, Urbana, University of
Ganger	Jennifer	Lecturer	Psychology	PhD	Massachusetts Institute of Technology
Gianaros	Peter	Professor	Psychology	PhD	Pennsylvania State University, Main
Hanson	Jamie	Assistant Professor	Psychology	PhD	Wisconsin, Madison, University of
Hasler	Jennifer	Lecturer	Psychology	PhD	Arizona, University of
Inagaki	Tristen	Assistant Professor	Psychology	PhD	California, Los Angeles, University of
Iverson	Jana	Professor	Psychology	PhD	Chicago, University of
Kamarck	Thomas	Professor	Psychology	PhD	Oregon, Main, University of
Kucinski	Barbara	Lecturer II	Psychology	PhD	Pittsburgh, Main, University of
Lausberg	Cynthia	Senior Lecturer	Psychology	PhD	Pittsburgh, Main, University of
Levine	John	Professor	Psychology	PhD	Wisconsin, Madison, University of
Libertus	Melissa	Assistant Professor	Psychology	PhD	Duke University
Manuck	Stephen	Distinguished University Professor	Psychology	PhD	Vanderbilt University
Marsland	Anna	Associate Professor	Psychology	PhD	Pittsburgh, Main, University of
McCall	Robert	Professor	Psychology	PhD	Illinois, Urbana, University of
Nelson-LeGall	Sharon	Professor	Psychology	PhD	Illinois, Chicago Circle, University of
Nokes-Malach	Timothy	Associate Professor	Psychology	PhD	Illinois, Chicago Circle, University of
Orehek	Edward	Assistant Professor	Psychology	PhD	Maryland, College Park, University of

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Perfetti	Charles	Distinguished University Professor	Psychology	PhD	Michigan, Ann Arbor, University of
Pogue-Geile	Michael	Professor	Psychology	PhD	Indiana University Bloomington
Resnick	Lauren	Distinguished University Professor	Psychology	EdD	Harvard University
Roecklein	Kathryn	Associate Professor	Psychology	PhD	Uniformed Services University of the Health Sciences
Rottman	Benjamin	Assistant Professor	Psychology	PhD	Yale University
Sayette	Michael	Professor	Psychology	PhD	Rutgers University, New Brunswick
Schneider	Walter	Professor	Psychology	PhD	Indiana University South Bend
Schumann	Karina	Assistant Professor	Psychology	PhD	Waterloo, University of
Schunn	Christian	Professor	Psychology	PhD	Carnegie-Mellon University
Shaw	Daniel	Distinguished Professor	Psychology	PhD	Virginia, Main, University of
Silk	Jennifer	Associate Professor	Psychology	PhD	Temple University
Strauss	Mark	Associate Professor	Psychology	PhD	Illinois, Urbana, University of
Streeter	Sybil	Lecturer	Psychology	PhD	Pittsburgh, Main, University of
Tokowicz	Natasha	Associate Professor	Psychology	PhD	Pennsylvania State University, Main
Votruba-Drzal	Elizabeth	Associate Professor	Psychology	PhD	Northwestern University
Warren	Tessa	Associate Professor	Psychology	PhD	Massachusetts Institute of Technology
Wright	Aidan	Assistant Professor	Psychology	PhD	Pennsylvania State University, Main
Chilson	Clark	Associate Professor	Religious Studies	PhD	Lancaster University
Denova	Rebecca	Lecturer II	Religious Studies	PhD	Pittsburgh, Main, University of
Feig	Haya	Lecturer	Religious Studies	MA	London, University of
Gordon	Benjamin	Lecturer	Religious Studies	PhD	Duke University
Hayden	Milica	Lecturer II	Religious Studies	PhD	Chicago, University of
Jouili	Jeanette	Assistant Professor	Religious Studies	PhD	Ecole de Hautes Estudes
Kane	Paula	Professor/(Marous Chair)	Religious Studies	PhD	Yale University
Kranson	Rachel	Assistant Professor	Religious Studies	PhD	New York University
Penkower	Linda	Associate Professor	Religious Studies	PhD	Columbia University, Main Division

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Shear	Adam	Associate Professor	Religious Studies	PhD	Pennsylvania, University of
Birnbaum	David	Professor	Slavic Languages and Literatures	PhD	Harvard University
Condee	Nancy	Professor	Slavic Languages and Literatures	PhD	Yale University
Duraskovic	Ljiljana	Lecturer	Slavic Languages and Literatures	PhD	Ohio State University Main
McCausland	Gerald	Lecturer	Slavic Languages and Literatures	PhD	Pittsburgh, Main, University of
Padunov	Vladimir	Associate Professor	Slavic Languages and Literatures	PhD	Cornell University Endowed Colleges
Platt	Jonathan	Assistant Professor	Slavic Languages and Literatures	PhD	Columbia University, Main Division
Swan	Oscar	Professor	Slavic Languages and Literatures	PhD	California, Berkeley, University of
Votruba	Martin	Senior Lecturer	Slavic Languages and Literatures	PhD	Comenius University of Bratislava
Bamyeh	Mohammed	Professor	Sociology	PhD	Wisconsin, Madison, University of
Banerjee	Tarun	Assistant Professor	Sociology	PhD	State University of New York, Stony Brook
Blee	Kathleen	Distinguished Professor	Sociology	PhD	Wisconsin, Madison, University of
Bloom	Joshua	Assistant Professor	Sociology	PhD	California, Los Angeles, University of
Brush	Lisa	Professor	Sociology	PhD	Wisconsin, Madison, University of
Duck	Waverly	Associate Professor	Sociology	PhD	Wayne State University
Epitropoulos	Mike	Lecturer	Sociology	PhD	Pittsburgh, Main, University of
Hughes	Melanie	Associate Professor	Sociology	PhD	Ohio State University Main
Markoff	John	Distinguished University Professor	Sociology	PhD	Johns Hopkins University
Moss	Dana	Assistant Professor	Sociology	PhD	California, Irvine, University of
Nelson	Rod	Lecturer	Sociology	PhD	Toronto, University of
Paterson	Mark	Assistant Professor	Sociology	PhD	Bristol, University of
Romesberg	Daniel	Senior Lecturer	Sociology	PhD	Pittsburgh, Main, University of

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Singh	Vijai	Professor	Sociology	PhD	Wisconsin, Madison, University of
Smith	Jacquelyn	Professor	Sociology	PhD	Notre Dame, University of
Staggenborg	Suzanne	Professor	Sociology	PhD	Northwestern University
Block Jr	Henry	Professor	Statistics	PhD	Ohio State University Main
Bodenschatz	Carl	Senior Lecturer	Statistics	PhD	Texas, Austin, University of
Chen	Kehui	Assistant Professor	Statistics	PhD	California, Davis, University of
Cheng	Yu	Associate Professor	Statistics	PhD	Wisconsin, Madison, University of
Iyengar	Satish	Professor	Statistics	PhD	Stanford University
Jung	Sung Kyu	Assistant Professor	Statistics	PhD	North Carolina, Chapel Hill, University of
Mentch	Lucas	Assistant Professor	Statistics	PhD	Cornell University
Pfenning	Nancy	Senior Lecturer	Statistics	PhD	Carnegie-Mellon University
Ren	Zhao	Assistant Professor	Statistics	PhD	Yale University
Sampson	Allan	Professor	Statistics	PhD	Stanford University
Stoffer	David	Professor	Statistics	PhD	California, Davis, University of
Batista	Kenneth	Associate Professor	Studio Arts	MFA	Temple University
Commandaros	Joanna	Lecturer II	Studio Arts	MFA	Kent State University, Main
Henderson	Aaron	Assistant Professor	Studio Arts	MFA	Chicago Academy of Fine Arts
Jenkins	Delanie	Associate Professor	Studio Arts	MFA	Colorado, Boulder, University of
Morrill	Michael	Associate Professor	Studio Arts	MFA	Yale University
Thomas	Lenore	Associate Professor	Studio Arts	MFA	Wisconsin, Madison, University of
Weissberger	Barbara	Senior Lecturer	Studio Arts	MFA	San Francisco Art Institute
Croot	Cynthia	Assistant Professor	Theatre Arts	MFA	Columbia University, Main Division
Downs	Gian	Lecturer	Theatre Arts	MFA	Brandeis University
Duggan	Annmarie	Associate Professor	Theatre Arts	MFA	Arizona, University of
Frankenberry	Robert	Lecturer	Theatre Arts	MM	Carnegie-Mellon University
George	Kathleen	Professor	Theatre Arts	PhD	Pittsburgh, Main, University of
Gilmer	Karen	Lecturer	Theatre Arts	MFA	Boston University

Last Name	First Name	Rank	Department	Highest Degree	Conferring Institution
Granshaw	Michelle	Assistant Professor	Theatre Arts	PhD	Washington, University of
Jackson-Schebetta	Lisa	Assistant Professor	Theatre Arts	PhD	Washington, University of
Kirk	Keith	Assistant Professor	Theatre Arts	PhD	Northwestern University
Schebetta	Dennis	Assistant Professor	Theatre Arts	MFA	Virginia Commonwealth University
Glass	Michael	Lecturer II	Urban Studies	PhD	Pennsylvania State University, Main

School of Dental Medicine

The University of Pittsburgh Dental Hygiene Program provides a comprehensive education in both the basic sciences and clinical dental hygiene over the course of a two-year (six consecutive terms) Associate of Science Degree in Dental Hygiene. The University of Pittsburgh Dental Hygiene Program differs from other programs by providing a broader range of experiences in specialty clinics within the School of Dental Medicine, as well as clinical rotations at the University of Pittsburgh Medical Center. The major areas of focus are teaching, research, patient treatment, and community service. Dental hygiene services are rendered to a varied patient population, including pediatric, geriatric, physically and mentally challenged, and immunocompromised individuals. In addition to clinical practice, graduates are prepared for careers in areas such as education, research, and dental public health.

Students who complete the Associate of Science Degree in Dental Hygiene have the option of completing a Bachelor of Science degree offered through the College of General Studies. The degree completion option includes three areas of study focusing on a student's specific career goals. These areas include dental hygiene education, research, and health management. Graduates can work as licensed dental hygienists while completing their requirements for the bachelor's degree. Classes are tailored to the student's interests and can be arranged around work schedules. The program provides a firm foundation for those desiring to pursue graduate studies. (See the College of General Studies listing for more information on the Bachelor of Science degree completion option.)

Contact Information

University of Pittsburgh
School of Dental Medicine
Director, Dental Hygiene Program
B-82 Salk Hall Pittsburgh, PA 15261-1937
412-648-8432
riccelli@pitt.edu
http://dental.pitt.edu/students/dental-hygiene-program

Admission Requirements and Deadlines: Associate of Science Degree in Dental Hygiene

(See Dental Hygiene Program listing under the Application for Admission section at the front of this bulletin for requirements and deadlines.)

Academic Standards: Professional/Ethical Conduct Statement for Students

Students will be evaluated on all aspects of professional behavior and ethical conduct. The evaluation will encompass criteria such as the student's interpersonal interaction with faculty, supervisors, staff, patients, and peers, as well as how the student completes all clinical and didactic assignments within scheduled deadlines and in keeping with both the quality and standards established by the Dental Hygiene Program, School of Dental Medicine faculty, and the University of Pittsburgh faculty. Additionally, student compliance with all established policies and procedures will be evaluated when considering student promotion and board eligibility.

Grading

Each dental hygiene course instructor will clearly state his/her policy regarding grades and evaluation at the beginning of the course. A course syllabus will be distributed to all students at the first class meeting. All required courses are graded according to the University's letter grade system (see Grading and Records section of this bulletin). Elective courses beyond the required number may be taken with the permission of the program director. Student advising begins with the faculty responsible for the course. It is the student's responsibility to seek assistance from the faculty in any course in which the student has a grade lower than a C.

Bachelor of Science Degree Completion Program

Students who complete this program also have the option and are encouraged to complete a Bachelor of Science in dental hygiene as offered by the College of General Studies (see College of General Studies listing for information on BS degree completion option and additional dental hygiene courses which must be taken for the BS).

School of Dental Medicine/Dental Hygiene Program Faculty

Antonia Ambrosino, *Instructor*, RDH, BS, University of Pittsburgh

Gayle L. Ball, *Assistant Professor*, RDH, MA, Antioch University

Susan Ban, *Clinical Instructor*, RDH, BS, University of Pittsburgh

Jill Beach, *Instructor*, RDH, MSDH, West Virginia University

Victoria Folino Gallo, *Instructor*, RDH, MBA, Waynesburg University

Jeong-Seon Kim, *Clinical Instructor,* PhD, Washington State University

RDH, DMD, University of Pittsburgh

Elizabeth Lillios, *Clinical Instructor*, RDH, BS, University of Pittsburgh

Faith Mahan, *Instructor*, RDH, BS, University of Pittsburgh

Angelina E. Riccelli, *Associate Professor; Director, Dental Hygiene Program*, RDH, MS, University of Pittsburgh

Jacey Sheckler, *Instructor*, RDH, MSDH, University of Bridgeport

Alicia Wicks, *Instructor*, RDH, BS, Albright College

Program and Course Offerings

Department of Periodontics and Preventive Dentistry

Major

Associate of Science Degree in Dental Hygiene

Associate of Science Degree in Dental Hygiene Requirements

For a complete list of the required courses, please refer to the program curriculum. Upon successful completion of the course requirements, the student is eligible to take the Dental Hygiene National Board and the Commission on Dental Competency Assessment Examinations and apply for state licensure.

Program Curriculum

First Term

- DENHYG 1110 - BIOLOGICAL SCIENCES 1
- DENHYG 1112 - INTRODUCTION TO DENTAL HYGIENE
- DENHYG 1113 - INTRODUCTION TO DENTISTRY
- DENHYG 1114 - DENTAL ANATOMY
- DENHYG 1116 - DENTAL HYGIENE PRECLINIC
- DENHYG 1117 - CHEM, BIOCHEMISTRY & NUTRITION

Credits: 18

Second Term

- DENHYG 1241 - PRINCIPLES OF MICROBIOLOGY
- NUR 0032 - MICROBIOLOGY LABORATORY
- DENHYG 1242 - BIOLOGICAL SCIENCES 2
- DENHYG 1244 - COMMUNICATIONS
- DENHYG 1245 - DENTAL HYGIENE RADIOLOGY 1
- DENHYG 1247 - DENTAL HYGIENE SEMINAR 1
- DENHYG 1248 - DENTAL MATERIALS
- DENHYG 1249 - DENTAL HYGIENE CLINIC 1

Credits: 17

Third Term

- DENHYG 1370 - INTRO TO CLINICAL PERIODONTICS
- DENHYG 1372 - GENERAL AND ORAL PATHOLOGY
- DENHYG 1373 - BIOLOGICAL SCIENCES 3
- DENHYG 1375 - ANESTHESIA FOR DENT HYGIENISTS
- DENHYG 1376 - DENTAL HYGIENE RADIOLOGY 2
- DENHYG 1377 - DENTAL HYGIENE SEMINAR 2
- DENHYG 1379 - DENTAL HYGIENE CLINIC 2

Credits: 16

Fourth Term

- DENHYG 1411 - DENTAL PHARMACOLOGY
- DENHYG 1412 - PUBLIC HEALTH DENTISTRY
- DENHYG 1417 - DENTAL HYGIENE SEMINAR 3
- DENHYG 1419 - DENTAL HYGIENE CLINIC 3
- DENHYG 1420 - ETHICS HEALTH CRE PROFESSIONAL
- DENHYG 1421 - SPECIAL NEEDS DENTISTRY
- DENHYG 1422 - HLTH PROMOS THROUGH LIFE SPAN

Credits: 17

Fifth Term

- DENHYG 1544 - INTRO TO RESEARCH ANALYSIS
- DENHYG 1545 - DENTAL HLTH ED, METHODS & PRAC
- DENHYG 1547 - DENTAL HYGIENE SEMINAR 4
- DENHYG 1549 - DENTAL HYGIENE CLINIC 4

Credits: 13

Sixth Term

- DENHYG 1682 - BASIC PSYCHOLOGY
- DENHYG 1689 - ADV CLINCAL DENT HYGIENE PRACT
- DENHYG 1690 - ADVANCED DENTAL HYGIENE PRACTICUM 0

Credits: 5

Total: 86

School of Education

The School of Education's mission is to create and disseminate knowledge that improves teaching and learning and to develop and implement effective programs for the preparation of education professionals who will enhance both the practice and outcomes of education. For general information, see www.education.pitt.edu.

The School of Education is organized into four academic departments:

- Department of Administrative and Policy Studies
- Department of Health and Physical Activity
- Department of Instruction and Learning
- Department of Psychology in Education

Undergraduate degree programs are offered in the Department of Health and Physical Activity (HPA) and the Department of Psychology in Education (PSYED). HPA offers the baccalaureate program in health and physical activity with specializations in exercise science and wellness; PSYED offers the baccalaureate program in applied developmental psychology.

Teacher certification programs are offered in the Department of Instruction and Learning at the graduate level only. No teacher certification programs are offered in the other three departments.

Undergraduate students interested in obtaining teacher certification at the University of Pittsburgh after they have earned their baccalaureate degrees are encouraged to contact the pre-admissions advisors in the School of Education early in their undergraduate programs in order to obtain information about the teacher certification programs available and the requirements of those programs. Admission for teacher certification study requires that applicants have completed liberal studies distribution requirements in the humanities, natural sciences, and social sciences, as well as course work in an academic major field or content area. Additionally, applicants to the Professional Year (PY) Program are expected to have completed preprofessional education courses (e.g., courses emphasizing human development and learning, the study of schools and society, and an introduction to the teaching seminar in the intended certification area). The number of credits and specific courses required vary by type and area of certification. Note, however, that all applicants to both the PY Program and the Master of Arts in Teaching (MAT) Program must have at least 6 credits or the equivalent in college-level mathematics, at least 3 credits or the equivalent in college-level English composition, and at least 3 credits or the equivalent in college-level American and/or British literature. For admission to teacher certification programs in the Department of Instruction and Learning, all students must have taken and passed the Praxis I Series of Tests, which includes reading, mathematics, and writing. As a point of general information, most students admitted to the PY and MAT programs have undergraduate grade point averages (GPAs) of at least 3.0. Specific information may be obtained from the Office of Admissions and Enrollment Services, 5500 Wesley W. Posvar Hall, 412-648-2230, soeinfo@pitt.edu.

Admissions

The School of Education does not admit students to its undergraduate programs at the freshman level. Therefore, students must first be admitted to another school at the University of Pittsburgh or to another institution.

If an applicant to a School of Education undergraduate program is currently a University of Pittsburgh student, the applicant should contact the dean's office of the school to which the applicant has been admitted and request an Undergraduate Academic Program Change form. After completion of this form, all records will be transferred to the School of Education, Office of Admissions and Enrollment Services, 5500 Wesley W. Posvar Hall, for review.

If an applicant to a School of Education undergraduate program is transferring from another institution, the applicant should contact the Office of Admissions and Financial Aid, Alumni Hall, for a Transfer Application. (See Transfer Student Admissions section of this bulletin for more information.)

To be admitted into a Minor program in the School of Education a student must do the following:

- Be enrolled in an undergraduate program at the University of Pittsburgh.
- Complete a School of Education Admissions Application for the selected academic minor.

Advising

Each student admitted to an undergraduate program in the School of Education is assigned an advisor.

Dean's List

Early each term, students whose grades in the previous grading period indicate outstanding achievement are recognized in the Dean's List.

Full-time students (those enrolled in 12 or more credits) who earned 12 credits in the preceding term (not including courses taken on the Satisfactory/Audit option) with a term GPA of at least 3.50 and no grade lower than a C are placed on the Dean's List.

Part-time students (those enrolled in fewer than 12 credits) who have earned 12 credits in the SOE in previous terms (not including courses taken on the Satisfactory/Audit option) with a QPA of at least 3.50 and no grade lower than a C are placed on the Dean's List.

Part-time students are evaluated for Dean's List recognition by determining if 12 credits of letter-graded coursework have been completed since the last Dean's List recognition. If 12 credits have been completed, the GPA for the terms in which the last 12 credits were completed is used to assess the Dean's List eligibility.

Degree Requirements

The undergraduate degree in the School of Education requires the satisfactory completion of a minimum of 120 credits of approved undergraduate study. Undergraduate degrees are conferred only on those students who have completed all courses required for the degree with a GPA of at least 2.50.

Students in the School of Education must complete at least 60 credits in courses offered at the University of Pittsburgh. They must be enrolled in the School of Education during the term the degree is awarded. Students who begin their study at the regional campuses must apply to relocate to the Pittsburgh campus for at least the last 60 credits.

Probation and Dismissal

All students enrolled in undergraduate programs in the School of Education are required to maintain a grade point average (GPA) of at least 2.50. The cumulative GPA is based on all course work taken after enrollment at the University of Pittsburgh. A student is automatically placed on academic probation when the cumulative GPA, exclusive of transfer credits, falls below 2.50.

Only letter grades with GPA values will be used to compute and determine academic probation status. While on probation students are limited to registering only for courses in which a letter grade is given. To be removed from probation status, a student must achieve a 3.00 GPA in 9 credits or more. A student can only be placed on academic probation status once during their program of study. Students placed on academic probation status will receive notification in the form of a letter from the School of Education, and they will be recommended to seek guidance from their academic advisor.

Ordinarily, students are required to terminate study after two terms on probation if there is no improvement in the quality of their work. A student placed on academic probation status more than once is also required to terminate study. A student who does not meet the GPA or credit requirements will be dismissed from the School of Education, unless serious extenuating circumstances exist. The request for continuation must include a recommendation made by the Department Chair (or designated faculty member) and the academic advisor, with the recommendation approved by the Dean of the school.

School of Education Course Offerings

www.education.pitt.edu

School of Education Faculty

www.education.pitt.edu/faculty

Program and Course Offerings

Department of Administrative and Policy Studies

Contact Information

Department Chair: Mary Margaret Kerr

Main Office: 5902 Wesley W. Posvar Hall

412-648-7205

Fax: 412-648-1784

E-mail: mmkerr@pitt.edu

http://www.education.pitt.edu/AcademicDepartments/AdministrativePolicyStudies.aspx

Department of Health and Physical Activity

Contact Information

University of Pittsburgh
School of Education
Department of Health and Physical Activity
Trees Hall
Pittsburgh, PA 15260
412-648-8271
hpa@pitt.edu
www.education.pitt.edu

Admissions

Specific requirements for admission to the baccalaureate program in movement science are as follows:

- An application after approximately 45 credits have been completed: these credits should have been taken in courses that meet the general liberal arts and science requirement of the exercise science curriculum;
- A minimum GPA of 2.80 in the natural sciences;
- A demonstration of appropriate health-fitness behaviors as a statement of commitment to the basic philosophy of movement science;
- A statement of career goals and a self-evaluation; and
- Three letters of recommendation and possibly an interview.

Major

Health and Physical Activity - Exercise Science Specialization, BSE

Health and Physical Activity

The baccalaureate program in health and physical activity leads to the BS degree and provides specializations in exercise science and wellness. The exercise science specialization is offered for students interested in the study of human movement, independent of its implications for teaching physical education in traditional elementary and secondary school settings. Students are prepared for careers as health-related physical fitness specialists interested in working with adult populations in community, corporate, and private fitness centers. Also, this specialization provides basic academic and clinical studies for students wishing to pursue graduate work in exercise science.

The wellness specialization is offered for undergraduates interested in corporate wellness, exercise leadership and programming, public health, and coordination of health-fitness and wellness programs. Students are provided the opportunity for professional focus in one of four areas: aquatics, fitness, aerobics, or aerobics/fitness. This specialization provides appropriate mechanisms to meet the criteria for various professional certifications in this fastgrowing and competitive field. The wellness specialization provides basic academic and clinical studies for students wishing to pursue graduate work in physical activity or the public health domain.

Health and Physical Activity Curriculum

All students in health and physical activity complete 50-52 credits of courses in liberal arts and sciences, distributed as follows:

- Communication skills (9 credits)
- Quantitative reasoning (6-7 credits)
- Humanities (9 credits)
- Sciences (17-18 credits)
- History, social science, and public policy issues (9 credits)

In addition, all students in health and physical activity complete the following core of 67-75 credits:

- Biophysical foundations (19 credits)
- Behavioral and sociocultural foundations (3 credits)
- Research methods and practicum (3-5 credits)
- Health and wellness foundations (7-9 credits)
- Natural Science Electives (13-16 credits)
- Exercise Science Foundations (22-23 credits)

All students in wellness specialization complete 58 credits of courses in liberal arts and sciences, distributed as follows:

- Communication skills (9 credits)
- Quantitative reasoning (9 credits)

Each specialization requires a clinical/field experience and a directed research or health and fitness practicum. These requirements are completed under the direct supervision of a faculty member and may occur in a variety of settings (e.g., health clubs and hospitals).

PHYSICAL ACTIVITY CORE (32-34 CREDITS)

Biophysical Foundations (19 credits)

- HPA 1033 - HUMAN PHYSIOLOGY
- HPA 1011 - APPLIED HUMAN ANATOMY
- HPA 1012 - APPLIED HUMAN ANATOMY LAB
- HPA 1042 - PHYSIOLOGY OF EXERCISE
- HPA 1485 - NUTRITION AND HEALTH
- HPA 1044 - BIOMECHANICS
- HPA 1487 - CHRONIC DISEASE AND OBESITY

Behavioral & Sociocultural Foundations (3 credits)

- HPA 1486 - BEHAVIOR CHANGE STRATEGIES

Research Methods and Practicum (3-5 credits)

- HPA 1031 - RESEARCH IN SPORTS SCIENCE
- HPA 1045 - DIRECTED RESEARCH PRACTICUM

Health and Wellness Foundations (7 credits)

- HPA 0474 - LIFETIME ACTIVITIES 1
- HPA 0475 - LIFETIME ACTIVITES 2
- HPA 0196 - FIRST AID AND CPR
- HPA 1995 - SPECIAL TOPICS

EXERCISE SCIENCE CORE (37-41 credits)

Natural Science Electives (13-16 credits)

- BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2
- BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2
- CHEM 0120 - GENERAL CHEMISTRY 2

Exercise Science Foundations (22-23 credits)

- HPA 1233 - PRIN OF STRENGTH & CONDITNING
- HPA 1224 - FITNESS ASSMNT & EXRCS PRESCRP
- HPA 1226 - ASSMNT & PRESCRP FOR SP POPLTN
- HPA 1035 - EXERCISE SCIENCE SEMINAR 2
- HPA 1996 - CLINICAL INTERNSHIP
- HPA 1170 - HEALTH FITNESS PRACTICUM

Instructor Courses (2 credits) (Choose 2)

- HPA 1171 - RESISTANCE TRAINING INSTRUCTOR
- HPA 1172 - GROUP FITNESS INSTRUCTOR
- HPA 1173 - AEROBICS INSTRUCTOR
- HPA 1174 - YOGA AND PILATES INSTRUCTOR
- HPA 0497 - WATER SAFETY INSTRUCTOR
- PEDC 0243 - AMER RED CROS FIRST/CPR INSTRC
- PEDC 0242 - AMER RED CROS LIFEGUARD INSTRC

Health and Physical Activity - Wellness Specialization, BSE

Health and Physical Activity

The baccalaureate program in health and physical activity leads to the BS degree and provides specializations in exercise science and wellness. The exercise science specialization is offered for students interested in the study of human movement, independent of its implications for teaching physical education in traditional elementary and secondary school settings. Students are prepared for careers as health-related physical fitness

specialists interested in working with adult populations in community, corporate, and private fitness centers. Also, this specialization provides basic academic and clinical studies for students wishing to pursue graduate work in exercise science.

The wellness specialization is offered for undergraduates interested in corporate wellness, exercise leadership and programming, public health, and coordination of health-fitness and wellness programs. Students are provided the opportunity for professional focus in one of four areas: aquatics, fitness, aerobics, or aerobics/fitness. This specialization provides appropriate mechanisms to meet the criteria for various professional certifications in this fastgrowing and competitive field. The wellness specialization provides basic academic and clinical studies for students wishing to pursue graduate work in physical activity or the public health domain.

Health and Physical Activity Curriculum

All students in health and physical activity complete 46 credits of courses in liberal arts and sciences, distributed as follows:

- Communication skills (9 credits)
- Quantitative reasoning (6 credits)
- Humanities (9 credits)
- Sciences (13 credits)
- History, social science, and public policy issues (9 credits)

In addition, all students in health and physical activity complete the following core of 69-71 credits:

- Biophysical foundations (27 credits)
- Behavioral and sociocultural foundations (3 credits)
- Research methods and practicum (18 credits)
- Health and wellness foundations (5-7 credits)
- Wellness Specialization Option (16 credits)

All students in wellness specialization complete 58 credits of courses in liberal arts and sciences, distributed as follows:

- Communication skills (9 credits)
- Quantitative reasoning (9 credits)

Each specialization requires a clinical/field experience and a directed research practicum. These requirements are completed under the direct supervision of a faculty member and may occur in a variety of settings (e.g., health clubs and hospitals).

HEALTH AND PHYSICAL ACTIVITY (58 CREDITS)

Biophysical Foundations (27 credits)

- HPA 1033 - HUMAN PHYSIOLOGY
- HPA 1011 - APPLIED HUMAN ANATOMY
- HPA 1012 - APPLIED HUMAN ANATOMY LAB
- HPA 1224 - FITNESS ASSMNT & EXRCS PRESCRP
- HPA 1226 - ASSMNT & PRESCRP FOR SP POPLTN
- HPA 1485 - NUTRITION AND HEALTH
- HPA 1044 - BIOMECHANICS
- HPA 1487 - CHRONIC DISEASE AND OBESITY
- HPA 1233 - PRIN OF STRENGTH & CONDITNING

Behavioral & Sociocultural Foundations (3 credits)

- HPA 1486 - BEHAVIOR CHANGE STRATEGIES

Research Methods and Practicum (18 credits)

- HPA 1031 - RESEARCH IN SPORTS SCIENCE
- HPA 1035 - EXERCISE SCIENCE SEMINAR 2
- HPA 1996 - CLINICAL INTERNSHIP
- HPA 1170 - HEALTH FITNESS PRACTICUM

Health and Wellness Foundations (5-7 credits)

- HPA 1995 - SPECIAL TOPICS
- HPA 0474 - LIFETIME ACTIVITIES 1
- HPA 0475 - LIFETIME ACTIVITES 2
- HPA 0196 - FIRST AID AND CPR

WELLNESS OPTIONS (Students must choose ONE OF FOUR OPTIONS)

AQUATICS (16 credit minimum)

- HPA 0497 - WATER SAFETY INSTRUCTOR
- HPA 1241 - TEACHING EXPERIENCE 1
- HPA 1242 - TEACHING EXPERIENCE 2
- HPA 1211 - ATHLETIC INJURY PREVENTION
- HPA 1212 - ATHLETIC INJURY PREVENTION LAB
- HPA 1998 - DIRECTED STUDY
- PEDC 0026 - AQUATIC CONDITIONING
- PEDC 0133 - LIFE GUARDING 1
- PEDC 0158 - WEIGHT TRAINING 1
- PEDC 0194 - SPORTS CONDITIONING
- PEDC 0211 - WATER AEROBICS 1
- PEDC 0242 - AMER RED CROS LIFEGUARD INSTRC
- PEDC 0246 - POOL OPERATIONS/EVENT MGMNT

FITNESS (16 credit minimum)

- HPA 1211 - ATHLETIC INJURY PREVENTION
- HPA 1212 - ATHLETIC INJURY PREVENTION LAB
- HPA 1171 - RESISTANCE TRAINING INSTRUCTOR
- HPA 1172 - GROUP FITNESS INSTRUCTOR
- HPA 1173 - AEROBICS INSTRUCTOR
- HPA 1174 - YOGA AND PILATES INSTRUCTOR
- PEDC 0001 - BEGINNING SWIMMING
- PEDC 0002 - INTERMEDIATE SWIMMING
- PEDC 0025 - AEROBICS-CROSS COUNTRY RUNNING
- PEDC 0026 - AQUATIC CONDITIONING
- PEDC 0158 - WEIGHT TRAINING 1
- PEDC 0171 - FITNESS KICK BOXING
- PEDC 0194 - SPORTS CONDITIONING
- PEDC 0206 - BODY SCULPTING 1
- PEDC 0207 - PILATES
- PEDC 0262 - YOGA 1

AEROBICS (16 credit minimum)

- HPA 1211 - ATHLETIC INJURY PREVENTION
- HPA 1212 - ATHLETIC INJURY PREVENTION LAB
- HPA 1171 - RESISTANCE TRAINING INSTRUCTOR
- HPA 1172 - GROUP FITNESS INSTRUCTOR
- HPA 1173 - AEROBICS INSTRUCTOR
- HPA 1174 - YOGA AND PILATES INSTRUCTOR
- PEDC 0171 - FITNESS KICK BOXING
- PEDC 0197 - BOOTCAMP FITNESS
- PEDC 0206 - BODY SCULPTING 1
- PEDC 0207 - PILATES
- PEDC 0209 - "ON THE BALL"
- PEDC 0211 - WATER AEROBICS 1
- PEDC 0262 - YOGA 1
- PEDC 0266 - PILATES FUSION
- PEDC 0361 - FITNESS DANCE
- PEDC 0362 - TOTAL BODY FUSION
- PEDC 0380 - CARDIO PILATES

DANCE (16 credit minimum)

- HPA 0060 - INTRODUCTION TO DANCE
- HPA 1211 - ATHLETIC INJURY PREVENTION
- HPA 1212 - ATHLETIC INJURY PREVENTION LAB
- PEDC 0031 - MODERN DANCE 1
- PEDC 0032 - MODERN DANCE 2
- PEDC 0033 - BALLET 1
- PEDC 0034 - BALLET 2
- PEDC 0040 - CHOREOGRAPHY
- PEDC 0041 - JAZZ 1
- PEDC 0044 - DANCE PRODUCTION
- HPA 0473 - DANCE PEDAGOGY

Minor

Applied Fitness Minor

Requirements

Students may minor in applied fitness, aquatics, dance, and exercise science. A minimum of 18 credits is required for each minor, with the exception of the applied fitness minor, for which a minimum of 17 credits is required. Upon completion of all requirements the minor will appear on the final transcript as an awarded Academic Minor. The student is responsible for working closely with their Minor Advisor to ensure that the necessary documentation is provided to allow for this to appear on the final transcript.

Graduates of the exercise science and wellness specializations and any minor programs do not qualify for public school teacher physical education certification.

APPLIED FITNESS REQUIRED COURSES (13 credits)

- HPA 1011 - APPLIED HUMAN ANATOMY
- HPA 1012 - APPLIED HUMAN ANATOMY LAB
- HPA 1033 - HUMAN PHYSIOLOGY
- HPA 1042 - PHYSIOLOGY OF EXERCISE
- HPA 1224 - FITNESS ASSMNT & EXRCS PRESCRP

APPLIED FITNESS MINOR FOUNDATION COURSES (1 CREDIT) Select 1 of the following:

- HPA 0474 - LIFETIME ACTIVITIES 1
- HPA 0475 - LIFETIME ACTIVITES 2

APPLIED FITNESS MINOR INSTRUCTOR COURSES (2 CREDITS) Select 2 of the following:

- HPA 1171 - RESISTANCE TRAINING INSTRUCTOR
- HPA 1172 - GROUP FITNESS INSTRUCTOR
- HPA 1173 - AEROBICS INSTRUCTOR
- HPA 1174 - YOGA AND PILATES INSTRUCTOR

APPLIED FITNESS MINOR PRACTICUM COURSE (1 CREDIT)

- HPA 1170 - HEALTH FITNESS PRACTICUM

Aquatics Minor

Requirements

Students may minor in applied fitness, aquatics, dance, and exercise science. A minimum of 18 credits is required for each minor, with the exception of the applied fitness minor, for which a minimum of 17 credits is required. Upon completion of all requirements the minor will appear on the final transcript as an awarded Academic Minor. The student is responsible for working closely with their Minor Advisor to ensure that the necessary documentation is provided to allow for this to appear on the final transcript.

Graduates of the exercise science and wellness specializations and any minor programs do not qualify for public school teacher physical education certification.

AQUATICS REQUIRED COURSES (15 CREDITS)

- HPA 0196 - FIRST AID AND CPR
- HPA 0497 - WATER SAFETY INSTRUCTOR
- HPA 1211 - ATHLETIC INJURY PREVENTION
- HPA 1212 - ATHLETIC INJURY PREVENTION LAB
- HPA 1241 - TEACHING EXPERIENCE 1
- HPA 1242 - TEACHING EXPERIENCE 2
- HPA 1300 - NUTRITION IN EXERCISE & SPORT
- PEDC 0133 - LIFE GUARDING 1
- PEDC 0242 - AMER RED CROS LIFEGUARD INSTRC
- PEDC 0246 - POOL OPERATIONS/EVENT MGMNT

Additional Aquatic Courses (3 CREDITS) Select 3 of the following:

- PEDC 0001 - BEGINNING SWIMMING
- PEDC 0002 - INTERMEDIATE SWIMMING
- PEDC 0026 - AQUATIC CONDITIONING
- PEDC 0158 - WEIGHT TRAINING 1
- PEDC 0193 - PERSONAL FITNESS
- PEDC 0194 - SPORTS CONDITIONING
- PEDC 0211 - WATER AEROBICS 1

Dance Minor

Requirements

Students may minor in applied fitness, aquatics, dance, and exercise science. A minimum of 18 credits is required for each minor, with the exception of the applied fitness minor, for which a minimum of 17 credits is required. Upon completion of all requirements the minor will appear on the final transcript as an awarded Academic Minor. The student is responsible for working closely with their Minor Advisor to ensure that the necessary documentation is provided to allow for this to appear on the final transcript.

Graduates of the exercise science and wellness specializations and any minor programs do not qualify for public school teacher physical education certification.

DANCE COURSES

- HPA 0060 - INTRODUCTION TO DANCE
- HPA 0473 - DANCE PEDAGOGY
- HPA 1241 - TEACHING EXPERIENCE 1
- HPA 1242 - TEACHING EXPERIENCE 2
- HPA 0033 - BALLET 1
- HPA 0041 - JAZZ 1
- HPA 0031 - MODERN DANCE 1
- HPA 0044 - DANCE PRODUCTION
- HPA 0040 - CHOREOGRAPHY
- HPA 0244 - DANCE PRODUCTION 2

Additional Dance Courses (Choose 3.0 credits from the following 4 courses)

- HPA 0196 - FIRST AID AND CPR
- HPA 0032 - MODERN DANCE 2
- HPA 0034 - BALLET 2
- HPA 0042 - JAZZ 2

Exercise Science Minor

Requirements

Students may minor in applied fitness, aquatics, dance, and exercise science. A minimum of 18 credits is required for each minor, with the exception of the applied fitness minor, for which a minimum of 17 credits is required. Upon completion of all requirements the minor will appear on the final

transcript as an awarded Academic Minor. The student is responsible for working closely with their Minor Advisor to ensure that the necessary documentation is provided to allow for this to appear on the final transcript.

Graduates of the exercise science and wellness specializations and any minor programs do not qualify for public school teacher physical education certification.

EXERCISE SCIENCE MINOR REQUIRED COURSES (13 CREDITS)

- HPA 1011 - APPLIED HUMAN ANATOMY
- HPA 1012 - APPLIED HUMAN ANATOMY LAB
- HPA 1033 - HUMAN PHYSIOLOGY
- HPA 1042 - PHYSIOLOGY OF EXERCISE
- HPA 1224 - FITNESS ASSMNT & EXRCS PRESCRP

EXERCISE SCIENCE MINOR ELECTIVE COURSES (5-6 CREDITS) Choose from the following courses:

- HPA 1044 - BIOMECHANICS
- HPA 1233 - PRIN OF STRENGTH & CONDITNING
- HPA 1226 - ASSMNT & PRESCRP FOR SP POPLTN
- HPA 1487 - CHRONIC DISEASE AND OBESITY

Department of Instruction and Learning

Contact Information

University of Pittsburgh
School of Education
Department of Instruction and Learning
5300 Wesley W. Posvar Hall
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Pittsburgh PA 15260
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Minor

Secondary Education Minor

To help undergraduate students better prepare for graduate work in education, the School of Education has created a 15-credit teacher education minor. This will allow students who plan to enter the Masters of Arts in Teaching (MAT), Professional Year (PY), or the Masters in Special Education with Academic Instructional Certification (MOSAIC) programs the opportunity to make progress on the prerequisite education courses required for those programs and earn an added credential on their official transcripts. The minor provides the undergraduate students with the admission requirement of satisfactorily completing 30 hours of site work in secondary schools by their engagement in field experiences embedded within the courses in the minor.

Completion of the teacher education minor does not automatically guarantee admission into the MAT, PY, or MOSAIC programs, nor does it fulfill all necessary prerequisites.

Information on the minor can be found on the Department of Instruction and Learning website.

Curriculum

Students must complete 5 courses (15 credits) for the minor. IL 1580 is a required prerequisite for the MAT, PY, and MOSAIC programs. IL 1257 is a required prerequisite for MOSAIC only. MAT/PY candidates should take an approved elective in place of IL 1257 . The list of approved courses is below:

- IL 1580 - FOUNDATIONS OF SPECIAL EDUC (required in-school observations)
- IL 1257 - TEACHING ENGLISH LANG LEARNERS
- IL 1701 - ERLY FIELD EXPERNC-SECONDARY - Secondary (required in-school observation)
- IL 1704 - CURRENT ISSUES SECONDARY EDUC
- EDUC 1011 - CULTURALLY RESPONSIVE PEDAGOGY

Education Electives

- ADMPS 1001 - SOCIAL FOUNDATIONS OF EDUCATN
- PSYED 1001 - INTRO EDUCATIONAL PSYCHOLOGY
- IL 1505 - AUTISM: CHARACT AND INTERVNTN

Department of Psychology in Education

Contact Information

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School of Education
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Admission Requirements

ADP - Traditional Program

The program in applied developmental psychology uses a rolling admissions procedure which assures that all completed admission applications will be given regular review. Priority for admissions and financial aid decisions, however, will be given to those applications that are sent in by March 15, the recommended deadline for fall term admission.

In reviewing applications for admission, the Admissions Committee considers the following factors:

- Academic skill as evident on the student's transcript. The minimum acceptable GPA is 2.50;
- Documented evidence of experience and ability to work with children (experience may include volunteer work or employment);
- References, preferably from professionals familiar with the student's maturity, work habits, academic ability, and experience with children/youth; and

- Completion of 60 credits before the first term of enrollment in the program, including the following prerequisite courses, all of which should be taken for a letter grade:
    - English composition (3 credits);
    - Developmental psychology or equivalent (3 credits); and
    - Other courses broadly distributed in the humanities, social sciences, and natural sciences.

Credits awarded from the College Level Examination Program (CLEP) by the College of General Studies are acceptable for inclusion in the 60 credits.

The program welcomes applications from junior and community college students and from students at other colleges and universities, including students from other countries. These students should see the Transfer Student Admissions or International Student Admissions sections of this bulletin for further details on applying. Students from other academic backgrounds should consult the program coordinator for evaluation.

ADP - CASE Teacher Certification Program

The program in ADP - CASE Teacher Certification admits student cohorts to begin the program each fall term. Applicants are reviewed in the spring of the term before the program begins. The application deadline is March 15.

In reviewing applications for admission, the Admissions Committee considers the following factors:

- Academic skill as evident on the student's transcript. The minimum acceptable 3.25;
- Documented evidence of experience and ability to work with children (experience may include volunteer work or employment);
- Three letters of reference, preferably from professionals familiar with the student's maturity, work habits, academic ability, and experience with children/youth; and
- Completion of 61 credits of CASE prerequisites before the first term of enrollment in the program. Prerequisite courses can be found on the ADP-CASE website.

The program welcomes applications from junior college and community college students and students at other colleges and universities, including students from other countries. These students should see the Transfer Student Admissions or International Student Admissions sections of this bulletin for further details on applying. Students from other academic backgrounds should consult the program coordinator for evaluation of prerequisites.

Major

Applied Developmental Psychology, BS

The undergraduate major in Applied Developmental Psychology (ADP) develops the skills and knowledge needed for professional work in child and youth care, education and other related human service fields. ADP also prepares students for graduate school in such fields as education, psychology, and social work. Coursework includes developmental theory and research covering birth through early adulthood, professional issues, family dynamics, cultural distinctions, disabilities, psychopathology, curriculum and activity planning, practice skills, and supervision.

The undergraduate major in Applied Developmental Psychology (ADP) includes three distinct areas of concentration that lead to a BS degree:

- ADP Traditional
- ADP Practitioner
- ADP CASE (Combined Accelerated Studies in Education)

ADP - Traditional Program

The undergraduate major in Applied Developmental Psychology (ADP) emphasizes developing the skills necessary for implementing and evaluating effective programs for children, youth, and families. Course work includes the study of professional issues, program design and evaluation, counseling skills, and qualitative research methods. The program allows for a focus on Child Life hospital work, group care, family support and intervention, administration, play intervention and therapy. Successful completion of the program leads to the Bachelor of Science degree.

The ADP Bachelor of Science program is listed as an academic program to prepare Child Life Specialists by the Child Life Council.

The curriculum is organized into four terms of upper-division (junior and senior year) study. Applications for admission should be submitted during the sophomore year.

- PSYED 1002 - DVLP: CONCPTN THRGH ERLY CHLHD
- PSYED 1016 - DEVELP CURRICULUM & ACTIVITIES
- PSYED 1025 - PROFESSIONAL SEMINAR 1
- PSYED 1007 - METHDS/EVIDENCE BASED-PRACTICE
- PSYED 1012 - DEVELOPMENTAL DISABILITIES
- PSYED 1013 - DEVELOPMENTAL PSYCHOPATHOLOGY
- PSYED 1024 - FAMILY DYNAMICS
- PSYED 1027 - CHILD AND YOUTH DEVELOPMENT 2
- PSYED 1028 - DEVELOPMNTAL PRACTC SEMINAR 1
- PSYED 1029 - DEVELOPMNTAL PRACTC SEMINAR 2
- PSYED 1031 - SENIOR PROJECT
- PSYED 1036 - DEVELOPMNTL MEANG CULTL DISTN
- PSYED 1042 - CHILD & YOUTH WORK PRACTICE 1
- PSYED 1043 - CHILD & YOUTH WORK PRACTICE 2
- PSYED 1050 - SUPRVSN ADM CHLD YTH WRK SETNG

Major Requirements

The curriculum is organized into four terms of upper-division (junior- and senior-year) study. Study encompasses developmental theory and research from birth through adolescence, professional issues, family dynamics, cultural distinction, handicapping conditions, psychopathology, curriculum and activity planning, practice skills, and an introduction to management. Students spend 300 to 600 hours of internship in the senior year in programs for children, youth, and families, including those with special needs. Flexibility in the curriculum is provided through electives, internship focus, and class project topic selection.

To graduate, students are required to take a minimum of 120 credits, 48 of which must be taken in applied developmental psychology courses. All of these courses must be completed with a grade of C- or better, and students must maintain a GPA of 2.50 in the major. Students must also perform successfully in the internship, according to prevailing standards, in order to remain in good standing in the program.

- PSYED 1042 - CHILD & YOUTH WORK PRACTICE 1
- PSYED 1043 - CHILD & YOUTH WORK PRACTICE 2
- PSYED 1027 - CHILD AND YOUTH DEVELOPMENT 2
- PSYED 1002 - DVLP: CONCPTN THRGH ERLY CHLHD
- PSYED 1013 - DEVELOPMENTAL PSYCHOPATHOLOGY
- PSYED 1016 - DEVELP CURRICULUM & ACTIVITIES
- PSYED 1012 - DEVELOPMENTAL DISABILITIES
- PSYED 1028 - DEVELOPMNTAL PRACTC SEMINAR 1
- PSYED 1029 - DEVELOPMNTAL PRACTC SEMINAR 2
- PSYED 1036 - DEVELOPMNTL MEANG CULTL DISTN
- PSYED 1024 - FAMILY DYNAMICS
- PSYED 1007 - METHDS/EVIDENCE BASED-PRACTICE
- PSYED 1025 - PROFESSIONAL SEMINAR 1
- PSYED 1031 - SENIOR PROJECT
- PSYED 1050 - SUPRVSN ADM CHLD YTH WRK SETNG

Note:

Elective courses and directed study can also be arranged.

ADP - CASE Teacher Certification Program

The undergraduate major in Applied Developmental Psychology (ADP) also includes a Teacher Certification program. This program emphasizes developing the skills necessary for becoming a highly effective teacher of young children in grades PK-4 General Education and PK-8 Special Education. Course work includes the study of professional issues, program design and evaluation, teaching methodology and best practices in using culturally and linguistically relevant pedagogy. Successful completion of the program leads to the Bachelor of Science degree. CASE students then continue into the graduate year to complete coursework and student teaching that leads to the PK-4 Early Childhood and the PK -8 Special Education teaching certification in Pennsylvania.

The curriculum is organized into four terms of upper-division (junior and senior year) undergraduate study. Three additional terms of graduate study allows students to finish with two degrees and two teacher certifications in five years. Applications for admission should be submitted during the sophomore year.

- PSYED 1002 - DVLP: CONCPTN THRGH ERLY CHLHD
- PSYED 1007 - METHDS/EVIDENCE BASED-PRACTICE
- PSYED 1012 - DEVELOPMENTAL DISABILITIES
- PSYED 1016 - DEVELP CURRICULUM & ACTIVITIES
- PSYED 1025 - PROFESSIONAL SEMINAR 1
- PSYED 1036 - DEVELOPMNTL MEANG CULTL DISTN
- PSYED 1050 - SUPRVSN ADM CHLD YTH WRK SETNG
- IL 1042 - LANGUAGE & LIT FOR YOUNG CHILD
- IL 1045 - YOUNG ENGLISH LANGUAGE LEARNRS
- IL 1047 - INTEGRATED CURRCLM PRE-K - 4
- IL 1049 - SEM RELTD PRE-STDNT TCH PRE-K
- IL 1208 - RDG/WRIT METHS 1:PREK-GRADE 1
- IL 1209 - RDG/WRIT METHODS 2: GRADES 2-4
- IL 1268 - SOCIAL STUDIES METHS PRE-K-4
- IL 1270 - INTEGRTG ART & MUSC ELEM CLSSR
- IL 1433 - MATH/SCI INSTC YOUNG LRNRS 1
- IL 1434 - MATH AND SCIENCE METHODS 2
- IL 1562 - ASSMNT: YOUNG CHILD W/DISABS
- IL 1580 - FOUNDATIONS OF SPECIAL EDUC
- IL 1800 - PRE-STUDENT TEACHING PRE-K
- IL 1563 - INCLUSION PRE-K
- IL 1850 - PRESCH/PRIM LIFE SKILLS PRAC
- IL 1852 - SEM PRESCH/PRIM LIFE SKILLS

Major Requirements

The curriculum is organized into four terms of upper-division (junior- and senior-year) undergraduate study and three additional terms of graduate study. Study encompasses developmental theory and research from birth through adolescence, professional issues, family dynamics, cultural distinction, psychopathology, curriculum and activity planning, practice skills, and an introduction to management. Students spend 4 terms in student teaching placements during the senior and graduate years. To graduate with the B.S. in ADP-CASE, students are required to take a minimum of 127 credits. All courses must be completed with a grade of C- or better, and students must maintain a GPA of 3.0. Students must also perform successfully in their practicum and student teaching placements according to University of Pittsburgh and Pennsylvania Department of Education standards in order to remain in good standing in the program.

- PSYED 1002 - DVLP: CONCPTN THRGH ERLY CHLHD
- PSYED 1036 - DEVELOPMNTL MEANG CULTL DISTN
- IL 1042 - LANGUAGE & LIT FOR YOUNG CHILD
- IL 1045 - YOUNG ENGLISH LANGUAGE LEARNRS
- IL 1208 - RDG/WRIT METHS 1:PREK-GRADE 1
- IL 1562 - ASSMNT: YOUNG CHILD W/DISABS
- PSYED 1005 - TEACHING GLOBALLY AND LOCALLY IN A DIVERSE WORLD
- PSYED 1016 - DEVELP CURRICULUM & ACTIVITIES

- IL 1270 - INTEGRTG ART & MUSC ELEM CLSSR
- IL 1433 - MATH/SCI INSTC YOUNG LRNRS 1
- IL 1563 - INCLUSION PRE-K
- IL 1580 - FOUNDATIONS OF SPECIAL EDUC
- IL 1800 - PRE-STUDENT TEACHING PRE-K
- IL 1049 - SEM RELTD PRE-STDNT TCH PRE-K
- IL 1047 - INTEGRATED CURRCLM PRE-K - 4
- IL 1268 - SOCIAL STUDIES METHS PRE-K-4
- IL 1434 - MATH AND SCIENCE METHODS 2
- PSYED 1004 Attentional Teaching Practices
- IL 1850 - PRESCH/PRIM LIFE SKILLS PRAC
- IL 1852 - SEM PRESCH/PRIM LIFE SKILLS
- IL 1209 - RDG/WRIT METHODS 2: GRADES 2-4
- IL 2511 Curriculum and Progress in the Development of Low Incidence Students
- PSYED 1025 - PROFESSIONAL SEMINAR 1
- PSYED 1050 - SUPRVSN ADM CHLD YTH WRK SETNG

Graduate level coursework can be found on the ADP-CASE curriculum website.

Institute for Practice & Research in Education

Swanson School of Engineering

The Swanson School of Engineering's undergraduate programs prepare students for entrance into a diverse spectrum of careers, providing both a strong, fundamental engineering education and a thorough understanding of the broader aspects of society. Students have an opportunity to participate in the highly successful Cooperative Engineering Education Program, an increasing number of study abroad opportunities, joint programs with the University Honors College, and a number of certificate programs. Students also have the option of earning a minor or a dual degree from various Dietrich School of Arts and Sciences programs: minors may also be earned from the other engineering programs. The curricula provide sufficient flexibility to allow graduates to pursue careers in industry, government, or education, including programs in medicine, law, or business.

Full-time Bachelor of Science in Engineering degree programs are offered on the Pittsburgh campus in the following engineering disciplines: bioengineering, chemical, civil, computer, electrical, engineering science, industrial, materials science, and mechanical. Special interdisciplinary programs can be structured based upon individual student interest and ability through the engineering science program. The Cooperative Engineering Education Program, which alternates terms of relevant work experience with course work, is available for students in all programs; approximately half of the graduating seniors complete at least three co-op rotations. There are also certificate programs in nuclear engineering, energy resource utilization, product realization, supply chain management, mining engineering, engineering for humanities, international engineering studies, civil engineering and architectural studies, and sustainable engineering.

Contact Information

Prospective First Year & Transfer Students
University of Pittsburgh
Swanson School of Engineering
Freshman Program
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Academic Issues
University of Pittsburgh
Swanson School of Engineering
Senior Associate Dean for Academic Affairs
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Administrative Issues
University of Pittsburgh
Swanson School of Engineering
Office of Administration
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Application Procedures

The Swanson School of Engineering works closely with the University of Pittsburgh's Office of Admissions and Financial Aid (OAFA). Ultimately, all admissions decisions take place through OAFA following the procedures detailed below:

First Year Engineering Applicants

All admissions to the Swanson School of Engineering are determined by the University's Office of Admissions and Financial Aid. (Please see Pittsburgh Campus Freshman Admissions section of this bulletin for details.) Approximately 560 first year students enter the Swanson School of Engineering each fall term.

Transfer Students from Other Colleges and Universities

The Swanson School of Engineering admits applications from transfer students. Currently, approximately a third of the students receiving the BSE degree transferred into the school. Transfer applicants are evaluated according to their academic record and potential for completing the particular engineering program, and conditional upon space available in the program of choice. An applicant for transfer to the Swanson School of Engineering from another college or university should request a transfer application from the Office of Admissions and Financial Aid.

Contact the Freshman Engineering Program at 412-624-9825 or see the transfer engineering students' Web site http://www.engineering.pitt.edu/First-Year/First Year/Transfer-Students/External-Transfer-Students for more information on transfer procedures.

A transfer applicant from a two-year or four-year college should have a grade point average (GPA) of at least a 3.00 (for courses that satisfy Swanson School of Engineering's first-year requirements) on a 4.00 scale at the institution transferring from to be considered for admissions. Students interested in the Bioengineering program need a minimum of 3.5 GPA. Students must also have completed two semesters of Calculus, Calculus-based Physics and Chemistry for consideration. In general transfer students will only be accepted for the upcoming Fall Term; in only special cases will transfers be accepted for the Spring or Summer terms. For more information, visit http://www.engineering.pitt.edu/.

All transfer applicants are required to provide SAT I critical reading and mathematics scores and high school academic records. Advanced standing credits will be granted for college course work at another accredited institution depending on grades received and on the relevance of the courses to the applicant's proposed program in the Swanson School of Engineering. Only courses in which the applicant received at least a C (2.00 on a 4.00 scale) will be considered for transfer and then only if the courses are an integral part of the proposed degree program.

Transfer Students from another University of Pittsburgh Oakland Campus School

Most transfer applicants from other Pittsburgh campus units to the Swanson School of Engineering come from either the Dietrich College of Arts and Sciences (DSAS) or the College of General Studies (CGS), although students from any of the University's other schools are eligible for transfer if they meet the Swanson School of Engineering's requirements.

An applicant for transfer from an Oakland campus school must have a minimum 3.00 cumulative GPA (3.50 for Bioengineering) and must have completed no fewer than 7 of the 8 Freshman Engineering courses (MATH 0220 and 0230 - Analytic Geometry and Calculus 1 and 2; PHYS 0174 and 0175 - Physics for Science and Engineering 1 and 2; CHEM 0110 and 0120 - General Chemistry 1 and 2; and ENGR 0015 and 0016 Introduction to Engineering Analysis and Introduction to Engineering Computing) to be considered for admission. Completion of all transfer minimum requirements does not guarantee transfer, as space limitations within each degree program will be considered. For additional information, see the transfer engineering students' Web site at http://engineering.pitt.edu/First-Year/First-Year/Transfer-Students/Internal-Transfer-Students/.

The GPA for students transferring into the Swanson School of Engineering from another school or campus within the University will be recalculated in accordance with the Swanson School of Engineering's policy.

Regional Campus Students

Request forms for relocation from the pre-engineering programs at the Bradford, Greensburg, or Titusville campuses or the Engineering Technology Program at the Johnstown campus are available at each regional campus. Pre-engineering students who have a grade point average of 3.0 or higher (with the exception of bioengineering, which requires a 3.50 GPA) in the required engineering curricula are able to relocate pending departmental approval. Completion of all transfer minimum requirements does not guarantee transfer, as space limitations within each major will be considered. Students from the Johnstown campus in Chemical, Civil, Computer, Electrical and Mechanical must complete the first-two years of their degree program before applying to transfer to the Oakland campus. Students wishing to transfer into one of the degree programs not available at the Johnstown campus may apply for transfer upon completion of the first year. See the Transfer within University Schools and Regional Campuses section of this bulletin. For more information see the regional campus transfer Web site at: http://engineering.pitt.edu/First-Year/First-Year/Transfer-Students/Internal-Transfer-Students/

Academic Standing

To be considered in good academic standing, a student's cumulative grade point average (GPA) must be at least 2.00 and the student must be making satisfactory progress toward earning an engineering degree. A student who is not in good academic standing will be placed on probation and may be subject to suspension or dismissal if his or her cumulative GPA remains below a 2.00 for two consecutive terms (with the exception of freshman students). Every engineering student's academic record is reviewed at the end of each term to certify whether or not the student is in good academic standing. Students will be notified by letter if they are no longer in good academic standing and are on probation.

Students in the Freshman Engineering Program (FEP) who enter in the fall term may be suspended or dismissed from the Swanson School of Engineering if they do not attain a cumulative GPA of 1.75 or greater by the end of the spring term and/or if they have not completed the first term of engineering courses.* Furthermore, FEP students with cumulative GPA's between 1.75 and 1.99 by the end of their first academic year who fail to obtain a cumulative GPA of 2.00 by the end of their third term are subject to suspension or dismissal. A similar timeline will apply to students who begin the FEP in the spring term.

After being suspended, students are not eligible to re-enroll for one calendar year, after which they are required to apply for reinstatement through the Swanson School of Engineering Office of Administration. Students returning from academic suspension are reinstated on academic probation and their academic performance will be reviewed after each subsequent term. If the student's cumulative GPA remains below 2.00 for two consecutive terms, he or she will be subject to dismissal. Dismissal is a final action. Dismissed students are not eligible at the University of Pittsburgh.

Advanced Standing for Courses Taken Outside the University

Students transferring into the Swanson School of Engineering from other college-level programs will have their academic records reviewed for advanced-standing credit only after they have been admitted and pay their tuition deposit. This determination will be made by the responsible academic department or program in accord with Swanson School of Engineering policy and criteria established by ABET, the engineering accrediting organization. In general, advanced standing for engineering or engineering science courses will be given only if the courses were taken from an ABET-accredited engineering program. Advanced standing for mathematics, science, humanities, and social sciences courses will be awarded to the extent that such courses match specific University of Pittsburgh Dietrich School of Arts and Sciences courses as required by the Swanson School of Engineering. In particular, humanities and social sciences courses must correspond to those on the Swanson School of Engineering's approved list of humanities and social sciences electives. Contact the Swanson School for information on these approved electives.

No more than 60 credits may be transferred from a two-year college. No more than 90 may be transferred from a four-year college. If 60 or more credits have been earned at a college or university, no transfer credit will be accepted for credits earned subsequently at a two-year school. The Swanson School of Engineering does not accept CLEP credit for course credits. For more information on Swanson School of Engineering transfer credit policies, please refer to http://engineering.pitt.edu/First-Year/First-Year/Transfer-Students/Swanson-School-of-Engineering-Transfer-Policies/

Credits for students transferring from a college that has a 3/2 program articulation agreement with the Swanson School of Engineering (see Combined Liberal Arts-Engineering 3/2 Program), a community college having an articulation agreement with the Swanson School of Engineering, or a pre-engineering program at a University of Pittsburgh regional campus will be accepted in accord with those agreements, University policy, and available space in the program of interest.

Students enrolled in the Swanson School of Engineering may take courses at other universities to satisfy graduation requirements only if the student's academic advisor or undergraduate coordinator has approved those courses in advance. Such courses must be taken at colleges or universities that offer full four-year degree programs. Engineering and engineering science courses must be taken at an ABET-approved engineering program. Students must earn a grade of C or higher for the course to be accepted for transfer credit. Students must arrange for their transcript to be sent to their undergraduate coordinator. As noted above, once a student is enrolled in the Swanson School of Engineering, he or she is no longer permitted to take courses at a two-year or community college for transfer credit.

Students may also earn advanced standing credit by taking Advanced Placement or International Baccalaureate classes in their high schools. Students who have their AP or IB scores sent to the University of Pittsburgh will have those scores evaluated by an academic advisor, who will determine their transferability. For a complete list of AP scores accepted by the Swanson School of Engineering, please see: http://engineering.pitt.edu/Admissions-Academics/Admissions/Undergraduate/AP-Courses/

Interdepartmental Transfers

A Swanson School of Engineering student whose academic record satisfies the minimum requirements for continued registration may apply for transfer from one engineering department or program to another. To initiate a change of departmental status, the student must complete a Program Change form, available at the Swanson School of Engineering Office of Administration. It is the prerogative of the department or program to which the student desires to transfer to approve or reject a change-of-status transfer request.

Reinstatement

An engineering student in good academic standing who has not attended the University of Pittsburgh for three consecutive terms and has attended no other institution in the intervening period will be considered for reinstatement after making application to the department chair or program director. If the student has attended another institution and completed more than 12 credits, the student must reapply through the University's Office of Admissions and Financial Aid in accordance with the procedure for transfer applicants from other colleges or universities.

A student who has withdrawn while on academic probation may be reinstated only by action of the appropriate faculty committee, typically based upon substantial evidence of a positive change in the student's attitude toward academic work. The student must initiate the request for reinstatement with the appropriate department chair.

Grading Policies

The following section details the Swanson School of Engineering's regulations regarding some of the grades that may appear on a student's transcript. (For a complete discussion of all grades and grading options, see the Grading and Records section of this bulletin.)

G Grade (Incomplete)

An instructor may give the G grade when a student is unable to complete the work of a course during the term because of extenuating personal circumstances.

To remove a G grade, a student is expected to complete the course requirements within the next term of registration or within the time specified by the instructor. The instructor of the course will complete a Grade Change Authorization form and send it to the Swanson School of Engineering Office of Administration for processing. If a G grade is not removed within one year, the instructor may change it to an F grade for the course.

S/NC Option

With the exception of undergraduate seminar courses, which are only offered satisfactory/no-credit (S/NC), the S/NC option cannot be used for any course that is used to meet graduation requirements. This restriction includes humanities/social science electives and other science/engineering electives. Freshmen may not elect to take courses under the S/NC option. Upper-class engineering students man elect to take courses that will not be used to meet graduation requirements as S/NC. Because S/NC courses are not considered in the calculation of the grade point average, the option is appropriate for students wishing to explore disciplines they might not otherwise pursue because of potential negative impact on the grade point average.

A student who wishes to take a course under the S/NC option should first consult his/her advisor to assure that the S/NC option is permissible. A student must register for and complete at least one course for a letter grade to be eligible for an S/NC option course in any term. To register for more than one S/NC option course per term, and a maximum of two, a student must register for 12 or more credits for letter grades.

Calculation of the Grade Point Average

Each credit carried for a letter grade is awarded quality points as noted under the Grading and Records section of this bulletin. A student's term grade point average (term GPA) is the total quality points earned for the term divided by the total credits assigned letter grades. The cumulative grade point average (cumulative GPA) is determined by dividing the total number of quality points by the total number of credits assigned letter grades. Only credits and quality points for courses taken at the University of Pittsburgh and that count toward the requirement for the BSE degree are used in the calculation of the GPA.

Repeating Courses

The Swanson School of Engineering permits a student to repeat required courses in which grades below C were received. A student may not repeat a course more than twice. If the course is repeated within one academic year following the original registration, the original credits and quality points of these repeated courses will not be included in the student's cumulative GPA. Keep in mind that any grade earned in the repeated course will be posted to the academic record even if it is lower than the original grade. Also note that a sequence course cannot be repeated and have the grade replaced if a succeeding course in that sequence has been taken (e.g., MATH 0220, 0230, and 0240 Analytic Geometry and Calculus 1, 2, and 3; PHYS 0174 and 0175 Basic Physics for Science and Engineering 1 and 2). The same course repeat rules will apply to transfer students from the Dietrich School of Arts and Sciences, the College of General Studies, and the regional campuses.

Honors Lists

At the end of each term, the academic records of all undergraduate degree students in the Swanson School of Engineering are reviewed to determine eligibility for the Term Honor List and the Dean's Honor List. Students who qualify for both honor lists will appear only on the Dean's Honor List.

Term Honor List

To be eligible for the Term Honor List, a student must

Earn a GPA of at least 3.25,
Complete a minimum of 15 credits of academic work for letter grades at the University of Pittsburgh, and
Complete a minimum of 6 credits of work for letter grades in the term of eligibility.

Dean's Honor List

To be eligible for the Dean's Honor List, a student must

Earn cumulative and term GPA's of 3.25 or higher,
Complete a minimum of 30 credits of academic work for letter grades at the University of Pittsburgh, and
Complete a minimum of 6 credits of work for letter grades in the term of eligibility.

Credits

In the Swanson School of Engineering, a credit or credit hour is one of the following:

One hour of lecture or recitation a week, requiring two hours of outside preparation
Two hours of laboratory a week, requiring one hour of outside preparation
Three hours of laboratory a week, requiring no outside preparation

Registration

Each student registers for future terms with the assistance of his or her academic advisor during registration periods specified by the Office of the University Registrar. A student who has registered for a course but has failed to satisfy the prerequisites for that course prior to the beginning of the term may not be permitted to continue attending class and must withdraw from the course if requested to do so. Freshman engineering students register for the fall term during the summer advising sessions. (See Registering for Classes for more information.)

Maximum Credit Registration

All full-time undergraduate engineering students are expected to register for a normal full term of academic courses (i.e., at least 12 credits). No student shall be allowed to register for more than 18 credits without specific written permission from his/her academic advisor and approval by the senior associate dean for academic affairs. Such permission is given only after a review of the student's academic record in order to verify that an overload is academically justifiable. All credits above 18 for undergraduates will be billed over and above the full-time tuition rate at the prevailing per-credit tuition charge.

Registration for Graduate Credit

A Swanson School of Engineering undergraduate student requiring fewer than 15 credits to complete the requirements for the baccalaureate degree and who intends to continue study toward an advanced degree may be permitted during their final term to register for graduate courses that will later apply toward a graduate degree. The student must obtain written permission from the school of proposed graduate study that the courses may count when and if the student is admitted into the graduate program. Although these credits will appear on the undergraduate transcript, they will not count toward fulfilling undergraduate degree requirements. They will be posted as advanced standing credits on the graduate record.

Advanced Standing for Courses Taken Outside the University

Students transferring into the Swanson School of Engineering from other college-level programs will have their academic records reviewed for advanced-standing credit after they have been admitted and pay their tuition deposit. This determination is made by the responsible academic department or program in accord with Swanson School of Engineering policy and criteria established by ABET, the engineering accrediting organization. In general, advanced standing for engineering or engineering science courses will be given only if the courses were taken from an ABET-accredited engineering program. Advanced standing for mathematics, science, humanities, and social sciences courses will be awarded to the extent that such courses match specific University of Pittsburgh Arts and Sciences courses that are required by the Swanson School of Engineering. In particular, humanities and social sciences courses must correspond to those on the Swanson School of Engineering's approved list of humanities and social sciences electives. Contact the school for information on these approved electives.

No more than 60 credits may be transferred from a two-year college. No more than 90 may be transferred from a four-year college. If 60 or more credits have been earned at a college or university, no transfer credit will be granted for credits earned subsequently at a two-year school. The Swanson School of Engineering does not accept CLEP credit for course credits. For more information on Swanson School of Engineering transfer credit policies, please refer to http://www.engineering.pitt.edu/Freshman/Transfer_Students/SSOE_Transfer_Policies/

Credits for students transferring from a college maintaining a 3/2 program with the Swanson School of Engineering (see Combined Liberal Arts-Engineering 3/2 Program), a community college having an articulation agreement with the Swanson School of Engineering, or a pre-engineering program at a University of Pittsburgh regional campus will be accepted in accord with those agreements and University policy.

Students enrolled in the Swanson School of Engineering may take courses at other universities to satisfy graduation requirements only if the student's academic advisor or undergraduate coordinator has approved those courses in advance. Such courses must be taken at colleges or universities that offer full four-year degree programs. Engineering and engineering science courses must be taken at an ABET-approved engineering program. Students must earn a grade of C or higher for the course to be accepted for transfer credit. Students must arrange for their transcript to be sent to their undergraduate coordinator. Once a student is enrolled in the Swanson School of Engineering, he or she is no longer permitted to take courses at a two-year or community college for transfer credit.

Students may also earn advanced standing credit by taking Advanced Placement or International Baccalaureate classes in their high schools. Students who have their AP or IB scores sent to the University of Pittsburgh will have those scores evaluated by an academic advisor, who will determine their transferability. For a complete list of AP scores accepted by the Swanson School of Engineering, please see:
http://www.engineering.pitt.edu/freshman/advising/AP/

Special Academic Opportunities and Programs

Nuclear Engineering

Strong growth in the global demand for power is projected for the next half-century and beyond. This growth provides great opportunities for the nuclear industry, particularly companies located in southwestern Pennsylvania including Westinghouse Electric, First Energy and Bechtel Bettis. The undergraduate Certificate in Nuclear Engineering is a five-course sequence consisting of three nuclear engineering courses and two discipline

specific courses related to nuclear engineering from the various engineering departments. The certificate is open to all undergraduate engineering students in the Swanson School of Engineering and can be earned in conjunction with all nine of the School's BS engineering degrees. Qualified Arts and Science students may also elect to take the certificate.

The undergraduate Certificate in Nuclear Engineering targets competency gaps that exist in the following educational areas:

- Basic theoretical concepts of nuclear physics, radiation protection, reactor physics, reactor kinetics, fuel depletion and energy removal
- Tasks of the reactor thermal designer, nuclear designer and mechanical designer
- Interfaces among engineering disciplines involved with the design of a reactor core and the reactor coolant system for light water reactors
- Fundamental analytical skills that can aid in understanding nuclear energy problems and solutions Knowledge of important social and technical issues related to nuclear science and technology
- Improvements in c nuclear plants and future designs
- Important fuel cycle operations with uranium from exploration through enrichment including fundamental aspects of spent-fuel reprocessing and fuel-cycle waste management

Course work takes advantage of field trips to state-of-the-art facilities in the Western Pennsylvania region including the Penn State Nuclear Reactor, the Beaver Valley Nuclear Power Plant, and various Westinghouse facilities. Interested students should visit http://www.engineering.pitt.edu/nuclear/ or call 412-624-9780 for more information.

Engineering for Humanity Certificate

The Engineering for Humanity certificate is open to all undergraduate students and both guides and formalizes student participation in sustainable engineering projects that serve poor communities. Moreover, the certificate program addresses the significance of cultural, political, and business forces that shape sustainable engineering solutions and empowers poor communities to improve their quality of life.. The center piece of the Certificate is an approved engineering service project that gives the student experience of working for people with basic needs. A total of 15 credits is required to complete this certificate. Students have the option of pursuing either a U.S. or international track. For additional information please contact Dr. Nettleship of the Department of Mechanical Engineering and Materials Science. More information on the Certificate can be found at: http://www.engineeringx.pitt.edu/SubSites/MCSI/MCSIFourColumn.aspx?id=2147502144

Statute of Limitations

All required academic work for the Bachelor of Science in Engineering degree, including courses for which advanced-standing credit has been granted, must be completed within 12 consecutive calendar years. Under unusual circumstances, a student may, with the approval of the department or program chair, request a waiver of this policy. This policy means that part-time students must progress toward the degree at a minimum rate of 12 credits per calendar year.

Graduation Requirements

In order to graduate with a BSE, a student must have satisfactorily completed all degree requirements and earned the total number of credits required by the department or program in which the student is enrolled. The student must also have obtained a minimum GPA of 2.00 for (a) all required courses completed at the University of Pittsburgh and (b) all departmental courses. Students who have a cumulative GPA of 2.00 for all courses taken but have not obtained the minimum 2.00 departmental GPA may be certified for graduation by the program by repeating all program courses in which a grade below C was awarded and earning a grade of C or better for each repeated course.

Advanced-standing credits accepted by the Swanson School of Engineering may partially fulfill course requirements for graduation, but grades and credits earned in such courses are not included in the GPA calculations.

The work of the senior year (a minimum of 24 credits) must be completed while in residence at the Swanson School of Engineering, University of Pittsburgh. Exceptions to this regulation may be granted for a limited number of credits through petition to the department or program and approval by the senior associate dean for academic affairs. This regulation will be waived for students completing an approved study abroad program during their senior year.

(See the Graduation section of this bulletin for further information on graduation requirements and procedures.)

Academic Integrity

The integrity of the academic process requires fair and impartial evaluation on the part of faculty and honest academic conduct on the part of students. Students are expected to conduct themselves with a high level of responsibility in the fulfillment of their course of study. It is the corresponding responsibility of faculty to make clear to students those standards by which they will be evaluated and the resources permissible for use by students during their course of study. The educational process is perceived as a joint faculty-student enterprise that will involve professional judgment by faculty and may involve, without penalty, reasoned exception by students to the data or views offered by faculty. Consistent with these considerations (and without limiting their scope and application in their entirety to the academic programs of the University), faculty and students are directed to observe established guidelines on academic integrity. Copies of both the Swanson School of Engineering and the University of Pittsburgh *Guidelines on Academic Integrity* are available to faculty and students in the departmental offices of the Swanson School of Engineering and is also available at: http://www.engr.pitt.edu/WorkArea/DownloadAsset.aspx?id=2147488315.

Assessment

As part of the Swanson School of Engineering's commitments to student learning and academic achievement, effective teaching, and continuous improvement of our programs, we regularly conduct outcomes assessment activities. To obtain periodic measurements of student perceptions and intellectual growth, students will be expected to participate in surveys, focus groups, interviews, and related activities. While individual input is collected, the data resulting from these assessments will be published only in aggregate form.

Advising

All students are assigned an advisor and are expected to meet with their advisor prior to registration. The Freshman Engineering Program's professional staff serves as the freshmen's advisors. Throughout the freshman year, students are encouraged to meet with their advisor if they need to register for classes, withdraw from classes, add and/or drop classes, seek out resources, find out about their academic progress, discuss problems they are having in a course, or get help deciding on a program. Freshmen are also assigned a peer advisor from the Freshman Leadership Team, with whom they will meet weekly. Once students are admitted to a department or program, they are then assigned a faculty advisor. Students who wish to change advisors should meet with the department chair, program director, or undergraduate coordinator to request a change. See http://www.engineering.pitt.edu/freshman/advising/ for more information.

General Degree Requirements

The degree requirements are established by the individual departments and programs. Depending on the program, between 126 to 135 credits may be required for the individual degree. Each program's requirements include the common freshman year, a mathematics sequence (four or five courses depending on the program), and six approved humanities and social science electives (including the W-course requirement). The specific degree requirements are found in the program descriptions below.

Humanities and Social Science Requirement

An important part of the undergraduate engineering student's education is the humanities and social science component. All Swanson School of Engineering undergraduates must complete at least six humanities and social science elective courses from the school's approved list of A&S courses, while meeting the school and ABET requirements for breadth and depth. To meet the depth requirement, a student must complete two or more courses in the same area of study only one of which can be considered an introductory course from Arts and Sciences. The depth requirement can also be satisfied by taking two or more courses with a related theme, e.g., courses that focus on a geographic region, historic period, or ideological perspective. For the breadth requirements, it is recommended that the courses include approved offerings from at least three different departments from Arts and Sciences. Students may use one study abroad course that might not otherwise be counted toward satisfying this requirement.

No more than two of the required six elective courses can be satisfied via high school Advanced Placement, International Baccalaureate, and/or GCE-A-Level credits.

Students must also complete one W-designated course, i.e., a course that has a substantial writing component that has been so designated by Arts and Sciences. Depending on the course, it may also count as one of the humanities/social science electives. The senior associate dean for academic affairs

maintains a list of approved humanities and social science electives. Students are not permitted to use College of General Studies courses including those indicated as either hybrid, self-paced, or online web courses.

Online Courses

Undergraduate engineering students may take one humanity/social science and one engineering, engineering science, math or science course online subject to the following conditions:

- Student must present a valid reason for taking the course; a comparable course is not available at the University.
- The course must be from a four-year college or university that is accredited by Middle States Association of Colleges and Schools (or equivalent if outside the region).
- In addition, an engineering or engineering science course must be from an ABET accredited program.
- The humanities/social science courses must be from the arts and science unit of the institution and not from a continuing education, or general studies unit. The course must be taught in English.
- The course must be first approved by the undergraduate coordinator and then by the Associate Dean for Academic Affairs.

Major and Degree Options

The following majors (described in the Program Descriptions section) within the Swanson School of Engineering offer the Bachelor of Science in Engineering:

- Bioengineering
- Chemical engineering
- Civil engineering (offered by the Department of Civil and Environmental Engineering)
- Computer engineering (offered by the Department of Electrical and Computer Engineering and the Department of Computer Science, A&S)
- Electrical engineering (offered by the Department of Electrical and Computer Engineering)
- Engineering Science (administered through the Department of Mechanical Engineering and Materials Science)
- Environmental Engineering (administered through the Department of Civil Engineering)
- Industrial engineering
- Materials science and engineering (administered through the Department of Mechanical Engineering and Materials Science)
- Mechanical engineering (administered through the Department of Mechanical Engineering and Materials Science)

Minors in Engineering

The Swanson School of Engineering offers a number of minors to its students who wish to expand their field of knowledge in engineering. Engineering students may also pursue a minor in Arts and Sciences (see A&S section of this bulletin for details on the minors offered within A&S). Engineering students are not permitted to minor in the same field in which they are majoring. Students from outside the Swanson School of Engineering may pursue one of these minors with the permission of the given department. Any student interested in a minor should consult with the given department to determine the eligibility and completion requirements for each minor. The minors offered by the school are as follows:

- Bioengineering
- Chemical engineering
- Civil engineering
- Electrical engineering
- Environmental engineering
- Industrial engineering
- Materials science and engineering
- Mechanical engineering
- Petroleum engineering
- Polymer engineering

Special Academic Opportunities/Programs

The Swanson School of Engineering offers numerous special academic opportunities as detailed in the following pages:

Arts and Sciences-Engineering Dual Degree Program

The Dietrich School of Arts and Sciences (A&S) and the Swanson School of Engineering have developed an undergraduate dual degree program that permits a student to combine a major in arts and sciences with a program in engineering and then receive degrees from both A&S and the Swanson School of Engineering. A student can apply for admission into this program through either A&S or the Swanson School of Engineering and must be admitted into both schools.

While the form of the program is dependent upon the individual student's interests, the first year's curriculum is typically the standard engineering program. During the next three years the student may complete the specific requirements for his or her engineering degree while fulfilling certain A&S major and general education requirements. Typically, the fifth year is then used to complete the A&S requirements. Students must complete a minimum of 90 A&S credits, including all A&S skills and general education requirements and an A&S major (but not a related area). Students must also complete all the degree requirements of their chosen engineering program, usually consisting of 70 or more Swanson School of Engineering credits. Each program should be developed with an advisor in Arts and Sciences and an advisor in the Swanson School of Engineering and tailored to the student's special interests. Students in this program have combined engineering with neuroscience, philosophy, economics, music, and a number of the language programs.

Students must satisfy both schools' normal progress requirements and criteria for academic standing as long as they remain in the joint degree program. Students also must apply for graduation from both schools. A&S students earn either a BA or BS degree, depending upon the A&S program of study. The student's GPA for graduation from A&S is calculated based solely upon the credits earned for the A&S degree. For further information, students may contact one of the following: the Freshman Engineering Program Office, 152 Benedum Hall; an engineering departmental undergraduate coordinator; the A&S Office, 140 Thackeray Hall; the A&S Advising Center, 252 Thackeray Hall; or the University Honors College engineering advisor, 3600 Cathedral of Learning.

Bachelor of Philosophy Degree Program with University Honors College

Undergraduate students with exceptional academic ability and motivation may elect to complete the Bachelor of Philosophy degree program in addition to their engineering bachelor of science degree. Students who have completed the freshman year may apply for degree candidacy in the UHC. Outstanding students enrolled in any of the Swanson School of Engineering programs may elect to complete these interschool degree requirements. In addition, students pursuing the five-year joint degree program with Arts and Sciences are also encouraged to pursue the honors college degree.

All of the UHC degree programs require independent scholarship and a competency-based evaluation by faculty in the last year. The requirements for independent scholarship entail the completion and defense of a thesis during the junior and senior years. Qualified engineering students may join with an engineering faculty member to propose an individualized plan of study leading to independent scholarship and an honors college degree, provided the basic graduation requirements of the student's engineering department are fulfilled. Students interested in the honors college should contact the dean of the honors college, 3500 Cathedral of Learning, Pittsburgh, PA 15260, or call 412-624-6880. (See the University Honors College section of this bulletin.)

Cooperative Engineering Education Program

The school's Cooperative Engineering Education Program enhances the student engineer's educational experience through a series of challenging, highly relevant "real world" work sessions. This is accomplished by integrating a rotation of school and employment terms that enables the cooperative education student to complement his or her formal classroom training with additional technical knowledge, hands-on experience, and financial remuneration. The co-op graduate possesses the maturity and assurance of a more seasoned employee and the ability to incorporate academic knowledge and theory into practice. During co-op sessions, students earn competitive salaries, which also makes this program financially rewarding. Almost half of the graduating seniors complete the co-op program requirements. Through the assistance of the Swanson School of Engineering's Cooperative Education Office, formal arrangements are established with industry that permit students to rotate four-month terms between the workplace and the classroom. At the University of Pittsburgh, this rotation begins during either the sophomore or junior year and extends into the senior year, with the co-op student completing at least three four-month work periods. These employment sessions, which are typically with the same employer, allow job duties to increase as the knowledge and skills of the student engineer progress. The positions can be local, national, or international. This practical work experience has also been found to increase academic motivation and classroom performance. Co-op

students become aware of business practice and etiquette and possess a mature, responsible attitude. Thus, upon graduation, students who have successfully completed the three co-op rotations are able to handle more challenging initial assignments with confidence and assurance. A high percentage of co-op students also obtain and accept full-time offers from their co-op employers.

Students earn transcript certification and a total of three credits towards departmental graduation requirements upon satisfactory completion of the program requirements. The co-op program offers resume preparation, interviewing skills, workshops and job fairs in order to facilitate appropriate placements for students.

Sample Co-op Schedules

SCHEDULE A	**Fall (Sept.-Dec.)**	**Spring (Jan.-April)**	**Summer (May-Aug.)**
First Year	School	School	
Second Year	School	School	
Third Year	**Work**	School	**Work**
Fourth Year	School	**Work**	School
Fifth Year	School		

SCHEDULE B	**Fall (Sept.-Dec.)**	**Spring (Jan.-April)**	**Summer (May-Aug.)**
First Year	School	School	
Second Year	School	School	**Work**
Third Year	School	**Work**	School
Fourth Year	**Work**	School	**Work**
Fifth Year	School		

SCHEDULE C	**Fall (Sept.-Dec.)**	**Spring (Jan.-April)**	**Summer (May-Aug.)**
First Year	School	School	
Second Year	School	**Work**	School
Third Year	**Work**	School	**Work**
Fourth Year	School	**Work**	School
Fifth Year	School		

For more information, please contact: Cooperative Engineering Education Program, 152 Benedum Hall, Pittsburgh, PA 15260, 412-624-9826, paub2m@pitt.edu, or see www.engineering.pitt.edu/coop/.

Engineering-School of Education Certification Program

The Swanson School of Engineering realizes the need to provide program flexibility and a variety of career options to undergraduate engineering majors. Careers in the teaching of mathematics, chemistry, and physics present one such option to students who have acquired a knowledge base in engineering. Through an articulated agreement with the University of Pittsburgh School of Education, a five-year Program of Study combines course work in engineering with Content Core Studies for the teaching of chemistry, mathematics, or physics; additionally, general education courses and pre-educational professional credits are included in the program. During the program's fifth year (after completion of the BS in engineering degree), students will complete the requirements for the Instructional I Certificate in their area of choice. This two-term program will enable them to teach in the Commonwealth of Pennsylvania.

For more information regarding scheduling and the admission policy of the agreement, talk with your advisor, or call 412-648-2230 to schedule a pre-admission meeting with a School of Education representative. See also http://www.education.pitt.edu/programs/certificates.aspx

Certificate Programs

Swanson School of Engineering undergraduate students are encouraged to broaden their educational experience by electing to take one of the certificate programs currently offered by Arts and Sciences, the University Center for International Studies (UCIS), or the Swanson School of Engineering. These certificate programs may be used by the engineering student to partially fulfill the humanities/social sciences requirement, thereby allowing specialization in an area of interest while pursuing an engineering degree. The requirements for each certificate vary, and students should contact the appropriate certificate program director.

The Swanson School of Engineering offers ten certificates at the undergraduate level:

Civil Engineering and Architectural Studies

Recognizing the close relations between architects and structural engineers, in particular, a special program of cooperation was established in 1990 between the Department of Architectural Studies of the School of Arts and Sciences, and the Civil & Environmental Engineering Department. Students from the Civil & Environmental Engineering Department may elect to study for a certificate in architectural studies. The certificate is described at the following location: http://www.arch.pitt.edu/program/related-areas.php#civil-engineeringcertificate

Interested students should work with their respective advisor to select the most appropriate classes for this opportunity.

Related Area in Architectural Studies for Engineering Students

The related area in architectural studies is intended to offer students majoring in engineering an opportunity to explore the aesthetic side of problem-solving design activity. The selection of courses can be formulated to fit the interests and goals of the individual student. The related area may range from 12 to 15 credits that may be used to partially satisfy the 18-credit Swanson School of Engineering humanities/social sciences requirements. Engineering students selecting this option must take HA&A 0040 Introduction to Architecture, and HA&A 1040 History of Architecture Theory is strongly recommended. Students may elect either two or three courses in the history of architecture, e.g., HA&A 0045 Introduction to Modern Architecture, HA&A 1306 High Renaissance Architecture, and HA&A 1160 Roman Architecture or HA&A 1480 Architecture Since 1945 and HA&A 1913 Senior Seminar for Architectural Studies Majors. Please contact the Department of Civil and Environmental Engineering at http://www.engineering.pitt.edu/civil/ or by calling 412-624-9870.

Energy Resource Utilization

The Energy Resource Utilization Certificate is designed for those students interested in both the development of new energy resources and the study of existing ones. Students in the Swanson School of Engineering may earn a certificate in energy resource utilization by completing two 6-credit courses. The first course, Energy Today, offered by the Chemical and Petroleum Engineering Department at the University of Pittsburgh, examines current technologies that supply energy from coal, petroleum, gas, and uranium. The second course, Energy Beyond 2000, offered by the University

of New South Wales in Sydney, Australia, examines energy efficiency and renewable energy technologies and those techniques that will be used in the future to reduce dependence on fossil fuels. Both courses are offered in the summer term: Energy Today from mid-May to mid-June, and Energy Beyond 2000 from late June to early August.

International Engineering Studies

An innovative International Engineering Certificate Program has been created for those students who wish to enhance their degree program with an education abroad experience. Students in the Swanson School of Engineering may earn a Certificate in International Engineering Studies (IES) by completing a minimum set of requirements that include completion of an approved education abroad program or co-op work experience and associated cultural enrichment and language studies. A total of 16 credits are required to complete this certificate. Students who study or work in English-speaking countries are also eligible to earn the certificate by fulfilling special requirements. The certificate appears on the student's transcript upon graduation. Please contact the Office of Engineering International Programs at international@engr.pitt.edu or by calling (412) 624-5942 for additional information.

Mining Engineering

The Minerals Industry is a vital and growing part of the US economy and the demand for professionals with knowledge and skills in the field of mining engineering is high. To help address this demand the Swanson School of Engineering offers three Mining Engineering Certificates. One certificate is for undergraduate engineers and geologists and requires three mining courses and two department specific courses. A second is for graduate engineering students and a third is for Post-Baccalaureate students with a BS degree. Both of these certificates require five mining engineering courses. Many of the mining engineering courses are offered via the distance learning format so professionals working in the minerals industry can participate from remote locations. Course work focuses on health and safety and environmental issues in the minerals industry and utilizes field trips to operating mines to demonstrate important principles. Interested students should check http://www.engineering.pitt.edu/mining/ for updated information on this program.

Nuclear Engineering

Strong growth in the global demand for power is projected for the next half-century and beyond. This growth provides great opportunities for the nuclear industry, particularly companies located in southwestern Pennsylvania including Westinghouse Electric, First Energy and Bechtel Bettis. The undergraduate Certificate in Nuclear Engineering is a five-course sequence consisting of three nuclear engineering courses and two discipline specific courses related to nuclear engineering from the various engineering departments. The certificate is open to all undergraduate engineering students in the Swanson School of Engineering and can be earned in conjunction with all nine of the School's BS engineering degrees. Qualified Arts and Science students may also elect to take the certificate.

The undergraduate Certificate in Nuclear Engineering targets competency gaps that exist in the following educational areas:

- Basic theoretical concepts of nuclear physics, radiation protection, reactor physics, reactor kinetics, fuel depletion and energy removal
- Tasks of the reactor thermal designer, nuclear designer and mechanical designer
- Interfaces among engineering disciplines involved with the design of a reactor core and the reactor coolant system for light water reactors
- Fundamental analytical skills that can aid in understanding nuclear energy problems and solutions
- Knowledge of important social and technical issues related to nuclear science and technology
- Improvements in nuclear plants and future designs
- Important fuel cycle operations with uranium from exploration through enrichment including fundamental aspects of spent-fuel reprocessing and fuel-cycle waste management

Course work takes advantage of field trips to state-of-the-art facilities in the Western Pennsylvania region including the Penn State Nuclear Reactor, the Beaver Valley Nuclear Power Plant, and various Westinghouse facilities. Interested students should visit http://www.engineering.pitt.edu/nuclear/ or call 412-624-9720 for more information.

Product Realization

Employers now seek engineers with skills in these technologies and who are able to work under the added pressure of moving products from conception to market in extremely short time periods. With this increased emphasis on minimizing the time to market, it has become essential for engineers to integrate marketing and business strategies with new products design skills. The Product Realization Certificate cuts across the Swanson

School of Engineering and into the College of Business Administration of the Joseph M. Katz Graduate School of Business. The objectives of the certificate in product realization are to close the current competency gaps that exists between academia and industry in the areas of design and product creation and to create a benchmark educational program that can serve as a model throughout academia.

The Certificate in Product Realization specifically targets competency gaps that exist in the following educational areas:
computational analysis methods, virtual and rapid prototyping techniques, micro-electronic mechanical systems (MEMS), digital control systems and wireless communication, and business aspects of product creation. Course work takes advantage of state-of-the-art facilities that currently exist in the Swanson Center for Product Innovation (SCPI). The certificate is designed for undergraduate engineering students, as well as qualified students in the College of Business Administration with an interest in new product development. Students from the bio, industrial, mechanical, and electrical/computer engineering programs may be most interested in obtaining the certificate. Students take a total of five courses to include at least one College of Business Administration course, two engineering courses, and the capstone design course, Product Realization.

For information contact:
Mary Besterfield Sacre
1040 Benedum Hall
412-624-9836
mbsacre@pitt.edu

Supply Chain Management

The Certificate in Supply Chain Management (CSCM) provides undergraduate engineering students with the opportunity to understand important concepts in supply chain management and develop technical and managerial skills which are highly valued in today's corporate environment. The program also offers an international travel experience for students to gain hands-on exposure to global supply chain organizations.

Supply chain management encompasses not only the design and planning of supply chain activities, but also the execution, control and monitoring that help companies build a competitive infrastructure and create net value. The supply chain covers all areas, not just manufacturing and services, but also includes suppliers, retailers, warehouses, logistics and customer service; all functional areas involved in receiving and filling a customer's order with a repeatable and satisfying experience. This certificate requires 15 credits to complete.

Enrollment is open to students in all of the undergraduate engineering programs in the Swanson School of Engineering. Students interested in the program should contact Dr. Karen Bursic (kbursic@pitt.edu) for more details.

Engineering for Humanity Certificate

The Engineering for Humanity certificate is open to all undergraduate students and both guides and formalizes student participation in sustainable engineering projects that serve poor communities. Moreover, the certificate program addresses the significance of cultural, political, and business forces that shape sustainable engineering solutions and empowers poor communities to improve their quality of life. The center piece of the Certificate is an approved engineering service project that gives the student experience of working for people with basic needs. A total of 15 credits is required to complete this certificate. Students have the option of pursuing either a U.S. or international track. For additional information please contact Dr. Nettleship of the Department of Mechanical Engineering and Materials Science. More information on the Certificate can be found at: http://www.engineeringx.pitt.edu/SubSites/MCSI/MCSIFourColumn.aspx?id=2147502144

Sustainable Engineering

An undergraduate Certificate in Sustainable Engineering is available to all undergraduate engineering students. The certificate is housed in the Department of Civil and Environmental Engineering and administered through the Mascaro Center for Sustainable Innovation. The certificate provides interested students with an awareness and sensitivity to environmental issues and consequences of engineering systems consistent with their engineering major. The certificate builds upon an increasing number of courses being offered with an emphasis on sustainability and requires 12 credits to complete.

For information on this program contact:

Melissa Bilec
153 Benedum Hall (MCSI)

(412) 648-8075
mbilec@pitt.edu

Engineering International Programs

As the world around us grows ever more connected, it has become evident that engineering students must be prepared to engage in an increasingly globalized world, and, upon graduation, to compete in an increasingly international jobs market. Accordingly, the Swanson School of Engineering (SSOE) has placed a tremendous emphasis on the development of exciting and academically enriching international programs for its students.

All students in SSOE are encouraged to add a global dimension to their education by pursuing one or more international programs as part of their academic study. At present, SSOE students may elect to participate in study, research, co-op, internship, or service learning abroad. Most of these opportunities are offered on a for-credit basis, and many can be used to satisfy major, minor, technical elective, or other degree requirements. Foreign language study is helpful, but not required, as many courses are on offer in English. Depending on their academic and personal interests, students may elect to participate in dozens of individual international programs. Some of these may last for only a week or two, either during spring break or over the summer term. Others may involve a commitment of a semester or even an entire academic year abroad.

The Swanson Signature Study Abroad Programs are short term opportunities that focus on a relevant engineering topic in detail over the course of 10 to 14 days. Recently, Swanson Signature programs have occurred in Brazil, Uruguay, Peru, Italy and Germany, studying such diverse topics as renewable energy and sustainability, engineering of pre-Columbian civilizations, and global supply networks. Plus3 is another innovative short term program designed for first year SSOE students, and which has gone to such locations as Chile, Brazil, Germany, China and Viet Nam. Meanwhile, students who wish to invest in longer term language or cultural study may decide to participate in an exchange program. This affords them the opportunity to study engineering, social sciences or humanities at a foreign college or university for one or two consecutive academic terms, and for little more than the cost of a regular term in Pittsburgh. Finally, scholarships and other funding opportunities are also available, and financial aid administered by the University of Pittsburgh may apply.

Current and prospective SSOE students and their parents are welcome to contact the Office of Engineering International Programs for more information. Please visit: http://www.engineering.pitt.edu/international.

Combined Liberal Arts-Engineering 3/2 Program

The Swanson School of Engineering has developed combined liberal arts/engineering dual degree programs with a number of accredited liberal arts colleges. In these "3/2 programs," students first complete a three-year structured course of study at the liberal arts college, including that college's general education requirements, specific introductory courses required for the engineering program of interest, and other courses necessary for acceptance into a Swanson School of Engineering program. With the recommendation of the faculty advisor at the liberal arts college, the student applies for transfer to the University of Pittsburgh Swanson School of Engineering, spending the final two years in an engineering program. Such programs typically enable the student to earn both a liberal arts degree and an engineering degree.

Swanson School of Engineering-Diversity Initiatives

The Engineering Office of Diversity exists to create and sustain learning and working environments where differences and similarities are valued and respected, and all students, especially underrepresented students, are included and empowered to excel in engineering education. The office provides diversity education to undergraduates, graduate students, staff and faculty. The office also provides continuous academic and community support services through the its pre-college, undergraduate and graduate student programming.

Pre-College and Undergraduate Diversity Programs

The Swanson School of Engineering pre-college and undergraduate diversity programs develop and implement activities that promote and support the academic excellence of high achieving pre-college and undergraduate students from groups historically underrepresented in science, technology, engineering and mathematics (STEM) fields. These initiatives provide a continuous pipeline for students to prepare for, enter and graduate from the University of Pittsburgh as STEM majors.

Global Engineering Preparedness Scholarship (GEPS) Programs

Educating Engineers in Cultural and Societal Contexts

Thanks to a grant from the National Science Foundation, the University of Pittsburgh Swanson School of Engineering and its Office of Diversity (EOD) have established the Global Engineering Preparedness Scholarship program (GEPS). GEPS helps to support the recruitment, retention and graduation of low-income students from underrepresented minorities and majority populations. GEPS also prepares students for the global marketplace by offering international opportunities that students would not normally be able to participate without additional supporting funds.

Because the engineering career of the 21st century is more globally competitive than ever, GEPS also provides an integrative framework that focuses on access, continuous academic support, development of global competency and leadership experience. International experience is now an integral part of engineering education, and highly sought after by employers across all engineering disciplines. GEPS Scholars will have access to Pitt's exceptional education abroad programs to experience international skills sought by the engineering profession.

GEPS Benefits

- Academic Counseling and Advising -Structured on-on-one academic counseling and advising for all first-year students. Students will meet with an Academic Counselor regularly, as well as with the Associate Dean for Diversity at the beginning of each semester to set goals and at the end of each semester to review goal attainment.
- Academic Living/learning Community (ALC): All GEPS Scholars participate in ALC program activities in the first year at Pitt. This provides Scholars the opportunity to live and learn from each other and develop and cultivate cross-cultural lifelong friendships.
- Academic Tutoring - Tutoring support will be provided for all GEPS Scholars in physics, chemistry and math courses through the EXCEL office.
- Exceptional Education: The Swanson School of Engineering is ranked among the top 25 public university engineering programs by *US News and World Report*, while the University of Pittsburgh was named a "Best Value College" by *The Princeton Review* and *USA TODAY* for the fourth consecutive year; and Best Value In Public Higher Education in Pennsylvania by *Kiplinger's* for the ninth consecutive year (2014).
- Faculty Mentoring: Students will be matched with faculty who will engage in a professional one-on-one relationship to further challenge students in scholarly activities.
- Global Leadership Competency Development for Engineers (GLE) - After the first year, Scholars will participate in GLE activities designed to enrich global leadership experience and global preparedness. GLE activities are supported through partnerships with employers, international study abroad, and career development programs, allowing Scholars to engage in engineering design and problem solving in cultural and societal contexts, both at home and abroad.
- Peer Mentoring: GEPS will provide a more structured and effective peer mentoring program by pairing GEPS first-year students with Engineering Ambassadors selected from a group of outstanding engineering juniors and seniors. The Engineering Ambassadors will help students develop good study skills, capacity building skills, and communication skills critical during the first year at the Swanson School.
- Summer Engineering Academy (SEA): A rigorous two-week pre-college program designed to assist students in making a smooth transition from high school to college.

Scholarship Eligibility, Selection, and Retention

GEPS Scholars will be selected from the pool of admitted students or transferring students meeting US citizenship or permanent residency requirements and having unmet financial needs as determined through the Office of Admissions and Financial Aid. Student should be in to top 10-20 percent of class high school ranking, ACT/SAT above 27/1300, or college transfer GPA of 3.0 or above.

Beyond scores and academic performance students are offered GEPS admission by committee review of GPA, SAT/ACT scores, strength of high school courses, class ranking, teacher recommendations for overall potential for success, extracurricular activities, honors and awards, professionalism, leadership, and personal statement.

All GEPS Scholars must maintain a cumulative GPA of 3.0 to retain the Scholarship. All GEPS Scholars who complete the second year of the program with GPA of 3.0 and above are eligible for the GEPS International Study Abroad Scholarship

How to Apply

High School Students/Prospective First-Year Students: engineering.pitt.edu/geps/firstyear
Transfer Students: engineering.pitt.edu/geps/tranfer

For more information contact:

University of Pittsburgh Swanson School of Engineering
Engineering Office of Diversity
128 Benedum Hall
3700 O'Hara Street
Pittsburgh PA 15261
eodadmin@pitt.edu
412-624-9842

Investing Now

INVESTING NOW, created in 1988, is a college preparatory program created to stimulate, support, and recognize the high academic performance of pre-college students from historically underrepresented groups. The purpose of this program is to expose high achieving students to science, technology, engineering and mathematics (STEM) careers and prepare them to be successful at the University of Pittsburgh or other highly competitive universities.

The program's primary goals are to:

- Create a pipeline for well-prepared students to enter college and pursue science, technology, engineering and mathematics majors;
- Encourage and support student' enrollment and achievement in advanced mathematics and science courses;
- Ensure that the participants make informed college choices;
- Support and encourage parents in their role as advocates for their children; and
- Coordinate partnerships between the University of Pittsburgh's Swanson School of Engineering and local and regional schools.

Membership in INVESTING NOW a student's commitment to attend year-round programming from ninth through twelfth grade.

For further information, contact:

INVESTING NOW
Swanson School of Engineering
University of Pittsburgh
152C Benedum Hall
Pittsburgh, PA 15261
412-624-0224
http://www.engineering.pitt.edu/InvestingNow/

Pitt EXCEL Program

Pitt EXCEL is a comprehensive diversity program committed to the recruitment, retention and graduation of academically excellent engineering undergraduates, particularly individuals from groups historically underrepresented in the field. Program activities include academic counseling, peer mentoring, engineering research opportunities, graduate school preparation and career development workshops, as well as a two-week intensive study skills, math and science review session for pre-freshmen.

The goals of the Pitt EXCEL programs are to:

- Collaborate with the INVESTING NOW program, the First Year Engineering Program Office and the Office of Admissions & Financial Aid in order to increase the number of students from underrepresented groups enrolled in the Swanson School of Engineering.
- Provide students with support activities and enrichment opportunities that will make them marketable to corporations and graduate schools.
- Provide community building activities that will help students to develop a supportive and diverse peer network.

Programming offered to Pitt EXCEL students includes:

The Summer Engineering Academy (SEA) is a residential program that enables students to make a smooth transition from high school to college. During SEA, students learn essential study skills for college and receive an intensive review of chemistry, pre-calculus and physics concepts, with an introduction to engineering problem solving. By attending this program students can prepare for success during their first year of college.

Summer Research Internships (SRI) focuses on the preparation of underrepresented students for graduate education and professional careers in engineering. The goals of the program are to identify motivated students and match them with faculty mentors. The mentors assist the students through the completion of a summer research project.

For further information, please contact:

Pitt EXCEL Program
Swanson School of Engineering
University of Pittsburgh
152C Benedum Hall
Pittsburgh, PA 15261
Phone: 412-624-9625
Fax: 412-624-2827

http://www.engineering.pitt.edu/EXCEL/

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QING-MING WANG, Professor and ME Graduate Director, Mechanical Engineering and Materials Science, PhD, Pennsylvania State University

YADONG WANG, Professor, Bioengineering, PhD, Stanford University

DOUGLAS WEBER, Associate Professor, Bioengineering, PhD, Arizona State University

JOHN WHITEFFOT, Assistant Professor, Mechanical Engineering and Materials Science, PhD, University of Michigan-Ann Arbor

JÖRG M. WIEZOREK, Professor, Mechanical Engineering, PhD, University of Cambridge

CHRISTOPHER E. WILMER, Assistant Professor, Chemical and Petroleum Engineering, PhD, Northwestern University

SAVIO L.Y. WOO, University Professor of Bioengineering, PhD, University of Washington

SYLVANUS N. WOSU, Associate Dean for Diversity; Associate Professor, Mechanical Engineering and Materials Science, PhD, University of Oklahoma

WEI XIONG, Assistant Professor, Mechanical Engineering and Materials Science, PhD, Massachusetts Institute of Technology

JUDITH C. YANG, Nickolas A. DeCecco Professor, Chemical and Petroleum Engineering, PhD, Cornell University

JUN YANG, Associate Professor, Electrical and Computer Engineering, PhD, University of Arizona

QIANG YU, Assistant Professor, Civil and Environmental Engineering, PhD, Northwestern University

MIN HEE YUN, Associate Professor, Electrical and Computer Engineering, PhD, Arizona State University

BO ZENG, Assistant Professor, Industrial Engineering, PhD, Purdue University

XUDONG ZHANG, Associate Professor, Mechanical Engineering and Materials Science, PhD, University of Michigan

Program and Course Offerings

Students enter one of the specific engineering major programs below at the sophomore level after successfully completing the Freshman Engineering Program.

Certificate

International Engineering Studies Certificate

Requirements for the INTERNATIONAL ENGINEERING STUDIES (IES) CERTIFICATE include a study abroad experience and associated cultural enrichment and language studies. The certificate will indicate the country and language in which the IES program was completed. The certificate can be earned with completion of at least four of the five following requirements.

If the study abroad experience is in an English speaking country, the first requirement is waived and the student must complete three of the remaining four requirements. The courses taken as part of requirements 1, 2, and 3 may be used to satisfy part of the student's humanities and social science requirements as long as the courses are on the approved list of such courses for the School of Engineering and focus on the local culture of the country of interest. The student must formally apply to and be accepted into the IES program.

Application forms may be obtained from the ENGINEERING INTERNATIONAL PROGRAMS OFFICE. The application must include a plan for completing the requirements for a certificate. The plan must specify all relevant coursework to be completed at the University of Pittsburgh as well as the activities and site of the study abroad experience. The study abroad program must be formally approved by the student's advisor and the IES Faculty Committee.

Language Training

A minimum of either one term-long course at the intermediate level in the local language on-site during the study abroad program, or two term-long, intermediate level courses at the University of Pittsburgh. A summer language school program at the study abroad site could be used to satisfy this requirement.

Local Culture

A minimum of one term-long course on-site during the study abroad experience. Acceptable areas are broadly defined to include subjects such as fine arts, history, literature etc., and should focus on the culture local to the study abroad program.

Culture Requirement at Pitt

An upper division (1000 level) course at the University of Pittsburgh which will serve as a complement to Requirement 2.

Academic Courses in Engineering

A minimum of two term-long courses on-site during the study abroad experience. The courses must satisfy graduation requirements for specific courses in the student's major department or program.

Work Experience/Internship

Equivalent of one term spent in engineering-related work in the study abroad country. A co-op rotation or an internship may be used to satisfy this requirement.

Department of Bioengineering

Major

Bioengineering - Bioimaging and Signals Concentration, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Bioengineering

The undergraduate program in Bioengineering combines education in engineering and biological sciences, forming a unique experience to prepare students for today's technical challenges in medicine and biology. Our focus is on developing engineers who can apply an analytic approach to solving problems in living systems. Thus, we provide students with a comprehensive education in both engineering and the life sciences. Students enrolled in the program will be prepared for continued graduate studies or a career in a bioengineering-related industry. The program also provides a solid undergraduate education for further studies in a school of medicine. The bioengineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

In keeping with the two-fold mission of the Department of Bioengineering to

- provide a high quality engineering education to both undergraduate and graduate students and
- be a leader in research in specific areas encompassed by Bioengineering,

The Bioengineering undergraduate curriculum objective is to prepare students to achieve their post-baccalaureate goal of:

- an industrial career in bioengineering or related field;
- graduate school (MS and PhD programs related to bioengineering); or
- professional school (Medical, Dental, Health Related, Business, and Law).

To achieve the objective, students are:

- Provided both a broad knowledge of the technical and social principles of bioengineering as well as a focused education in one concentration area within bioengineering, and
- Prepared through educational experiences beyond the classroom that deepen their understanding of the technical and non-technical issues in bioengineering, process and design.

The Bioengineering undergraduate curriculum has seven components:

- Mathematics (6 courses)
- Basic Sciences (7 courses/1 lab)
- Humanities and Social Sciences (6 courses)
- Basic Engineering (3 courses)
- Core Bioengineering (11 courses, 6 seminars)
- Bioengineering Concentrations (6 courses)
- Advanced Engineering and Science (2 courses)

with options for

- Dual Degrees, Minors and Certificates

Mathematics

We require that students master basic mathematical skills in analytical geometry, calculus, linear algebra, differential equations, and statistics as preparation for mastery of bioengineering applications. The basic math courses include

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
- MATH 0280 - INTRO TO MATRICES & LINEAR ALG
- MATH 0290 - DIFFERENTIAL EQUATIONS
- ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Statistics (4 credits):

- ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Note:

Current MATH course descriptions can be found at the DSAS Course Descriptions web site.

Basic Sciences

Engineering practice is frequently described as "applied science". In addition to knowledge of and ability to use basic physics and chemistry, bioengineers need to be conversant with and able to use concepts of biology and physiology. Because of the importance of cellular processes in bioengineering applications, we have developed our own (required) 2-course sequence in cell and molecular biology. We DO NOT accept general biology (BIOSC 0150 and BIOSC 0160) as meeting the cell biology requirement or as advanced science courses. The basic science requirements include

PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1

BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2 or
BIOENG 1072 - HONORS INTROD TO CELL BIOL 2

BIOSC 1250 - HUMAN PHYSIOLOGY

Humanities and Social Sciences

The Swanson School of Engineering (SSOE) requires all undergraduates to complete **at least six** humanities and social science elective courses from the School's list of approved courses in order to satisfy SSOE and ABET accreditation requirements for breadth and depth. Complete rules for breadth and depth can be found at the web site.

The Department of Bioengineering feels that ethics is such an integral part of societal practice of bioengineering that we have developed our own bioethics course (BIOENG 1241 (3 credits): Social, Political, and Ethical Issues in Bioengineering) that emphasizes the fact that we practice bioengineering in the real world and that we need to be aware of the broad societal impact of doing so.

BIOENG 1241 **is a REQUIRED course for all bioengineering undergraduate students.** Because of the strong humanities and social science basis, BIOENG 1241 is acceptable as one of the required six humanities and social science electives. Thus bioengineering undergraduates need at least five additional humanities and social science elective courses drawn from the School's list of approved courses.

Please note that DSAS courses cross-listed with CGS that are designated as self-paced (self), online (www) or hybrid online (hybrid) are not acceptable for fulfilling the humanities/social science requirement.

"W" requirement: All students must have a "W"riting course, designated as such in their academic record, in order to satisfy graduation requirements. The "W" can be satisfied by a course in any DSAS department. However, most students choose to take a three-credit course in the humanities/social sciences. A one-credit "W" addition to a three credit course is also acceptable. A two-credit "W" course satisfies the"W" requirement, but cannot be used to satisfy a course requirement. Listings of "W" courses can be found at the DSAS Course Descriptions web site.

Basic Engineering

The basic engineering courses include

ENGR 0011 - INTRO TO ENGINEERING ANALYSIS or
ENGR 0711 - HONORS ENGR ANAL & COMPUTING or
ENGR 1716 - ART HANDS-ON SYS DSGN ENGR

ENGR 0012 - INTRO TO ENGINEERING COMPUTING or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH or
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR

ENGR 0135 - STATICS & MECHC OF MATERIALS 1

Note:

The common Freshman courses, ENGR 0011 and ENGR 0012 are integrated with the Freshman math, physics, and chemistry courses with the specific goals of (1) introducing students to fundamentals of engineering common to all engineering disciplines, (2) providing an overview of how engineers integrate math, physics, chemistry, and communications into solving practical problems of interest to society and (3) providing a rigorous foundation in design of computer programs to solve engineering problems.

ENGR 0135 is a basic course in statics and mechanics of materials that applies basic concepts from physics in understanding the effect of external forces acting on particles and deformable bodies with emphasis on how material responses to external forces impact engineering choices of appropriate materials to use to meet design specifications.

Core Bioengineering

The bioengineering core, which consists of,

BIOENG 1210 - BIOENGINEERING THERMODYNAMICS or
BIOENG 1211 - HONORS BIOENG THERMODYNAMICS

BIOENG 1220 - BIOTRANSPORT PHENOMENA

BIOENG 1255 - DYNAMC SYSTMS: PHYSIO PERSPCTV or
BIOENG 1580 - BIOMD APPLC OF SIGNAL PROCING or
BIOENG 1680 - BIOMEDICAL APPLC OF CONTROL

BIOENG 1310 - LINEAR SYSTEMS & ELECTRONICS 1
BIOENG 1320 - BIOLOGICAL SIGNALS & SYSTEMS
BIOENG 1630 - BIOMECH 1-MECHL PRIN BIO SYMS
BIOENG 1002 - INTRAMURAL INTERNSHIP
BIOENG 1150 - BIOENG METHODS & APPLICATIONS
Imaging Course (3 credits): Selected from approved lilst
BIOENG 1160 - BIOENGINEERING DESIGN 1
BIOENG 1161 - BIOENGINEERING DESIGN 2
BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR

Note:

The core has been designed to provide students with exposure to the basic engineering disciplines that bioengineers use and are conversant with in practicing the bioengineering profession, BIOENG 1210 and BIOENG 1220 provide knowledge and applications in thermal/fluid engineering which are important in design and operation of tissue culture applications and artificial organs technology. BIOENG 1310, BIOENG 1320, BIOENG 1255, BIOENG 1580, and BIOENG 1680 provide knowledge and applications in electrical engineering that are required for data acquisition, signal processing, imaging, and systems control. BIOENG 1630, coupled with ENGR 0135, provides knowledge and applications that are required to model and design solutions in such diverse areas as motion and balance, prosthetics design, and soft tissue mechanics. Both BIOENG 1002 and BIOENG 1150 are laboratory, research based courses that focus on communications skills; BIOENG 1002 on preparation and public presentation of research, BIOENG 1150 on analysis and written communication. Senior Design (BIOENG 1160 & BIOENG 1161) is a two-semester capstone sequence that challenges teams of students to develop and implement practical solutions to real problems. Finally BIOENG 1085 is used both as a vehicle for communication between the department and students and as a setting to provide diverse perspectives on the professional practice of bioengineering.

Bioengineering Concentrations

The Bioengineering Concentrations offer the student an opportunity to focus on an area of bioengineering practice in greater depth than is possible in the core course. The department offers four concentrations:

Bioimaging and Signals
Biomechanics
Cellular Engineering
Medical Product Engineering.

Each concentration consists of seven courses split between concentration requirements and concentration electives. Each concentration has an imaging course requirement that meets the needs of the concentration. Concentration requirements are courses that the concentration leader and faculty deem required knowledge for professional practice in the concentration. While narrower than the breadth reflected in the core bioengineering

curriculum, each concentration can be further divided into tracks within the concentration with associated courses. Concentration electives are generally drawn from a restricted list of courses that offer greater depth in track of interest to the student.

Note: because of the large number of bioengineering students interested in medical school post-graduation, CHEM 0310 (Organic Chemistry1) and CHEM 0320 (Organic Chemistry 2) are accepted as a concentration elective in all concentrations.

Note: CHEM 0320 (Organic Chemistry 2) is a prerequisite for BIOENG 1620 (Introduction to Tissue Engineering) and BIOENG 1810 (Biomaterials and Biocompatibility). Students who want to take those courses need to take the CHEM 0310/CHEM 0320 sequence prior to doing so.

Note: particular minors are easier to obtain through different concentrations. The key to obtaining a minor is to start planning early.

Advanced Engineering and Science

Students are required to take two advanced engineering or science elective courses. If the student has already taken a course in a discipline, the Advanced Engineering/Science elective must be at a more advanced level (depth) or cover a different aspect of the discipline (breadth).

Note: The University Bulletin states "Students may not earn credit for courses that substantially duplicate the content of other courses for which they have already received credit." Other departments offer courses that substantially duplicate content in some BIOENG courses (which focus on engineering applications in biology, physiology, and medicine). Known courses that students cannot use for an advanced engineering or science elective under this prohibition include:

ECE 0031 - LINEAR CIRCUITS AND SYSTEMS 1
COE 0031 - LINEAR CIRCUITS AND SYSTEMS 1 and
MEMS 0031 - ELECTRICAL CIRCUITS (duplicates BIOENG 1310)

ENGR 0145 - STATICS & MECHC OF MATERIALS 2 (duplicates BIOENG 1630)
ENGR 1010 - COMMUNICTN SKILLS FOR ENGINRS (duplicates BIOENG 1002 and BIOENG 1150)
MEMS 0051 - INTRODUCTION TO THERMODYNAMICS (duplicates BIOENG 1210)

ECE 1552 - SIGNALS AND SYSTEMS ANALYSIS
COE 1552 and
MEMS 1014 - DYNAMIC SYSTEMS (duplicates BIOENG 1320)

Note:

Note: Students MAY NOT use any natural science course (ASTRON, BIOSC, CHEM, GEOL, NROSCI, PHYS) with a course number less than 0100 to satisfy the Advanced Engineering and Science requirement.

Note: Students may use an ENGR study abroad experience, such as the Plus3 program, either as an Advanced Engineering/Science elective or as a humanities/social science elective.

Note: Students who successfully complete three co-op rotations can also apply that experience to satisfy one of the electives.

Dual Degrees, Minors and Certificates

We encourage our students to take full advantage of University of Pittsburgh resources and educational opportunities. Many of our students seek a dual degree that augments the bioengineering experience; sometimes another engineering degree, sometimes a degree in Dietrich School of Arts and Sciences. Almost all obtain minors and certificates that add value to their education and distinguish them as they move forward in their careers. Planning for minors and certificates needs to start as early as the sophomore year (perhaps, even, the freshman year)!

For more information on the bioengineering program, visit http://www.engineering.pitt.edu/bioengineering/.

Bioengineering Undergraduate Curriculum

Sophomore Year

Third Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0290 - DIFFERENTIAL EQUATIONS
Bioengineering Concentration Elective - 3 Credits *

Credits: 18

**Premed and Cellular Engineering Concentration students should take CHEM 0310 - ORGANIC CHEMISTRY 1 for the Concentration Elective.*

Fourth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2
BIOENG 1210 - BIOENGINEERING THERMODYNAMICS
BIOENG 1310 - LINEAR SYSTEMS & ELECTRONICS 1
BIOENG 1630 - BIOMECH 1-MECHL PRIN BIO SYMS

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1 * or
Concentration Elective (CHEM 0320 only)

Credits: 16(15)

** Premed and Cellular Engineering Concentration Students should take CHEM 0320 - ORGANIC CHEMISTRY 2 in the fourth term and ENGR 0020 in the sixth term.*

Junior Year

Fifth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1002 - INTRAMURAL INTERNSHIP *
BIOENG 1220 - BIOTRANSPORT PHENOMENA
BIOENG 1320 - BIOLOGICAL SIGNALS & SYSTEMS
BIOSC 1250 - HUMAN PHYSIOLOGY
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
BIOENG 1241 - SOCTL, POL & ETHCL ISS BIOENG *

Credits: 18

** BIOENG 1002 may be taken Fall or Spring Term in the Junior or Senior year.*

Sixth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1150 - BIOENG METHODS & APPLICATIONS
BIOENG 1255 - DYNAMC SYSTMS: PHYSIO PERSPCTV #

Concentration Elective - 3 Credits * or
ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Concentration Elective - 3 Credits
Humanities/Social Science Elective - 3 Credits

Credits: 16(17)

#Either BIOENG 1580 or BIOENG 1680 may be taken instead of BIOENG 1255.

**Students who took CHEM 0320 in the fourth term must take ENGR 0020.*

Senior Year

Seventh Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1160 - BIOENGINEERING DESIGN 1
Concentration Elective - 3 Credits
Concentration Elective - 3 Credits
Engineering Science Elective - 3 Credits
Humanities/Social Science Elective - 3 Credits

Credits: 15

Eighth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1161 - BIOENGINEERING DESIGN 2
Human/Social Science Elective - 3 Credits
Concentration Elective - 3 Credits
Concentration Elective - 3 Credits
Engineering/Science Elective - 3 Credits

Credits: 15

Bioengineering - Biomechanics Concentration, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the

Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

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Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Bioengineering

The undergraduate program in Bioengineering combines education in engineering and biological sciences, forming a unique experience to prepare students for today's technical challenges in medicine and biology. Our focus is on developing engineers who can apply an analytic approach to solving problems in living systems. Thus, we provide students with a comprehensive education in both engineering and the life sciences. Students enrolled in the program will be prepared for continued graduate studies or a career in a bioengineering-related industry. The program also provides a solid undergraduate education for further studies in a school of medicine. The bioengineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

In keeping with the two-fold mission of the Department of Bioengineering to

- provide a high quality engineering education to both undergraduate and graduate students and
- be a leader in research in specific areas encompassed by Bioengineering,

The Bioengineering undergraduate curriculum objective is to prepare students to achieve their post-baccalaureate goal of:

- an industrial career in bioengineering or related field;
- graduate school (MS and PhD programs related to bioengineering); or
- professional school (Medical, Dental, Health Related, Business, and Law).

To achieve the objective, students are:

- Provided both a broad knowledge of the technical and social principles of bioengineering as well as a focused education in one concentration area within bioengineering, and
- Prepared through educational experiences beyond the classroom that deepen their understanding of the technical and non-technical issues in bioengineering, process and design.

The Bioengineering undergraduate curriculum has seven components:

- Mathematics (6 courses)
- Basic Sciences (7 courses/1 lab)
- Humanities and Social Sciences (6 courses)
- Basic Engineering (3 courses)
- Core Bioengineering (11 courses, 6 seminars)
- Bioengineering Concentrations (6 courses)
- Advanced Engineering and Science (2 courses)

with options for

- Dual Degrees, Minors and Certificates

Mathematics

We require that students master basic mathematical skills in analytical geometry, calculus, linear algebra, differential equations, and statistics as preparation for mastery of bioengineering applications. The basic math courses include

- MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
- MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
MATH 0290 - DIFFERENTIAL EQUATIONS
ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Statistics (4 credits):

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Note:

Current MATH course descriptions can be found at the DSAS Course Descriptions web site.

Basic Sciences

Engineering practice is frequently described as "applied science". In addition to knowledge of and ability to use basic physics and chemistry, bioengineers need to be conversant with and able to use concepts of biology and physiology. Because of the importance of cellular processes in bioengineering applications, we have developed our own (required) 2-course sequence in cell and molecular biology. We DO NOT accept general biology (BIOSC 0150 and BIOSC 0160) as meeting the cell biology requirement or as advanced science courses. The basic science requirements include

PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1

BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2 or
BIOENG 1072 - HONORS INTROD TO CELL BIOL 2

BIOSC 1250 - HUMAN PHYSIOLOGY

Humanities and Social Sciences

The Swanson School of Engineering (SSOE) requires all undergraduates to complete **at least six** humanities and social science elective courses from the School's list of approved courses in order to satisfy SSOE and ABET accreditation requirements for breadth and depth. Complete rules for breadth and depth can be found at the web site.

The Department of Bioengineering feels that ethics is such an integral part of societal practice of bioengineering that we have developed our own bioethics course (BIOENG 1241 (3 credits): Social, Political, and Ethical Issues in Bioengineering) that emphasizes the fact that we practice bioengineering in the real world and that we need to be aware of the broad societal impact of doing so.

BIOENG 1241 **is a REQUIRED course for all bioengineering undergraduate students.** Because of the strong humanities and social science basis, BIOENG 1241 is acceptable as one of the required six humanities and social science electives. Thus bioengineering undergraduates need at least five additional humanities and social science elective courses drawn from the School's list of approved courses.

Please note that DSAS courses cross-listed with CGS that are designated as self-paced (self), online (www) or hybrid online (hybrid) are not acceptable for fulfilling the humanities/social science requirement.

"W" requirement: All students must have a "W"riting course, designated as such in their academic record, in order to satisfy graduation requirements. The "W" can be satisfied by a course in any DSAS department. However, most students choose to take a three-credit course in the humanities/social sciences. A one-credit "W" addition to a three credit course is also acceptable. A two-credit "W" course satisfies the"W" requirement, but cannot be used to satisfy a course requirement. Listings of "W" courses can be found at the DSAS Course Descriptions web site.

Basic Engineering

The basic engineering courses include

ENGR 0011 - INTRO TO ENGINEERING ANALYSIS or
ENGR 0711 - HONORS ENGR ANAL & COMPUTING or
ENGR 1716 - ART HANDS-ON SYS DSGN ENGR

ENGR 0012 - INTRO TO ENGINEERING COMPUTING or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH or
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR

ENGR 0135 - STATICS & MECHC OF MATERIALS 1

Note:

The common Freshman courses, ENGR 0011 and ENGR 0012 are integrated with the Freshman math, physics, and chemistry courses with the specific goals of (1) introducing students to fundamentals of engineering common to all engineering disciplines, (2) providing an overview of how engineers integrate math, physics, chemistry, and communications into solving practical problems of interest to society and (3) providing a rigorous foundation in design of computer programs to solve engineering problems.

ENGR 0135 is a basic course in statics and mechanics of materials that applies basic concepts from physics in understanding the effect of external forces acting on particles and deformable bodies with emphasis on how material responses to external forces impact engineering choices of appropriate materials to use to meet design specifications.

Core Bioengineering

The bioengineering core, which consists of,

BIOENG 1210 - BIOENGINEERING THERMODYNAMICS or
BIOENG 1211 - HONORS BIOENG THERMODYNAMICS

BIOENG 1220 - BIOTRANSPORT PHENOMENA

BIOENG 1255 - DYNAMC SYSTMS: PHYSIO PERSPCTV or
BIOENG 1580 - BIOMD APPLC OF SIGNAL PROCING or
BIOENG 1680 - BIOMEDICAL APPLC OF CONTROL

BIOENG 1310 - LINEAR SYSTEMS & ELECTRONICS 1
BIOENG 1320 - BIOLOGICAL SIGNALS & SYSTEMS
BIOENG 1630 - BIOMECH 1-MECHL PRIN BIO SYMS
BIOENG 1002 - INTRAMURAL INTERNSHIP
BIOENG 1150 - BIOENG METHODS & APPLICATIONS
Imaging Course (3 credits): Selected from approved lilst
BIOENG 1160 - BIOENGINEERING DESIGN 1
BIOENG 1161 - BIOENGINEERING DESIGN 2
BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR

Note:

The core has been designed to provide students with exposure to the basic engineering disciplines that bioengineers use and are conversant with in practicing the bioengineering profession, BIOENG 1210 and BIOENG 1220 provide knowledge and applications in thermal/fluid engineering which are important in design and operation of tissue culture applications and artificial organs technology. BIOENG 1310, BIOENG 1320, BIOENG 1255, BIOENG 1580, and BIOENG 1680 provide knowledge and applications in electrical engineering that are required for data acquisition, signal processing, imaging, and systems control. BIOENG 1630, coupled with ENGR 0135, provides knowledge and applications that are required to model and design solutions in such diverse areas as motion and balance, prosthetics design, and soft tissue mechanics. Both BIOENG 1002 and BIOENG 1150 are laboratory, research based courses that focus on communications skills; BIOENG 1002 on preparation and public presentation of research, BIOENG 1150 on analysis and written communication. Senior Design (BIOENG 1160 & BIOENG 1161) is a two-semester capstone sequence that

challenges teams of students to develop and implement practical solutions to real problems. Finally BIOENG 1085 is used both as a vehicle for communication between the department and students and as a setting to provide diverse perspectives on the professional practice of bioengineering.

Bioengineering Concentrations

The Bioengineering Concentrations offer the student an opportunity to focus on an area of bioengineering practice in greater depth than is possible in the core course. The department offers four concentrations:

Bioimaging and Signals
Biomechanics
Cellular Engineering
Medical Product Engineering.

Each concentration consists of seven courses split between concentration requirements and concentration electives. Each concentration has an imaging course requirement that meets the needs of the concentration. Concentration requirements are courses that the concentration leader and faculty deem required knowledge for professional practice in the concentration. While narrower than the breadth reflected in the core bioengineering curriculum, each concentration can be further divided into tracks within the concentration with associated courses. Concentration electives are generally drawn from a restricted list of courses that offer greater depth in track of interest to the student.

Note: because of the large number of bioengineering students interested in medical school post-graduation, CHEM 0310 (Organic Chemistry1) and CHEM 0320 (Organic Chemistry 2) are accepted as a concentration elective in all concentrations.

Note: CHEM 0320 (Organic Chemistry 2) is a prerequisite for BIOENG 1620 (Introduction to Tissue Engineering) and BIOENG 1810 (Biomaterials and Biocompatibility). Students who want to take those courses need to take the CHEM 0310/CHEM 0320 sequence prior to doing so.

Note: particular minors are easier to obtain through different concentrations. The key to obtaining a minor is to start planning early.

Advanced Engineering and Science

Students are required to take two advanced engineering or science elective courses. If the student has already taken a course in a discipline, the Advanced Engineering/Science elective must be at a more advanced level (depth) or cover a different aspect of the discipline (breadth).

Note: The University Bulletin states "Students may not earn credit for courses that substantially duplicate the content of other courses for which they have already received credit." Other departments offer courses that substantially duplicate content in some BIOENG courses (which focus on engineering applications in biology, physiology, and medicine). Known courses that students cannot use for an advanced engineering or science elective under this prohibition include:

ECE 0031 - LINEAR CIRCUITS AND SYSTEMS 1
COE 0031 - LINEAR CIRCUITS AND SYSTEMS 1 and
MEMS 0031 - ELECTRICAL CIRCUITS (duplicates BIOENG 1310)

ENGR 0145 - STATICS & MECHC OF MATERIALS 2 (duplicates BIOENG 1630)
ENGR 1010 - COMMUNICTN SKILLS FOR ENGINRS (duplicates BIOENG 1002 and BIOENG 1150)
MEMS 0051 - INTRODUCTION TO THERMODYNAMICS (duplicates BIOENG 1210)

ECE 1552 - SIGNALS AND SYSTEMS ANALYSIS
COE 1552 and
MEMS 1014 - DYNAMIC SYSTEMS (duplicates BIOENG 1320)

Note:

Note: Students MAY NOT use any natural science course (ASTRON, BIOSC, CHEM, GEOL, NROSCI, PHYS) with a course number less than 0100 to satisfy the Advanced Engineering and Science requirement.

Note: Students may use an ENGR study abroad experience, such as the Plus3 program, either as an Advanced Engineering/Science elective or as a humanities/social science elective.

Note: Students who successfully complete three co-op rotations can also apply that experience to satisfy one of the electives.

Dual Degrees, Minors and Certificates

We encourage our students to take full advantage of University of Pittsburgh resources and educational opportunities. Many of our students seek a dual degree that augments the bioengineering experience; sometimes another engineering degree, sometimes a degree in Dietrich School of Arts and Sciences. Almost all obtain minors and certificates that add value to their education and distinguish them as they move forward in their careers. Planning for minors and certificates needs to start as early as the sophomore year (perhaps, even, the freshman year)!

For more information on the bioengineering program, visit http://www.engineering.pitt.edu/bioengineering/.

Bioengineering Undergraduate Curriculum

Sophomore Year

Third Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0290 - DIFFERENTIAL EQUATIONS
Bioengineering Concentration Elective - 3 Credits *

Credits: 18

**Premed and Cellular Engineering Concentration students should take CHEM 0310 - ORGANIC CHEMISTRY 1 for the Concentration Elective.*

Fourth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2
BIOENG 1210 - BIOENGINEERING THERMODYNAMICS
BIOENG 1310 - LINEAR SYSTEMS & ELECTRONICS 1
BIOENG 1630 - BIOMECH 1-MECHL PRIN BIO SYMS

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1 * or
Concentration Elective (CHEM 0320 only)

Credits: 16(15)

** Premed and Cellular Engineering Concentration Students should take CHEM 0320 - ORGANIC CHEMISTRY 2 in the fourth term and ENGR 0020 in the sixth term.*

Junior Year

Fifth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1002 - INTRAMURAL INTERNSHIP *
BIOENG 1220 - BIOTRANSPORT PHENOMENA

BIOENG 1320 - BIOLOGICAL SIGNALS & SYSTEMS
BIOSC 1250 - HUMAN PHYSIOLOGY
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
BIOENG 1241 - SOCTL, POL & ETHCL ISS BIOENG *

Credits: 18

** BIOENG 1002 may be taken Fall or Spring Term in the Junior or Senior year.*

Sixth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1150 - BIOENG METHODS & APPLICATIONS
BIOENG 1255 - DYNAMC SYSTMS: PHYSIO PERSPCTV #

Concentration Elective - 3 Credits * or
ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Concentration Elective - 3 Credits
Humanities/Social Science Elective - 3 Credits

Credits: 16(17)

#Either BIOENG 1580 or BIOENG 1680 may be taken instead of BIOENG 1255.

**Students who took CHEM 0320 in the fourth term must take ENGR 0020.*

Senior Year

Seventh Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1160 - BIOENGINEERING DESIGN 1
Concentration Elective - 3 Credits
Concentration Elective - 3 Credits
Engineering Science Elective - 3 Credits
Humanities/Social Science Elective - 3 Credits

Credits: 15

Eighth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1161 - BIOENGINEERING DESIGN 2
Human/Social Science Elective - 3 Credits
Concentration Elective - 3 Credits
Concentration Elective - 3 Credits
Engineering/Science Elective - 3 Credits

Credits: 15

Bioengineering - Cellular Engineering Concentration, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2

Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

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- professional school (Medical, Dental, Health Related, Business, and Law).

To achieve the objective, students are:

- Provided both a broad knowledge of the technical and social principles of bioengineering as well as a focused education in one concentration area within bioengineering, and
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Basic Engineering (3 courses)
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Dual Degrees, Minors and Certificates

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ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Statistics (4 credits):

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Note:

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BIOENG 1220 - BIOTRANSPORT PHENOMENA

BIOENG 1255 - DYNAMC SYSTMS: PHYSIO PERSPCTV or
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Note:

The core has been designed to provide students with exposure to the basic engineering disciplines that bioengineers use and are conversant with in practicing the bioengineering profession, BIOENG 1210 and BIOENG 1220 provide knowledge and applications in thermal/fluid engineering which are important in design and operation of tissue culture applications and artificial organs technology. BIOENG 1310, BIOENG 1320, BIOENG 1255, BIOENG 1580, and BIOENG 1680 provide knowledge and applications in electrical engineering that are required for data acquisition, signal processing, imaging, and systems control. BIOENG 1630, coupled with ENGR 0135, provides knowledge and applications that are required to model and design solutions in such diverse areas as motion and balance, prosthetics design, and soft tissue mechanics. Both BIOENG 1002 and BIOENG 1150 are laboratory, research based courses that focus on communications skills; BIOENG 1002 on preparation and public presentation of research, BIOENG 1150 on analysis and written communication. Senior Design (BIOENG 1160 & BIOENG 1161) is a two-semester capstone sequence that challenges teams of students to develop and implement practical solutions to real problems. Finally BIOENG 1085 is used both as a vehicle for communication between the department and students and as a setting to provide diverse perspectives on the professional practice of bioengineering.

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Each concentration consists of seven courses split between concentration requirements and concentration electives. Each concentration has an imaging course requirement that meets the needs of the concentration. Concentration requirements are courses that the concentration leader and faculty deem required knowledge for professional practice in the concentration. While narrower than the breadth reflected in the core bioengineering curriculum, each concentration can be further divided into tracks within the concentration with associated courses. Concentration electives are generally drawn from a restricted list of courses that offer greater depth in track of interest to the student.

Note: because of the large number of bioengineering students interested in medical school post-graduation, CHEM 0310 (Organic Chemistry1) and CHEM 0320 (Organic Chemistry 2) are accepted as a concentration elective in all concentrations.

Note: CHEM 0320 (Organic Chemistry 2) is a prerequisite for BIOENG 1620 (Introduction to Tissue Engineering) and BIOENG 1810 (Biomaterials and Biocompatibility). Students who want to take those courses need to take the CHEM 0310/CHEM 0320 sequence prior to doing so.

Note: particular minors are easier to obtain through different concentrations. The key to obtaining a minor is to start planning early.

Advanced Engineering and Science

Students are required to take two advanced engineering or science elective courses. If the student has already taken a course in a discipline, the Advanced Engineering/Science elective must be at a more advanced level (depth) or cover a different aspect of the discipline (breadth).

Note: The University Bulletin states "Students may not earn credit for courses that substantially duplicate the content of other courses for which they have already received credit." Other departments offer courses that substantially duplicate content in some BIOENG courses (which focus on engineering applications in biology, physiology, and medicine). Known courses that students cannot use for an advanced engineering or science elective under this prohibition include:

ECE 0031 - LINEAR CIRCUITS AND SYSTEMS 1
COE 0031 - LINEAR CIRCUITS AND SYSTEMS 1 and
MEMS 0031 - ELECTRICAL CIRCUITS (duplicates BIOENG 1310)

ENGR 0145 - STATICS & MECHC OF MATERIALS 2 (duplicates BIOENG 1630)
ENGR 1010 - COMMUNICTN SKILLS FOR ENGINRS (duplicates BIOENG 1002 and BIOENG 1150)
MEMS 0051 - INTRODUCTION TO THERMODYNAMICS (duplicates BIOENG 1210)

ECE 1552 - SIGNALS AND SYSTEMS ANALYSIS
COE 1552 and
MEMS 1014 - DYNAMIC SYSTEMS (duplicates BIOENG 1320)

Note:

Note: Students MAY NOT use any natural science course (ASTRON, BIOSC, CHEM, GEOL, NROSCI, PHYS) with a course number less than 0100 to satisfy the Advanced Engineering and Science requirement.

Note: Students may use an ENGR study abroad experience, such as the Plus3 program, either as an Advanced Engineering/Science elective or as a humanities/social science elective.

Note: Students who successfully complete three co-op rotations can also apply that experience to satisfy one of the electives.

Dual Degrees, Minors and Certificates

We encourage our students to take full advantage of University of Pittsburgh resources and educational opportunities. Many of our students seek a dual degree that augments the bioengineering experience; sometimes another engineering degree, sometimes a degree in Dietrich School of Arts and Sciences. Almost all obtain minors and certificates that add value to their education and distinguish them as they move forward in their careers. Planning for minors and certificates needs to start as early as the sophomore year (perhaps, even, the freshman year)!

For more information on the bioengineering program, visit http://www.engineering.pitt.edu/bioengineering/.

Bioengineering Undergraduate Curriculum

Sophomore Year

Third Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0290 - DIFFERENTIAL EQUATIONS
Bioengineering Concentration Elective - 3 Credits *

Credits: 18

**Premed and Cellular Engineering Concentration students should take CHEM 0310 - ORGANIC CHEMISTRY 1 for the Concentration Elective.*

Fourth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2
BIOENG 1210 - BIOENGINEERING THERMODYNAMICS
BIOENG 1310 - LINEAR SYSTEMS & ELECTRONICS 1
BIOENG 1630 - BIOMECH 1-MECHL PRIN BIO SYMS

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1 * or
Concentration Elective (CHEM 0320 only)

Credits: 16(15)

** Premed and Cellular Engineering Concentration Students should take CHEM 0320 - ORGANIC CHEMISTRY 2 in the fourth term and ENGR 0020 in the sixth term.*

Junior Year

Fifth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1002 - INTRAMURAL INTERNSHIP *
BIOENG 1220 - BIOTRANSPORT PHENOMENA
BIOENG 1320 - BIOLOGICAL SIGNALS & SYSTEMS
BIOSC 1250 - HUMAN PHYSIOLOGY
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
BIOENG 1241 - SOCTL, POL & ETHCL ISS BIOENG *

Credits: 18

** BIOENG 1002 may be taken Fall or Spring Term in the Junior or Senior year.*

Sixth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1150 - BIOENG METHODS & APPLICATIONS
BIOENG 1255 - DYNAMC SYSTMS: PHYSIO PERSPCTV #

Concentration Elective - 3 Credits * or
ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Concentration Elective - 3 Credits
Humanities/Social Science Elective - 3 Credits

Credits: 16(17)

#Either BIOENG 1580 or BIOENG 1680 may be taken instead of BIOENG 1255.

**Students who took CHEM 0320 in the fourth term must take ENGR 0020.*

Senior Year

Seventh Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1160 - BIOENGINEERING DESIGN 1
Concentration Elective - 3 Credits
Concentration Elective - 3 Credits
Engineering Science Elective - 3 Credits

Humanities/Social Science Elective - 3 Credits

Credits: 15

Eighth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1161 - BIOENGINEERING DESIGN 2
Human/Social Science Elective - 3 Credits
Concentration Elective - 3 Credits
Concentration Elective - 3 Credits
Engineering/Science Elective - 3 Credits

Credits: 15

Bioengineering - Medical Product Engineering Concentration, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2

PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Bioengineering

The undergraduate program in Bioengineering combines education in engineering and biological sciences, forming a unique experience to prepare students for today's technical challenges in medicine and biology. Our focus is on developing engineers who can apply an analytic approach to solving problems in living systems. Thus, we provide students with a comprehensive education in both engineering and the life sciences. Students enrolled in the program will be prepared for continued graduate studies or a career in a bioengineering-related industry. The program also provides a solid undergraduate education for further studies in a school of medicine. The bioengineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

In keeping with the two-fold mission of the Department of Bioengineering to

provide a high quality engineering education to both undergraduate and graduate students and

be a leader in research in specific areas encompassed by Bioengineering,

The Bioengineering undergraduate curriculum objective is to prepare students to achieve their post-baccalaureate goal of:

an industrial career in bioengineering or related field;
graduate school (MS and PhD programs related to bioengineering); or
professional school (Medical, Dental, Health Related, Business, and Law).

To achieve the objective, students are:

Provided both a broad knowledge of the technical and social principles of bioengineering as well as a focused education in one concentration area within bioengineering, and
Prepared through educational experiences beyond the classroom that deepen their understanding of the technical and non-technical issues in bioengineering, process and design.

The Bioengineering undergraduate curriculum has seven components:

Mathematics (6 courses)
Basic Sciences (7 courses/1 lab)
Humanities and Social Sciences (6 courses)
Basic Engineering (3 courses)
Core Bioengineering (11 courses, 6 seminars)
Bioengineering Concentrations (6 courses)
Advanced Engineering and Science (2 courses)

with options for

Dual Degrees, Minors and Certificates

Mathematics

We require that students master basic mathematical skills in analytical geometry, calculus, linear algebra, differential equations, and statistics as preparation for mastery of bioengineering applications. The basic math courses include

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
MATH 0290 - DIFFERENTIAL EQUATIONS
ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Statistics (4 credits):

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Note:

Current MATH course descriptions can be found at the DSAS Course Descriptions web site.

Basic Sciences

Engineering practice is frequently described as "applied science". In addition to knowledge of and ability to use basic physics and chemistry, bioengineers need to be conversant with and able to use concepts of biology and physiology. Because of the importance of cellular processes in bioengineering applications, we have developed our own (required) 2-course sequence in cell and molecular biology. We DO NOT accept general biology (BIOSC 0150 and BIOSC 0160) as meeting the cell biology requirement or as advanced science courses. The basic science requirements include

PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1

CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1

BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2 or
BIOENG 1072 - HONORS INTROD TO CELL BIOL 2

BIOSC 1250 - HUMAN PHYSIOLOGY

Humanities and Social Sciences

The Swanson School of Engineering (SSOE) requires all undergraduates to complete **at least six** humanities and social science elective courses from the School's list of approved courses in order to satisfy SSOE and ABET accreditation requirements for breadth and depth. Complete rules for breadth and depth can be found at the web site.

The Department of Bioengineering feels that ethics is such an integral part of societal practice of bioengineering that we have developed our own bioethics course (BIOENG 1241 (3 credits): Social, Political, and Ethical Issues in Bioengineering) that emphasizes the fact that we practice bioengineering in the real world and that we need to be aware of the broad societal impact of doing so.

BIOENG 1241 **is a REQUIRED course for all bioengineering undergraduate students.** Because of the strong humanities and social science basis, BIOENG 1241 is acceptable as one of the required six humanities and social science electives. Thus bioengineering undergraduates need at least five additional humanities and social science elective courses drawn from the School's list of approved courses.

Please note that DSAS courses cross-listed with CGS that are designated as self-paced (self), online (www) or hybrid online (hybrid) are not acceptable for fulfilling the humanities/social science requirement.

"W" requirement: All students must have a "W"riting course, designated as such in their academic record, in order to satisfy graduation requirements. The "W" can be satisfied by a course in any DSAS department. However, most students choose to take a three-credit course in the humanities/social sciences. A one-credit "W" addition to a three credit course is also acceptable. A two-credit "W" course satisfies the"W" requirement, but cannot be used to satisfy a course requirement. Listings of "W" courses can be found at the DSAS Course Descriptions web site.

Basic Engineering

The basic engineering courses include

ENGR 0011 - INTRO TO ENGINEERING ANALYSIS or
ENGR 0711 - HONORS ENGR ANAL & COMPUTING or
ENGR 1716 - ART HANDS-ON SYS DSGN ENGR

ENGR 0012 - INTRO TO ENGINEERING COMPUTING or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH or
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR

ENGR 0135 - STATICS & MECHC OF MATERIALS 1

Note:

The common Freshman courses, ENGR 0011 and ENGR 0012 are integrated with the Freshman math, physics, and chemistry courses with the specific goals of (1) introducing students to fundamentals of engineering common to all engineering disciplines, (2) providing an overview of how engineers integrate math, physics, chemistry, and communications into solving practical problems of interest to society and (3) providing a rigorous foundation in design of computer programs to solve engineering problems.

ENGR 0135 is a basic course in statics and mechanics of materials that applies basic concepts from physics in understanding the effect of external forces acting on particles and deformable bodies with emphasis on how material responses to external forces impact engineering choices of appropriate materials to use to meet design specifications.

Core Bioengineering

The bioengineering core, which consists of,

BIOENG 1210 - BIOENGINEERING THERMODYNAMICS or
BIOENG 1211 - HONORS BIOENG THERMODYNAMICS

BIOENG 1220 - BIOTRANSPORT PHENOMENA

BIOENG 1255 - DYNAMC SYSTMS: PHYSIO PERSPCTV or
BIOENG 1580 - BIOMD APPLC OF SIGNAL PROCING or
BIOENG 1680 - BIOMEDICAL APPLC OF CONTROL

BIOENG 1310 - LINEAR SYSTEMS & ELECTRONICS 1
BIOENG 1320 - BIOLOGICAL SIGNALS & SYSTEMS
BIOENG 1630 - BIOMECH 1-MECHL PRIN BIO SYMS
BIOENG 1002 - INTRAMURAL INTERNSHIP
BIOENG 1150 - BIOENG METHODS & APPLICATIONS
Imaging Course (3 credits): Selected from approved lilst
BIOENG 1160 - BIOENGINEERING DESIGN 1
BIOENG 1161 - BIOENGINEERING DESIGN 2
BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR

Note:

The core has been designed to provide students with exposure to the basic engineering disciplines that bioengineers use and are conversant with in practicing the bioengineering profession, BIOENG 1210 and BIOENG 1220 provide knowledge and applications in thermal/fluid engineering which are important in design and operation of tissue culture applications and artificial organs technology. BIOENG 1310, BIOENG 1320, BIOENG 1255, BIOENG 1580, and BIOENG 1680 provide knowledge and applications in electrical engineering that are required for data acquisition, signal processing, imaging, and systems control. BIOENG 1630, coupled with ENGR 0135, provides knowledge and applications that are required to model and design solutions in such diverse areas as motion and balance, prosthetics design, and soft tissue mechanics. Both BIOENG 1002 and BIOENG 1150 are laboratory, research based courses that focus on communications skills; BIOENG 1002 on preparation and public presentation of research, BIOENG 1150 on analysis and written communication. Senior Design (BIOENG 1160 & BIOENG 1161) is a two-semester capstone sequence that challenges teams of students to develop and implement practical solutions to real problems. Finally BIOENG 1085 is used both as a vehicle for communication between the department and students and as a setting to provide diverse perspectives on the professional practice of bioengineering.

Bioengineering Concentrations

The Bioengineering Concentrations offer the student an opportunity to focus on an area of bioengineering practice in greater depth than is possible in the core course. The department offers four concentrations:

Bioimaging and Signals
Biomechanics
Cellular Engineering
Medical Product Engineering.

Each concentration consists of seven courses split between concentration requirements and concentration electives. Each concentration has an imaging course requirement that meets the needs of the concentration. Concentration requirements are courses that the concentration leader and faculty deem required knowledge for professional practice in the concentration. While narrower than the breadth reflected in the core bioengineering curriculum, each concentration can be further divided into tracks within the concentration with associated courses. Concentration electives are generally drawn from a restricted list of courses that offer greater depth in track of interest to the student.

Note: because of the large number of bioengineering students interested in medical school post-graduation, CHEM 0310 (Organic Chemistry1) and CHEM 0320 (Organic Chemistry 2) are accepted as a concentration elective in all concentrations.

Note: CHEM 0320 (Organic Chemistry 2) is a prerequisite for BIOENG 1620 (Introduction to Tissue Engineering) and BIOENG 1810 (Biomaterials and Biocompatibility). Students who want to take those courses need to take the CHEM 0310/CHEM 0320 sequence prior to doing so.

Note: particular minors are easier to obtain through different concentrations. The key to obtaining a minor is to start planning early.

Advanced Engineering and Science

Students are required to take two advanced engineering or science elective courses. If the student has already taken a course in a discipline, the Advanced Engineering/Science elective must be at a more advanced level (depth) or cover a different aspect of the discipline (breadth).

Note: The University Bulletin states "Students may not earn credit for courses that substantially duplicate the content of other courses for which they have already received credit." Other departments offer courses that substantially duplicate content in some BIOENG courses (which focus on engineering applications in biology, physiology, and medicine). Known courses that students cannot use for an advanced engineering or science elective under this prohibition include:

ECE 0031 - LINEAR CIRCUITS AND SYSTEMS 1
COE 0031 - LINEAR CIRCUITS AND SYSTEMS 1 and
MEMS 0031 - ELECTRICAL CIRCUITS (duplicates BIOENG 1310)

ENGR 0145 - STATICS & MECHC OF MATERIALS 2 (duplicates BIOENG 1630)
ENGR 1010 - COMMUNICTN SKILLS FOR ENGINRS (duplicates BIOENG 1002 and BIOENG 1150)
MEMS 0051 - INTRODUCTION TO THERMODYNAMICS (duplicates BIOENG 1210)

ECE 1552 - SIGNALS AND SYSTEMS ANALYSIS
COE 1552 and
MEMS 1014 - DYNAMIC SYSTEMS (duplicates BIOENG 1320)

Note:

Note: Students MAY NOT use any natural science course (ASTRON, BIOSC, CHEM, GEOL, NROSCI, PHYS) with a course number less than 0100 to satisfy the Advanced Engineering and Science requirement.

Note: Students may use an ENGR study abroad experience, such as the Plus3 program, either as an Advanced Engineering/Science elective or as a humanities/social science elective.

Note: Students who successfully complete three co-op rotations can also apply that experience to satisfy one of the electives.

Dual Degrees, Minors and Certificates

We encourage our students to take full advantage of University of Pittsburgh resources and educational opportunities. Many of our students seek a dual degree that augments the bioengineering experience; sometimes another engineering degree, sometimes a degree in Dietrich School of Arts and Sciences. Almost all obtain minors and certificates that add value to their education and distinguish them as they move forward in their careers. Planning for minors and certificates needs to start as early as the sophomore year (perhaps, even, the freshman year)!

For more information on the bioengineering program, visit http://www.engineering.pitt.edu/bioengineering/.

Bioengineering Undergraduate Curriculum

Sophomore Year

Third Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0290 - DIFFERENTIAL EQUATIONS

Bioengineering Concentration Elective - 3 Credits *

Credits: 18

**Premed and Cellular Engineering Concentration students should take CHEM 0310 - ORGANIC CHEMISTRY 1 for the Concentration Elective.*

Fourth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2
BIOENG 1210 - BIOENGINEERING THERMODYNAMICS
BIOENG 1310 - LINEAR SYSTEMS & ELECTRONICS 1
BIOENG 1630 - BIOMECH 1-MECHL PRIN BIO SYMS

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1 * or
Concentration Elective (CHEM 0320 only)

Credits: 16(15)

** Premed and Cellular Engineering Concentration Students should take CHEM 0320 - ORGANIC CHEMISTRY 2 in the fourth term and ENGR 0020 in the sixth term.*

Junior Year

Fifth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1002 - INTRAMURAL INTERNSHIP *
BIOENG 1220 - BIOTRANSPORT PHENOMENA
BIOENG 1320 - BIOLOGICAL SIGNALS & SYSTEMS
BIOSC 1250 - HUMAN PHYSIOLOGY
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
BIOENG 1241 - SOCTL, POL & ETHCL ISS BIOENG *

Credits: 18

** BIOENG 1002 may be taken Fall or Spring Term in the Junior or Senior year.*

Sixth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1150 - BIOENG METHODS & APPLICATIONS
BIOENG 1255 - DYNAMC SYSTMS: PHYSIO PERSPCTV #

Concentration Elective - 3 Credits * or
ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Concentration Elective - 3 Credits
Humanities/Social Science Elective - 3 Credits

Credits: 16(17)

#Either BIOENG 1580 or BIOENG 1680 may be taken instead of BIOENG 1255.

**Students who took CHEM 0320 in the fourth term must take ENGR 0020.*

Senior Year

Seventh Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1160 - BIOENGINEERING DESIGN 1
Concentration Elective - 3 Credits
Concentration Elective - 3 Credits
Engineering Science Elective - 3 Credits
Humanities/Social Science Elective - 3 Credits

Credits: 15

Eighth Term

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1161 - BIOENGINEERING DESIGN 2
Human/Social Science Elective - 3 Credits
Concentration Elective - 3 Credits
Concentration Elective - 3 Credits
Engineering/Science Elective - 3 Credits

Credits: 15

Minor

Bioengineering Minor

Undergraduates in other departments can obtain a Minor in Bioengineering by satisfactorily completing (grade of C or better) one BioE seminar and five courses for a total of 16 credits. Students interested in a Bioengineering Minor are required to submit a completed BIOE Minor Checklist to the Bioengineering Undergraduate Administrator for course approvals PRIOR TO enrolling in BIOENG courses in order to ensure that the requirements for the minor are fulfilled. Approval to use substitute courses to meet minor requirements must be obtained in advance from the Bioengineering Undergraduate Administrator.

Requirements for the Bioengineering Minor are:

Bioengineering Seminar - 0 Credits

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR

Basic Life Science Course - 3 Credits

Acceptable course options include (others may be used with permission)

BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2

BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2

BIOSC 1000 - BIOCHEMISTRY or
BIOSC 1810 - MACROMOLECULAR STRUCT & FUNCTN or
CHEM 1810 - CHEMICAL BIOLOGY or
CHE 1530 - BIOCHEMISTRY FOR ENGINEERS

BIOSC 1250 - HUMAN PHYSIOLOGY
HRS 1020 - ANATOMY AND PHYSIOLOGY
HRS 1022 - HUMAN ANATOMY
HRS 1023 - HUMAN PHYSIOLOGY
HRS 1024 - INTRO TO NEUROSCIENCES

Course in Statistics - 4 Credits

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
or
STAT 1000 - APPLIED STATISTICAL METHODS

Three BIOENG Elective Courses - 9 Credits

NOTE: Students must meet prerequisites (or equivalent) to enroll in BIOENG courses.

BIOENG 0050 - WORKSHOP IN BIOENG DESIGN
BIOENG 0051 - WORKSHOP IN MEDICAL DEVICES
BIOENG 0052 - WORKSHOP IN OPENSIM
BIOENG 0053 - WORKSHOP IN STATISTICAL DESIGN
BIOENG 0054 - WORKSHOP IN DESIGN FOR MANUFACTURABILITY
BIOENG 1002 - INTRAMURAL INTERNSHIP
BIOENG 1005 - RADIOFREQUENCY MEDICAL DEVICES
BIOENG 1050 - ARTIFICIAL ORGANS
BIOENG 1051 - ARTIFICIAL ORGANS 2
BIOENG 1052 - ARTIFICIAL ORGANS 3
BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1
BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2
BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR
BIOENG 1095 - SPECIAL PROJECTS
BIOENG 1096 - UGRD TEACHING EXPERIENCE
BIOENG 1150 - BIOENG METHODS & APPLICATIONS
BIOENG 1160 - BIOENGINEERING DESIGN 1
BIOENG 1161 - BIOENGINEERING DESIGN 2
BIOENG 1210 - BIOENGINEERING THERMODYNAMICS
BIOENG 1218 - EMERGING BIOMEDICAL TECHNOLOGIES
BIOENG 1220 - BIOTRANSPORT PHENOMENA
BIOENG 1241 - SOCTL, POL & ETHCL ISS BIOENG
BIOENG 1255 - DYNAMC SYSTMS: PHYSIO PERSPCTV
BIOENG 1310 - LINEAR SYSTEMS & ELECTRONICS 1
BIOENG 1320 - BIOLOGICAL SIGNALS & SYSTEMS
BIOENG 1330 - BIOMEDICAL IMAGING
BIOENG 1351 - COMPTR APPLCTNS IN BIOENGNRNG
BIOENG 1370 - COMPUTATIONAL SIMULATION IN MEDICAL DEVICE DESIGN
BIOENG 1383 - BIOMEDICAL OPTICAL MICROSCOPY
BIOENG 1533 - CONTROLLED DRUG DELIVERY
BIOENG 1580 - BIOMD APPLC OF SIGNAL PROCING
BIOENG 1586 - QUAN SYSTEMS NEUROSCIENCE
BIOENG 1620 - INTRO TO TISSUE ENGINEERING

BIOENG 1630 - BIOMECH 1-MECHL PRIN BIO SYMS
BIOENG 1631 - BIOMECHANICS 2
BIOENG 1632 - BIOMECH 3: BIODYNAMICS OF MOVM
BIOENG 1633 - BIOMECHANICS 4
BIOENG 1680 - BIOMEDICAL APPLC OF CONTROL
BIOENG 1810 - BIOMAT AND BIOCOMPATIBILITY
ENGR 0501 - MUSIC ENGINEERING
ENGR 1770 - ENGINEERING FOUNDATIONS OF MUSIC

Additional Information

NOTE : BIOENG 1070 (Cell Biology 1) and BIOENG 1071 (Cell Biology 2) are considered Basic Life Science Courses. Neither can be used to satisfy a BIOENG elective course requirement.

NOTE : BIOENG 1241 (Societal, Political and Ethical Issues in Biotechnology) is a humanities/social science course that is restricted to Department of Bioengineering students only. The course cannot be used to satisfy a BIOENG elective course requirement.

NOTE : BIOENG 1095 (Special Projects) cannot be used to satisfy a BIOENG elective course requirement

Department of Chemical and Petroleum Engineering

Chemical engineering is concerned with processes in which matter and energy undergo change. Despite the historically-inspired name, the material/energy transformations studies by chemical engineers include not only chemical, but also physical and biological changes. The range of concerns, therefore, is so broad that the chemical engineering graduate is prepared for a variety of interesting and challenging employment opportunities. The chemical engineer with his/her strong background in chemical, physical, and biological sciences is found in management, design, operations, and research. The chemical engineer is employed in almost all industries including food, polymers, chemicals, pharmaceuticals, petroleum, medical, materials, and electronics. Since solutions to energy, environmental, medical, and food problems (to name but a few) must surely involve material and/or energy transformations, there will be continued demands for chemical engineers in the future. The chemical engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

The major objectives of the chemical engineering program are that

- Graduates will gain employment in professional careers (often in positions of technical expertise in chemical engineering, but also including professions such as medicine, law, business, finance, non-profit organizations, government, education, etc.) and/or enroll in graduate studies.
- Graduates will be committed to lifelong learning throughout their careers.
- Graduates will assume positions of leadership.
- Graduates will recognize the importance of utilizing their knowledge, skills, and initiative for the benefit of society and demonstrate that understanding through their interactions within their community, in government, or in society as a whole.

The chemical engineering faculty have strong interests in transport phenomena, process dynamics, biotechnology, biomedical application, nanotechnology, kinetics, catalysis, thermodynamics, polymers, and energy supply and conversion. Petroleum engineering faculty interests are in fluid displacement in porous media and enhanced oil recovery and reservoir modeling. Courses and research opportunities are available in all of these areas for undergraduate students of demonstrated ability. For more information on these programs, contact che@engr.pitt.edu, or see http://www.engineering.pitt.edu/chemical

Major

Chemical Engineering - Biochemical Concentration, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Chemical Engineering Undergraduate Curriculum

Undergraduate chemical engineering courses cover thermodynamics; mass and energy balances; energy, mass, and momentum transfer; unit operations; process dynamics and control; process design; plant and product design; professional practice; and chemical reaction engineering.

In addition, the curriculum provides a sequence of technical electives that makes possible specialization in some of the most important areas in today's society. Among these are the biochemical, petroleum, and polymers areas of concentration. Students may select any combination of technical electives. The appropriate selection of electives, however, can lead to a minor or area of concentration. (See Minors in Engineering.)

Biochemical Concentration

Students interested in an area of concentration in biochemical engineering should take BIOSC 1000 - BIOCHEMISTRY, or CHE 0150 Biochemistry for Chemical Engineers as well as choose two courses from CHE 1531 - FUNDMS OF BIOCHEMICAL ENGR and CHE 1532 - BIOSEPARATIONS, among others.

Requirements

Third Term

CHEM 0310 - ORGANIC CHEMISTRY 1
CHEM 0330 - ORGANIC CHEMISTRY LABORATORY 1
MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
CHE 0100 - FOUNDATIONS OF CHEMICAL ENGR
CHE 0101 - FOUNDATIONS OF CHE LABORATORY
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Fourth Term

CHEM 0320 - ORGANIC CHEMISTRY 2
MATH 0290 - DIFFERENTIAL EQUATIONS *(also MATH 1270)*
CHE 0200 - CHEMICAL ENGR THERMODYNAMICS
CHE 0201 - CHE THERMODYNAMICS LABORATORY
CHE 0214 - INT TO CHEMICAL PRODC DESIGN
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Fifth Term

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
Humanities/Social Science - 3 Credits
CHE 0300 - TRANSPORT PHENOMENA
CHE 0301 - TRANSPORT PHENOMENA LABORATORY
CHE 0314 - TAKING PRODUCTS TO MARKET
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 17

Sixth Term

CHEM 1480 - INTERMEDIATE PHYSICAL CHEMSTRY
Composition Requirement - 3 Credits
CHE 0400 - REACTIVE PROCESS ENGINEERING
CHE 0401 - REACTIVE PROCESS ENGR LAB
Humanities/Social Science - 3 Credits
CHE 1085 - DEPARTMENTAL SEMINAR

Engineering Elective - 3 Credits

Suggestions:

ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
ENGR 1700 - INTRO TO NUCLEAR ENGINEERING
ENGR 1701 - FUNDMS OF NUCLEAR REACTORS
ENGR 1702 - NUCLEAR PLANT TECHNOLOGY
ENGR 1869 - INTRO ELEC ENGRG FOR NON EE'S

Credits: 18

Seventh Term

CHE 0500 - SYMS ENGR 1: DYNAMICS & MODLNG
CHE 0501 - SYSTEMS ENGR 1 LABORATORY
Humanities/Social Science - 3 Credits

CHE 1530 - BIOCHEMISTRY FOR ENGINEERS or
BIOSC 1000 - BIOCHEMISTRY

Technical Elective - 3 Credits
CHE 1085 - DEPARTMENTAL SEMINAR

Advanced Science - 3 Credits

Suggestions:

CHEM 0250 - INTRO ANALYTICAL CHEMISTRY
CHEM 1130 - INORGANIC CHEMISTRY
CHEM 1600 - SYNTHESIS & CHARCTRZTN POLYMRS
BIOSC 1500 - CELL BIOLOGY
BIOSC 1940 - MOLECULAR BIOLOGY

Advanced Lab - 1 Credit

Suggestions:

CHEM 0260 - INTRO ANALYTICAL CHEMISTRY LAB
CHEM 0340 - ORGANIC CHEMISTRY LABORATORY 2
CHEM 1430 - PHYSICAL CHEMSTRY LABORATORY 1
CHEM 1605 - SYNTH & CHARCTRZTN POLYMRS LAB

Credits: 16

Eighth Term

CHE 0613 - SYS ENGNR 2: PROCESS DESIGN
CHE 0602 - CHE SAFETY AND ETHICS
ChE or PETE Elective - 3 Credits
Humanities/Social Science - 3 Credits
Professional Elective - 3 Credits
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Total Credits Required For BS Degree 131

Chemical Engineering - Petroleum Concentration, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an

informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

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CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

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All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Chemical Engineering Undergraduate Curriculum

Undergraduate chemical engineering courses cover thermodynamics; mass and energy balances; energy, mass, and momentum transfer; unit operations; process dynamics and control; process design; plant and product design; professional practice; and chemical reaction engineering.

In addition, the curriculum provides a sequence of technical electives that makes possible specialization in some of the most important areas in today's society. Among these are the biochemical, petroleum, and polymers areas of concentration. Students may select any combination of technical electives. The appropriate selection of electives, however, can lead to a minor or area of concentration. (See Minors in Engineering.)

Petroleum Concentration

Students electing the petroleum engineering area of concentration would choose from a variety of classes including PETE 1160 - PETROLEUM RESERVOIR ENGINRING, PETE 1202 - PETROLM DRILLING & PRODUCTION, and PETE 1097 - SPECIAL PROJECTS among others.

Requirements

Third Term

CHEM 0310 - ORGANIC CHEMISTRY 1
CHEM 0330 - ORGANIC CHEMISTRY LABORATORY 1
MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
CHE 0100 - FOUNDATIONS OF CHEMICAL ENGR
CHE 0101 - FOUNDATIONS OF CHE LABORATORY
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Fourth Term

CHEM 0320 - ORGANIC CHEMISTRY 2
MATH 0290 - DIFFERENTIAL EQUATIONS *(also MATH 1270)*
CHE 0200 - CHEMICAL ENGR THERMODYNAMICS
CHE 0201 - CHE THERMODYNAMICS LABORATORY
CHE 0214 - INT TO CHEMICAL PRODC DESIGN
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Fifth Term

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
Humanities/Social Science - 3 Credits
CHE 0300 - TRANSPORT PHENOMENA
CHE 0301 - TRANSPORT PHENOMENA LABORATORY
CHE 0314 - TAKING PRODUCTS TO MARKET
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 17

Sixth Term

CHEM 1480 - INTERMEDIATE PHYSICAL CHEMSTRY
Composition Requirement - 3 Credits
CHE 0400 - REACTIVE PROCESS ENGINEERING
CHE 0401 - REACTIVE PROCESS ENGR LAB
Humanities/Social Science - 3 Credits
CHE 1085 - DEPARTMENTAL SEMINAR

Engineering Elective - 3 Credits

Suggestions:

ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
ENGR 1700 - INTRO TO NUCLEAR ENGINEERING
ENGR 1701 - FUNDMS OF NUCLEAR REACTORS
ENGR 1702 - NUCLEAR PLANT TECHNOLOGY
ENGR 1869 - INTRO ELEC ENGRG FOR NON EE'S

Credits: 18

Seventh Term

CHE 0500 - SYMS ENGR 1: DYNAMICS & MODLNG
CHE 0501 - SYSTEMS ENGR 1 LABORATORY
Humanities/Social Science - 3 Credits

CHE 1530 - BIOCHEMISTRY FOR ENGINEERS or
BIOSC 1000 - BIOCHEMISTRY

Technical Elective - 3 Credits
CHE 1085 - DEPARTMENTAL SEMINAR

Advanced Science - 3 Credits

Suggestions:

CHEM 0250 - INTRO ANALYTICAL CHEMISTRY
CHEM 1130 - INORGANIC CHEMISTRY

CHEM 1600 - SYNTHESIS & CHARCTRZTN POLYMRS
BIOSC 1500 - CELL BIOLOGY
BIOSC 1940 - MOLECULAR BIOLOGY

Advanced Lab - 1 Credit

Suggestions:

CHEM 0260 - INTRO ANALYTICAL CHEMISTRY LAB
CHEM 0340 - ORGANIC CHEMISTRY LABORATORY 2
CHEM 1430 - PHYSICAL CHEMSTRY LABORATORY 1
CHEM 1605 - SYNTH & CHARCTRZTN POLYMRS LAB

Credits: 16

Eighth Term

CHE 0613 - SYS ENGNR 2: PROCESS DESIGN
CHE 0602 - CHE SAFETY AND ETHICS
ChE or PETE Elective - 3 Credits
Humanities/Social Science - 3 Credits
Professional Elective - 3 Credits
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Total Credits Required For BS Degree 131

Chemical Engineering - Polymers Concentration, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

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Honors courses offered include:

First Term

Freshman Course

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ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *

PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
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Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

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PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

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Chemical Engineering Undergraduate Curriculum

Undergraduate chemical engineering courses cover thermodynamics; mass and energy balances; energy, mass, and momentum transfer; unit operations; process dynamics and control; process design; plant and product design; professional practice; and chemical reaction engineering.

In addition, the curriculum provides a sequence of technical electives that makes possible specialization in some of the most important areas in today's society. Among these are the biochemical, petroleum, and polymers areas of concentration. Students may select any combination of technical electives. The appropriate selection of electives, however, can lead to a minor or area of concentration. (See Minors in Engineering.)

Polymers Concentration

A number of chemical engineering graduates find employment with firms that produce polymeric materials. Those interested in preparing for the area of concentration in polymers would select CHE 1754 - PRINCIPLES OF POLYMER ENGINRNG, CHEM 1600 - SYNTHESIS & CHARCTRZTN POLYMRS (plus lab), and CHE 1097 - SPECIAL PROJECT (with polymer emphasis).

Requirements

Third Term

CHEM 0310 - ORGANIC CHEMISTRY 1
CHEM 0330 - ORGANIC CHEMISTRY LABORATORY 1
MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
CHE 0100 - FOUNDATIONS OF CHEMICAL ENGR
CHE 0101 - FOUNDATIONS OF CHE LABORATORY
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Fourth Term

CHEM 0320 - ORGANIC CHEMISTRY 2
MATH 0290 - DIFFERENTIAL EQUATIONS *(also MATH 1270)*
CHE 0200 - CHEMICAL ENGR THERMODYNAMICS
CHE 0201 - CHE THERMODYNAMICS LABORATORY
CHE 0214 - INT TO CHEMICAL PRODC DESIGN
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Fifth Term

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
Humanities/Social Science - 3 Credits
CHE 0300 - TRANSPORT PHENOMENA

CHE 0301 - TRANSPORT PHENOMENA LABORATORY
CHE 0314 - TAKING PRODUCTS TO MARKET
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 17

Sixth Term

CHEM 1480 - INTERMEDIATE PHYSICAL CHEMSTRY
Composition Requirement - 3 Credits
CHE 0400 - REACTIVE PROCESS ENGINEERING
CHE 0401 - REACTIVE PROCESS ENGR LAB
Humanities/Social Science - 3 Credits
CHE 1085 - DEPARTMENTAL SEMINAR

Engineering Elective - 3 Credits

Suggestions:

ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
ENGR 1700 - INTRO TO NUCLEAR ENGINEERING
ENGR 1701 - FUNDMS OF NUCLEAR REACTORS
ENGR 1702 - NUCLEAR PLANT TECHNOLOGY
ENGR 1869 - INTRO ELEC ENGRG FOR NON EE'S

Credits: 18

Seventh Term

CHE 0500 - SYMS ENGR 1: DYNAMICS & MODLNG
CHE 0501 - SYSTEMS ENGR 1 LABORATORY
Humanities/Social Science - 3 Credits

CHE 1530 - BIOCHEMISTRY FOR ENGINEERS or
BIOSC 1000 - BIOCHEMISTRY

Technical Elective - 3 Credits
CHE 1085 - DEPARTMENTAL SEMINAR

Advanced Science - 3 Credits

Suggestions:

CHEM 0250 - INTRO ANALYTICAL CHEMISTRY
CHEM 1130 - INORGANIC CHEMISTRY
CHEM 1600 - SYNTHESIS & CHARCTRZTN POLYMRS
BIOSC 1500 - CELL BIOLOGY
BIOSC 1940 - MOLECULAR BIOLOGY

Advanced Lab - 1 Credit

Suggestions:

CHEM 0260 - INTRO ANALYTICAL CHEMISTRY LAB
CHEM 0340 - ORGANIC CHEMISTRY LABORATORY 2
CHEM 1430 - PHYSICAL CHEMSTRY LABORATORY 1
CHEM 1605 - SYNTH & CHARCTRZTN POLYMRS LAB

Credits: 16

Eighth Term

CHE 0613 - SYS ENGNR 2: PROCESS DESIGN
CHE 0602 - CHE SAFETY AND ETHICS
ChE or PETE Elective - 3 Credits
Humanities/Social Science - 3 Credits
Professional Elective - 3 Credits
CHE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Total Credits Required For BS Degree 131

Minor

Chemical Engineering Minor

Requirements

Bioengineering majors can earn a Minor in Chemical Engineering by taking:

CHE 0100 - FOUNDATIONS OF CHEMICAL ENGR
and
CHE 0101 - FOUNDATIONS OF CHE LABORATORY
(OFFERED FALL SEMESTER ONLY)

CHE 0400 - REACTIVE PROCESS ENGINEERING
and
CHE 0401 - REACTIVE PROCESS ENGR LAB
(OFFERED SPRING SEMESTER ONLY)

Addional Information

Neither course satisfies an elective in any Bioengineering concentration. Both can, however, be used to satisfy the Bioengineering 2-couse, 6-credit advanced engineering/science elective requirement.

Petroleum Engineering Minor

Certificate

Energy Resource Utilization Certificate

The Energy Resource Utilization Certificate is designed for those students interested in both the development of new energy resources and the study of existing ones. Students in the Swanson School of Engineering may earn a certificate in energy resource utilization by completing two 6-credit courses. The first course, Energy Today, offered by the Chemical and Petroleum Engineering Department at the University of Pittsburgh, examines current technologies that supply energy from coal, petroleum, gas, and uranium. The second course, Energy Beyond 2000, offered by the University of New South Wales in Sydney, Australia, examines energy efficiency and renewable energy technologies and those techniques that will be used in the future to reduce dependence on fossil fuels. Both courses are offered in the summer term: Energy Today from mid-May to mid-June, and Energy Beyond 2000 from late June to early August.

Department of Civil Engineering

Civil engineers are concerned with safeguarding life, health, and property while promoting the general welfare of society. They are the designers of the public and private works that affect large segments of the population. However, because problems of expanding population and increasing human needs that confront our civilization, the responsibility of civil engineers extends beyond mere physical structures into the social, political, and economic welfare of the United States and other countries. In brief, the work of the civil engineer has a significant impact on the quality of life in all areas of modern society.

The civil engineer deals in environmental control and in the development or redevelopment of a geographic area through overall planning, as well as in the design, construction, and operation of structures and facilities for public and private use. This broad field of activity includes all types of structures for the following areas: buildings, bridges, and industrial installations; soil mechanics and foundations; transportation, including highways, traffic, airports, and harbors; hydraulic engineering, including irrigation; water resources, including power plants and dams; water supply; waste disposal; air pollution; hazardous and solid wastes; and environmental sanitation. Modern-day requirements have necessitated involvement in the medical and dental fields, oceanography, polar exploration, energy resources, and the space effort.

The educational objectives of the civil engineering major are as follows:

- Program graduates will have the skills to become successful civil engineering professionals and problem solvers;
- Program graduates will actively engage in lifelong learning, pursue professional licensure, and be professionally active;
- Program graduates will become leaders in shaping engineering and public policy; and
- Program graduates will be prepared for the successful pursuit of advanced degrees.

The undergraduate program begins by providing study in the humanities, social sciences, physical sciences, and mathematics, and proceeds to the fundamental aspects of civil engineering. The curriculum focuses on the electives available for designing individualized programs suited to the student's career goals. Emphasis is placed on societal needs and ways of meeting those needs. Thus, graduates are prepared to begin work in any of the several branches of civil engineering or to continue their education at the graduate level. The civil engineering program is accredited by the Engineering Accreditation Commission of ABET. http://www.abet.org.For more information on the civil and environmental engineering department, contact casson@pitt.edu or see http://www.engineering.pitt.edu/Departments/Civil-Environmental/_Content/Undergraduate/Civil-Engineering-at-Pitt/

Major

Civil Engineering, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Civil Engineering Undergraduate Curriculum

The civil engineering major is designed for the students who enter the program after successfully completing their freshman year in the Swanson School of Engineering. Transfer students are also accepted to the program as space allows. In addition, summer programs are available primarily to assist students who are not taking the structured curriculum on schedule. Students are expected to complete all prerequisite courses before advancing to the next term. Beginning with the seventh term, a student may elect to obtain an area of concentration in one of the following areas: construction management, environmental engineering, geotechnical and pavement engineering, structural engineering, transportation engineering or water resources engineering.

Third Term

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
ENGR 0131 - STATICS FOR CIVL & ENVRL ENGNR
IE 1040 - ENGINEERING ECONOMIC ANALYSIS
CEE 1503 - INTRO TO ENVIRONMENTAL ENGRNG
CEE 0085 - SOPHOMORE SEMINAR

Credits: 17

Fourth Term

MATH 0290 - DIFFERENTIAL EQUATIONS
ENGR 0141 - MECHC OF MATLS CVL & ENV ENGR
CEE 0109 - COMPUTER METH IN CIVIL ENGRG 1
CEE 1105 - MATERIALS OF CONSTRUCTION
ECON 0100 - INTRO MICROECONOMIC THEORY
Science Elective - 3 Credits
CEE 1085 - DEPARTMENTAL SEMINAR

Credits: 18

Fifth Term

CEE 1330 - INTRO TO STRUCTURAL ANALYSIS
CEE 1402 - FLUID MECHANICS
CEE 1811 - PRINCIPLES OF SOIL MECHANICS
ENGR 0151 - DYNAMICS CIVIL & ENVRN ENGNRS
Social Science Elective - 3 Credits
CEE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Sixth Term

CEE 1200 - CONSTRUCTION MANAGEMENT

CEE 1609 - LIFE CYCL ASSMNT METHODS TOOLS or
CEE 1610 - ENGR SUSTAINABLE DEVELOPMENT or
CEE 1618 - DESIGN FOR THE ENVIRONMENT

CEE 1412 - INTRODUCTION TO HYDROLOGY
CEE 1703 - TRANSPORTATION ENGINEERING
CEE Design Elective - 3 Credits*
CEE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Seventh Term

CEE-Design Elective - 3 Credits*
CEE-Design Elective - 3 Credits*
CEE-Design Elective - 3 Credits*
Engineering Elective - 3 Credits
Humanities/Social Science Elective - 3 Credits
CEE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Eighth Term

Humanities/Social Science Elective - 3 Credits

CEE 1233 - CONSTRUCTION DESIGN PROJECT or
CEE 1333 - STRUCTURAL DESIGN PROJECT or
CEE 1433 - WATER RESOURCES DESIGN PROJECT or
CEE 1533 - ENVRL ENGR DESIGN PROJECT or
CEE 1733 - TRANSPORTATION DESIGN PROJECT or
CEE 1833 - GEOTECHNICAL DESIGN PROJECT

CEE-Elective - 3 Credits**

CEE-Elective - 3 Credits**
CEE-Elective - 3 Credits**
CEE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Note:

*Design Electives are: (CEE 1340 or CEE 1341), (CEE 1410 or CEE 1401), (CEE 1505, CEE 1513 or CEE 1515), (CEE 1714 , CEE 1715, CEE 1821 or 1814). One course from each group is required.

**Any non-required CEE undergraduate courses, Mining Engineering Courses with the ENGR classification, 2000 level CEE graduate courses - and any ENGR course offered by the CEE Department are suitable for CEE Electives.

Minimum Grade Requirements

ENGR 0131 and ENGR 0141 must pass with a grade of "C" or higher. CEE 1330, CEE 1402, CEE 1503, CEE 1811 must pass with a grade of "C-" or higher. All design electives must pass with a grade of "C-" or higher.

Environmental Engineering, BSE

Undergraduate students majoring in environmental engineering develop a skill set that will enable them to tackle increasingly complex and rapidly evolving technological problems in environmental engineering. The environmental engineering major will allow the Department to produce environmental engineers who will be prepared to pursue a professional licensure in Environmental Engineering (once the program obtains ABET accreditation) and address future challenges in environmental engineering practice; pursue graduate study in environmental engineering; or pursue a career in business, law or policy with a strong focus on the environment.

The environmental engineering major leading to the Bachelor of Science in Engineering will prepare graduates to apply knowledge of mathematics through differential equations, probability and statistics, calculus-based physics, chemistry (including stoichiometry, thermodynamics, and kinetics), earth science, biological science, and fluid mechanics. The curriculum will prepare graduates to formulate material and energy balances, and analyze the fate and transport of substances in and between air, water, and soil phases; conduct laboratory experiments, and analyze and interpret the resulting data in more than one major environmental engineering focus area (e.g., air, water, land, energy, and sustainability); design environmental engineering systems that include considerations of risk, uncertainty, sustainability, life-cycle principles, and environmental impacts; and apply advanced principles and practice relevant to the program objectives. The curriculum will also prepare graduates to understand concepts of professional practice, project management, and the roles and responsibilities of public institutions and private organizations pertaining to environmental policy and regulations. The major objectives of the environmental engineering program are:

Program graduates will have the skills to become successful environmental engineering professionals and problem solvers;
Program graduates will actively engage in lifelong learning, pursue professional licensure, and be professionally active;
Program graduates will become leaders in shaping engineering and public policy; and
Program graduates will be prepared for the successful pursuit of advanced degrees.

The undergraduate program begins by providing study in the humanities, social sciences, physical sciences, and mathematics, and proceeds to the fundamental aspects of civil engineering. The curriculum focuses on the electives available for designing individualized programs suited to the student's career goals. Emphasis is placed on societal needs and ways of meeting those needs. The environmental engineering program will seek to be accredited by the Engineering Accreditation Commission of ABET once it produces the first program graduate (expected in April 2017). http://www.abet.org. For more information on the civil and environmental engineering department, contact casson@pitt.edu or see http://www.engineering.pitt.edu/Departments/Civil-Environmental/_Content/Undergraduate/Environmental-Engineering-at-Pitt/

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an

engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques

for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Environmental Engineering Undergraduate Curriculum

The environmental engineering major program is designed for the students who enter the program at the end of their freshman year. Transfer students are also accepted to the program as space allows. In addition, summer programs are available primarily to assist students who are not taking the structured curriculum on schedule or students participating in the cooperative study program. Students are expected to complete all prerequisite courses before advancing to the next term.

Third Term

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
ENGR 0131 - STATICS FOR CIVL & ENVRL ENGNR
IE 1040 - ENGINEERING ECONOMIC ANALYSIS
CEE 1503 - INTRO TO ENVIRONMENTAL ENGRNG
CEE 0085 - SOPHOMORE SEMINAR
CEE 1085 - DEPARTMENTAL SEMINAR

Total Credits: 17

Fourth Term

MATH 0290 - DIFFERENTIAL EQUATIONS
ENGR 0141 - MECHC OF MATLS CVL & ENV ENGR
CEE 0109 - COMPUTER METH IN CIVIL ENGRG 1
CHEM 0310 - ORGANIC CHEMISTRY 1
ECON 0100 - INTRO MICROECONOMIC THEORY
Physical Science Elective - 3 credits
CEE 1085 - DEPARTMENTAL SEMINAR

Total Credits: 18

Fifth Term

BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1
CEE 1402 - FLUID MECHANICS
CEE 1811 - PRINCIPLES OF SOIL MECHANICS
CEE 1203 - CONSTRUCT PROFSSN DEVELOPMENT
Social Science Elective - 3 credits
CEE 1085 - DEPARTMENTAL SEMINAR

Total Credits: 15

Sixth Term

CEE 1520 - MATERIAL AND ENERGY BALANCES IN ENVIRONMENTAL ENGINEERING

CEE 1209 - LIFE CYCLE ASSMNT METH & TOOLS or
CEE 1609 - LIFE CYCL ASSMNT METHODS TOOLS or
CEE 1610 - ENGR SUSTAINABLE DEVELOPMENT or
CEE 1618 - DESIGN FOR THE ENVIRONMENT

CEE 1412 - INTRODUCTION TO HYDROLOGY
CEE 1513 - ENVIRONMENTAL ENGRNG PROCESSES
CEE 1523 - ENVIRONMENTAL ENGINEERING LAB
CEE 1085 - DEPARTMENTAL SEMINAR

Total Credits: 15

Seventh Term

CEE 1505 - WATR TRETMNT & DISTB SYS DESGN
CEE 1515 - WASWTR COLLC & TRMNT PLNT DSGN

CEE 1522 - FATE AND TRANSPORT IN ENVIRONMENTAL ENGINEERING
Environmental Engineering Elective - 3 credits
Engineering Elective - 3 credits
Humanities/Social Science Elective - 3 credits
CEE 1085 - DEPARTMENTAL SEMINAR

Total Credits: 15

Eighth Term

Humanities/Social Science Elective - 3 credits
CEE 1533 - ENVRL ENGR DESIGN PROJECT
Civil Engineering Elective - 3 credits

CEE 1401 - OPEN CHANNEL HYDRAULICS or
CEE 1410 - WATER RESOURCES ENGINEERING

Environmental Engineering Elective - 3 credits
CEE 1085 - DEPARTMENTAL SEMINAR

Total Credits: 15

Minimum Grade Requirements

ENGR 0131 and ENGR 0141 must be passed with a grade of "C" or higher.
CEE 1503 , CEE 1505 /CEE 1515 , CEE 1513 and CEE 1523 must be passed with a grade of "C-" or higher.

Minor

Civil Engineering Minor

Environmental Engineering Minor

Requirements

Bioengineering majors can earn a Minor in Environmental Engineering by completing five courses.

CEE 1412 - INTRODUCTION TO HYDROLOGY
CEE 1503 - INTRO TO ENVIRONMENTAL ENGRNG
CEE 1513 - ENVIRONMENTAL ENGRNG PROCESSES
CEE 2507 - INDUSTRIAL WASTE MANAGEMENT
CEE 2513 - ENVIRONMENTAL IMPACT ASSESSMNT

Additional Information

None of the courses can be used for any Bioengineering concentration elective. Two can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement. The remaining three are extra and on your own.

Certificate

Civil Engineering and Architectual Studies

Recognizing the close relations between architects and structural engineers, in particular, a special program of cooperation was established in 1990 between the Department of Architectural Studies of the School of Arts and Sciences, and the Civil & Environmental Engineering Department. Students from the Civil & Environmental Engineering Department may elect to study for a certificate in architectural studies. The certificate is described at the following location: http://www.arch.pitt.edu/program/related-areas.php#civil-engineeringcertificate

Interested students should work with their respective advisor to select the most appropriate classes for this opportunity.

Related Area in Architectural Studies for Engineering Students

The related area in architectural studies is intended to offer students majoring in engineering an opportunity to explore the aesthetic side of problem-solving design activity. The selection of courses can be formulated to fit the interests and goals of the individual student. The related area may range

from 12 to 15 credits that may be used to partially satisfy the 18-credit Swanson School of Engineering humanities/social sciences requirements. Engineering students selecting this option must take HAA 0040 - INTRO TO WESTERN ARCHITECTURE, and HAA 1040 - ARCH: IMAGE, TEXT, THEORY is strongly recommended. Students may elect either two or three courses in the history of architecture, e.g., HAA 0045 - INTRO TO MODERN ARCHITECTURE, HAA 1306 - HIGH RENAISSANCE ARCHITECTURE, and HAA 1160 - ROMAN ARCHITECTURE or HAA 1480 - ARCHITECTURE SINCE 1945 and HAA 1913 - FOUNDATIONS STUDIO 1 for Architectural Studies Majors. Please contact the Department of Civil and Environmental Engineering at http://www.engineering.pitt.edu/civil/ or by calling 412-624-9870.

Civil Engineering Certificate

A certificate in elementary structural engineering for architectural studies majors is available under the auspices of the Swanson School of Engineering's Department of Civil and Environmental Engineering. It offers a technical, professional component to the major. It consists of a minimum of 27 credits and includes courses in statics and particle dynamics, mechanics of materials, structural analysis, computer methods, concrete structures, and metal structures. Students must go to the Department of Civil and Environmental Engineering in 742 Benedum Hall to declare the Civil Engineering Certificate.

Prerequisite courses

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

One of the following courses

CS 0007 - INTRO TO COMPUTER PROGRAMMING
CS 0401 - INTRMEDT PROGRMMING USING JAVA

One of the following courses

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
MATH 0235 - HONORS 1 - VARIABLE CALCULUS

One of the following courses

PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1 (Honors)

One of the following courses

PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2 (Honors)

Required courses

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0290 - DIFFERENTIAL EQUATIONS
ENGR 0131 - STATICS FOR CIVL & ENVRL ENGNR
ENGR 0141 - MECHC OF MATLS CVL & ENV ENGR
CEE 1105 - MATERIALS OF CONSTRUCTION
CEE 1330 - INTRO TO STRUCTURAL ANALYSIS

At least one of the following courses*

* If taking only one of these courses, the student must also complete CEE 0109 - COMPUTER METH IN CIVIL ENGRG 1.

CEE 1340 - CONCRETE STRUCTURES 1
CEE 1341 - STEEL STRUCTURES 1

Mining Engineering Certificate

The Minerals Industry is a vital and growing part of the US economy and the demand for professionals with knowledge and skills in the field of mining engineering is high. To help address this demand the Swanson School of Engineering offers three Mining Engineering Certificates. One certificate is for undergraduate engineers and geologists and requires three mining courses and two department specific courses. A second is for graduate engineering students and a third is for Post-Baccalaureate students with a BS degree. Both of these certificates require five mining engineering courses. Many of the mining engineering courses are offered via the distance learning format so professionals working in the minerals industry can participate from remote locations. Course work focuses on health and safety and environmental issues in the minerals industry and utilizes field trips to operating mines to demonstrate important principles. Interested students should check http://www.engineering.pitt.edu/mining/ for updated information on this program.

Sustainable Engineering Certificate

An undergraduate Certificate in Sustainable Engineering is available to all undergraduate engineering students. The certificate is housed in the Department of Civil and Environmental Engineering and administered through the Mascaro Center for Sustainable Innovation. The certificate provides interested students with an awareness and sensitivity to environmental issues and consequences of engineering systems consistent with their engineering major. The certificate builds upon an increasing number of courses being offered with an emphasis on sustainability and requires 12 credits to complete.

For information on this program contact:

Melissa Bilec
153 Benedum Hall (MCSI)
(412) 648-8075
mbilec@pitt.edu

Department of Electrical and Computer Engineering

Computer Engineering

Computer engineers are active in and in demand for all phases of technology research, design and development, testing, manufacturing, sales, and management of computer technologies. In addition, many successful leaders in other professions, such as law, medicine, and business, pursue an undergraduate education in computer engineering as preparation for later professional study. Thus the undergraduate curriculum provides preparation in both mathematics and physical sciences, coupled with coverage of all aspects of computing, software, hardware, design, and application. The program's flexible elective structure offers the student considerable opportunity for professional specialization, area specialization within the computing discipline, or interdisciplinary broadening. The computer engineering program is accredited by the Engineering Accreditation Commission of ABET. http://www.abet.org. For more information about the program, contact compengr@engr.pitt.edu or see http://www.engineering.pitt.edu/

Electrical Engineering

Electrical engineers are involved in research, design, development, testing, manufacturing, sales, and management of electrical systems and devices, such as televisions, wireless telephone systems, computers and computer networks, patient monitoring equipment, and power generation and distribution systems. Many successful leaders in professions such as law, medicine, and business have used an undergraduate education in electrical engineering as preparation for later professional study. The undergraduate curriculum includes required courses in the basic electrical and physical sciences as well as electives that provide the student an opportunity to choose professional specialization or interdisciplinary breadth. The

curriculum also includes elective courses in the humanities and social sciences to provide a balanced, liberal education so that the graduate may participate creatively in society and become both an educated and effective citizen.

During the sophomore year, electrical engineering students take courses in calculus, matrix theory, differential equations, and communication skills. There are also required electrical engineering courses in linear circuits and systems, digital logic, computer organization, electronics, and an introductory lab. In the junior year, students have required courses in signals and systems, electromagnetics, semiconductor electronics, laboratories in signal processing and electronic circuit design, and elective courses. During the senior year, students take only electives, including electrical engineering (EE) electives, selected from more than 25 offerings. The culmination of the student's curriculum is the Senior Design elective, in which the student initiates and completes a significant design project. Each term students take the undergraduate seminar, which addresses professional issues and career opportunities. All undergraduate students are required to use computers and computer software in project work and in homework assignments.

Non-EE elective courses in the undergraduate program include humanities and social science electives, a communication skills course, an open elective, and technical electives. The humanities and social science electives must be selected from the list of acceptable electives compiled by the school. The communications skills elective is also chosen from a list available on the department web site. The open elective may be satisfied by taking a course that is acceptable for any other elective course category, or by using (for example) 3 credits of band, Reserve Officer Training Corps (ROTC), 3 rotations of co-operative education or chorus. Technical electives may include electrical engineering electives, courses in other engineering disciplines, mathematics courses, or basic science courses. The electrical engineering program is accredited by the Engineering Accreditation Commission of ABET. http://www. abet.org. For more information on the program, visit our website or contact eeadmin@ee.pitt.edu.

The overall objective of the EE program is for our graduates to be successful professionals in the diverse, global environment of the 21st century. This entails the ability to adapt to new and shifting technologies, in whatever career path they choose to pursue. This includes careers in electrical engineering through employment in industry, government or private practice, as well as careers in other engineering or professional disciplines such as bioengineering, computer engineering, business, law, or medicine. Our graduates can also pursue advanced study in electrical engineering or other engineering or professional fields and be able to serve in leadership positions in academia, industry or government.

Specialization and Interdisciplinary Studies

Specialization is readily available for students with specific career goals. To facilitate specialization, optional areas of concentration have been defined to allow a student to develop strength in a particular area of interest. Areas of concentration that are currently available include digital systems, electronics, telecommunications/signal processing and power. Requirements for the areas of concentration are met by proper selection of design and other elective courses. Students may take some courses in an area of concentration without completing all of the requirements.

For students interested in interdisciplinary studies, special programs can be arranged using the elective structure that exists within the regular electrical engineering curriculum. Formal interdisciplinary programs have been developed through minors offered by other engineering departments. Students may use electives to satisfy both EE and minor requirements.

Major

Computer Engineering, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS

ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Computer Engineering Undergraduate Curriculum

The sophomore year (terms three and four) starts the student's specialization with courses in programming; data structures; digital logic; computer organization and the digital systems laboratory; as well as linear algebra and differential equations; linear systems and circuits; and electives in the humanities, social sciences, and communications skills. The junior year (terms five and six) develops the student's knowledge in the practical foundations of computer engineering with courses in algorithm design, computer architecture, systems software, an advanced digital laboratory, and computer interfacing. These are complemented with courses in probability and statistics, as well as with electives in the humanities and social sciences. The senior year (terms seven and eight) continues the foundation sequence with software engineering and then extends the student's experience with both technical and design electives in computer engineering. The rich set of electives available from computer engineering, computer science, telecommunications, and electrical engineering provides the student with exposure to several of the many subdisciplines within the field.

The overall objective of the computer engineering program is to prepare individuals to be confident and successful in whatever path they choose to pursue in the 21st century global economy. This includes those who move into practice within the computer engineering discipline either through employment in industry or government, or through a start-up of their own, those who move on to advanced computer study and research in graduate school, or those that move into other professions such as law, business, or management.

As indicated, the program has considerable elective flexibility. The humanities and social science electives must be selected from the list of acceptable courses compiled by the Swanson School of Engineering. The open elective may be satisfied by any University course, including band, Reserve Officers Training Corps (ROTC), or physical education. Technical electives may include computer engineering; electrical engineering; computer science; or other engineering, mathematics, or basic science courses.

Third Term

COE 0401 - INTRMEDT PROGRMMING USING JAVA or
CS 0401 - INTRMEDT PROGRMMING USING JAVA

COE 0132 - DIGITAL LOGIC or
ECE 0132 - DIGITAL LOGIC

COE 0031 - LINEAR CIRCUITS AND SYSTEMS 1 or
ECE 0031 - LINEAR CIRCUITS AND SYSTEMS 1

MATH 0290 - DIFFERENTIAL EQUATIONS
Humanities/Social Science Elective 3 - 3 Credits

Credits: 16

Fourth Term

COE 0445 - DATA STRUCTURES or
CS 0445 - DATA STRUCTURES

COE 0142 - COMPUTER ORGANIZATION or
ECE 0142 - COMPUTER ORGANIZATION or
COE 0447 - COMPUTR ORGZTN & ASSMBLY LANG or

CS 0447 - COMPUTR ORGZTN & ASSMBLY LANG

COE 0501 - DIGITAL SYSTEMS LABORATORY

COE 0041 - LINEAR CIRCUITS AND SYSTEMS 2 or
ECE 0041 - LINEAR CIRCUITS AND SYSTEMS 2

Communications Skills Elective - 3 Credits

Credits: 15

Fifth Term

COE 1541 - INTRO TO COMPUTER ARCHITECTURE or
CS 1541 - INTRO TO COMPUTER ARCHITECTURE

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
COE 1502 - ADV DIGITAL DESIGN CONCEPTS
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
Humanities/Social Science Elective 4 - 3 Credits

Credits: 16

Sixth Term

COE 0449 - INTRO TO SYSTEMS SOFTWARE or
CS 0449 - INTRO TO SYSTEMS SOFTWARE

COE 1185 - COMPUTER SYSTEM INTERFACING or
ECE 1185 - COMPUTER SYSTEM INTERFACING

COE 1501 - ALGORITHM IMPLEMENTATION or
CS 1501 - ALGORITHM IMPLEMENTATION

COE-Advanced Elective 1 - 3 Credits
Humanities/Social Science Elective 5 - 3 Credits

Credits: 16

Seventh Term

COE-Advanced Elective 2 - 3 Credits
Technical Elective 1 - 3 Credits

COE 1186 - SOFTWARE ENGINEERING or
ECE 1186 - SOFTWARE ENGINEERING or
COE 1530 - SOFTWARE ENGINEERING or
CS 1530 - SOFTWARE ENGINEERING

COE-Advanced Elective 3 - 3 Credits
Humanities/Social Science Elective 6 - 3 Credits

Credits: 16

Eighth Term

COE - Design Elective - 3 Credits
COE - Advanced Elective 4 - 3 Credits
Technical Elective 2 - 3 Credits
Open Elective - 3 Credits
Open Elective - 3 Credits

Credits: 15

Electrical Engineering, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Electrical Engineering Undergraduate Curriculum

Third Term

MATH 0290 - DIFFERENTIAL EQUATIONS
ECE 0031 - LINEAR CIRCUITS AND SYSTEMS 1
ECE 0132 - DIGITAL LOGIC
ECE 1885 - DEPARTMENTAL SEMINAR
Humanities/Social Science Elective 3 - 3 Credits

Communications Skills Elective - 3 Credits

Credits: 15

Fourth Term

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
ECE 0041 - LINEAR CIRCUITS AND SYSTEMS 2
ECE 0142 - COMPUTER ORGANIZATION
ECE 0501 - DIGITAL SYSTEMS LABORATORY
ECE 0257 - ANAL & DESIGN ELECTRONIC CIRCT
ECE 1885 - DEPARTMENTAL SEMINAR

Credits: 16

Fifth Term

ECE 1247 - SEMICONDUCTOR DEVICE THEORY
ECE 1201 - ELECTNC MEASURMNTS & CRCTS LAB
ECE 1552 - SIGNALS AND SYSTEMS ANALYSIS
ECE 1259 - ELECTROMAGNETICS 1
Humanities/Social Science Elective 4 - 3 Credits
ECE 1885 - DEPARTMENTAL SEMINAR

Credits: 15

Sixth Term

ECE 1212 - ELECTRONIC CIRCUIT DESIGN LAB
ECE 1563 - SIGNAL PROCESSING LABORATORY
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
Technical Elective 1 - 3 Credits
Humanities/Social Science Elective 5 - 3 Credits
ECE 1885 - DEPARTMENTAL SEMINAR

Credits: 15

Seventh Term

ECE-Design Elective - 3 Credits
ECE-Elective 1 - 3 Credits
ECE-Elective 2 - 3 Credits
Technical Elective 2 - 3 Credits
ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
ECE 1885 - DEPARTMENTAL SEMINAR

Credits: 16

Eighth Term

ECE-Elective 3 - 3 Credits
ECE-Elective 4 - 3 Credits
Technical Elective 3 - 3 Credits
Humanities/Social Science Elective 6 - 3 Credits
Open Elective - 3 Credits
ECE 1885 - DEPARTMENTAL SEMINAR

Credits: 15

Each student must complete at least four ECE elective courses from the following list.

There are additional special topics courses offered to address changes in technology.

ECE 1150 - INTRO TO COMPUTER NETWORKS
ECE 1160 - INTRO EMBDDED SYSTEM DESIGN
ECE 1161 - EMBEDDED COMPUTER SYS DESIGN 2
ECE 1180 - CMPTL MODLNG & SIMUL ENGRNS
ECE 1186 - SOFTWARE ENGINEERING
ECE 1192 - INTRODUCTION TO VLSI DESIGN
ECE 1232 - INTRO LASERS & OPTCL ELECTNC
ECE 1236 - ELECTRNC DESIGN INTGD CIRCUITS
ECE 1238 - DIGITAL ELECTRONICS
ECE 1266 - APPLICTIONS OF FIELDS & WAVES
ECE 1286 - ANAL & DSGN ANLG INTGRTD CRCT
ECE 1390 - INTRO TO IMAGE PROCESSING
ECE 1472 - ANALOG COMMUNICATION SYSTEMS
ECE 1473 - DIGITAL COMMUNICATION SYSTEMS
ECE 1562 - DIGITAL AND ANALOG FILTERS
ECE 1673 - LINEAR CONTROL SYSTEMS
ECE 1700 - CONSTRCT/COST ELECTRICAL SUPLY
ECE 1710 - PWR DISTB SYS ENGR SMART GRIDS
ECE 1769 - POWER SYSTEM ANALYSIS 1
ECE 1771 - ELECTRIC MACHINERY
ECE 1773 - POWER GENERATION, OPER & CTRL

Each student must complete at least one ECE design elective from the following list.

ECE 1161 - EMBEDDED COMPUTER SYS DESIGN 2
ECE 1193 - ADVANCED VLSI DESIGN
ECE 1896 - SENIOR DESIGN PROJECT
ENGR 1050 - PRODUCT REALIZATION (with approval)

Note:

Students are asked to present and demonstrate their design projects at one of the ECE department's senior design expos, which are held near the end of the fall and spring terms. These design electives can also be used to satisfy ECE elective requirements. However, a given course can only be used to satisfy one requirement.

Minor

Electrical Engineering Minor

Bioengineering majors can earn a Minor in Electrical Engineering by completing three required courses and three elective courses.

Required Courses

Required Courses:

ECE 0031 - LINEAR CIRCUITS AND SYSTEMS 1 or
BIOENG 1310 - LINEAR SYSTEMS & ELECTRONICS 1

ECE 0041 - LINEAR CIRCUITS AND SYSTEMS 2
ECE 0132 - DIGITAL LOGIC

Electives

While the three elective courses can be selected from any offered in Electrical Engineering, the following provide focus in a particular area.

Electronics

ECE 1247 - SEMICONDUCTOR DEVICE THEORY
ECE 1238 - DIGITAL ELECTRONICS
ECE 1286 - ANAL & DSGN ANLG INTGRTD CRCT

Instrumentation

The two courses listed below, plus another ECE course.

ECE 1201 - ELECTNC MEASURMNTS & CRCTS LAB
ECE 1247 - SEMICONDUCTOR DEVICE THEORY

Digital Systems

NOTE: BioE students may not use credit for both BIOENG 1680 and ECE 1683 toward graduation.

ECE 0142 - COMPUTER ORGANIZATION or
COE 0142 - COMPUTER ORGANIZATION

ECE 1192 - INTRODUCTION TO VLSI DESIGN
ECE 1673 - LINEAR CONTROL SYSTEMS

Signals and Systems

NOTE: BioE students may not use credit for ECE 1552 toward graduation (duplication of BIOENG 1320).

The two courses listed below, plus another ECE course.

ECE 1562 - DIGITAL AND ANALOG FILTERS
ECE 1673 - LINEAR CONTROL SYSTEMS

Concentrations

Bioengineering majors need five ECE courses to obtain the minor.

Bioimaging & Signals Concentration

Bioimaging & Signals concentration students can use two ECE courses as concentration electives and two ECE courses toward the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement. The fifth course is extra and on your own.

Biomechanics, CE, and MPE Concentration

Biomechanics, CE, and MPE concentration students can use two ECE courses to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement. The remaining three courses are extra and on your own.

Department of Industrial Engineering

Industrial Engineering (IE) is all about choices. It is the engineering discipline that offers the most wide-ranging array of opportunities in terms of employment, and it is distinguished by its flexibility. While other engineering disciplines tend to apply skills to specific areas, industrial engineers may be found working everywhere from traditional manufacturing companies to airlines, distribution companies to financial institutions, hospitals to consulting companies, high-tech corporations to luxury retailers. Engineers are educated to design and build things, but IEs are educated to design and improve the productivity and quality of integrated systems of people, material, computers, information, equipment, and other resources. IEs draw upon the specialized knowledge and skills in the mathematical, physical and social sciences together with the principles, methods and modeling tools of engineering analysis to make improvements in business processes. In addition to making significant contributions to corporate profitability, they also make the workplace a more productive and streamlined environment. The Department of Industrial Engineering meets the challenge of the growing complexity of modern industry through an intensive educational program that includes a required international component. Building upon a solid foundation in the basic sciences, engineering, and computers, the curriculum provides the student with a capability for systems analysis and design that crosses traditional disciplinary lines and an awareness of and concern for the demands of today's dynamic social systems. The industrial engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Major

Industrial Engineering, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Undergraduate Curriculum

The objectives of our undergraduate program are for our graduates to be:

- Successful professionals, who adapt to changes in technology and our global society in their desired career path, including industrial engineering based careers, as well as other professional disciplines;
- Lifelong learners and pursuers of advanced knowledge;
- Active leaders in their profession and/or community.

The IE faculty has committed itself to the broad, multidisciplinary approach needed to solve problems in today's organizations. In addition to core courses in industrial engineering, you will be exposed to the humanities and social sciences with a global focus and have the opportunity to select four technical electives. These technical electives may be chosen from specialized and advanced offerings of the industrial engineering department. In consultation with your advisor, up to two of these electives may be selected from other programs in the University such as other engineering departments, the sciences, mathematics, economics, business, computer science, or information science.

Recognizing that engineering is an increasingly global profession, the undergraduate program is also committed to providing its graduates with the skills they need to compete on an international basis. Such skills will enable Pitt IE graduates to not only have a distinct employment advantage, but will also provide them with a cross-cultural awareness that will enhance their leadership abilities. This commitment is emphasized through an international requirement for all of our undergraduates for which students are expected to complete an international experience, or, in some cases select an integrated set of humanities and social sciences courses with a global focus. The final term of our undergraduate program includes a capstone senior design course in which you, working in small teams with other students, will complete a semester long project in a corporate setting. These projects are sponsored by local industry through our Sponsor An Industrial Engineering Team (SAINT) program, jointly supervised by an individual from the company and an IE faculty member.

For more information on the industrial engineering program contact ugradie@pitt.edu or www.engineering.pitt.edu/industrial

Third Term

- MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
- IE 1040 - ENGINEERING ECONOMIC ANALYSIS
- IE 1054 - PRODUCTIVITY ANALYSIS
- IE 1070 - PROBLTY, RANDOM VARBLS, DISTBS
- ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
- IE 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Fourth Term

- MATH 0280 - INTRO TO MATRICES & LINEAR ALG
- IE 0015 - INTRO INFORMATION SYS ENGINRNG
- IE 1052 - MFG PROCESSES AND ANALYSIS
- IE 1071 - STATSTCL TESTING & REGRESSION
- Focused Elective (see approved list) - 3 Credits
- IE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Fifth Term

MATH 0290 - DIFFERENTIAL EQUATIONS
IE 1051 - ENGINEERING PRODUCT DESIGN
IE 1061 - HUMAN FACTORS ENGINEERING
IE 1081 - OPERATIONS RESEARCH
ENGR 1869 - INTRO ELEC ENGRG FOR NON EE'S
IE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Sixth Term

IE 1035 - ENGINEERING MANAGEMENT
IE 1055 - FACLT LAYOUT & MATRL HANDLING
IE 1082 - PROBLSTC METH IN OPERATNS RES
IE 1083 - SIMULATION MODELING
Humanities/Social Science Elective 3 - 3 Credits
IE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Seventh Term

IE 1080 - SUPPLY CHAIN ANALYSIS
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
Technical Elective 1 - 3 Credits
Technical Elective 2 - 3 Credits
Humanities/Social Science Elective 4 - 3 Credits
IE 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Eighth Term

IE 1090 - SENIOR PROJECTS
Humanities/Social Science Elective 5 - 3 Credits
Humanities/Social Science Elective 6 - 3 Credits
Technical Elective 3 - 3 Credits
Technical Elective 4 - 3 Credits
IE 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Minor

Industrial Engineering Minor

Bioengineering majors can earn a Minor in Industrial Engineering by completing two required courses and three elective courses.

Required Courses

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
IE 1054 - PRODUCTIVITY ANALYSIS

Elective Courses

Choose any 3 of the following courses.

IE 1035 - ENGINEERING MANAGEMENT
IE 1040 - ENGINEERING ECONOMIC ANALYSIS
IE 1051 - ENGINEERING PRODUCT DESIGN
IE 1052 - MFG PROCESSES AND ANALYSIS
IE 1061 - HUMAN FACTORS ENGINEERING
IE 1080 - SUPPLY CHAIN ANALYSIS
IE 1081 - OPERATIONS RESEARCH
IE 1083 - SIMULATION MODELING

Additional Information

Since Bioengineering majors are required to take ENGR 0020 , the Industrial Engineering Minor requires 4 additional courses.

Bioimaging & Signals and CE students can use two of the four courses to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement. The other two courses are extra and on your own.
Biomechanics concentration students can use IE 1061 as a concentration elective. Two courses can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement. The last course is extra and on your own.
MPE concentration students can use IE 1051 , IE 1052 and IE 1061 as concentration electives. The fourth course can be used to satisfy one of the courses for the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement.

Department of Mechanical and Materials Engineering

Materials Science and Engineering

Materials limitations often impede technological and social progress. The materials engineer applies special knowledge of the structure, behavior, and properties of materials to solve these engineering problems. The engineer may be concerned with developing and improving processes for producing metals and alloys or ceramics; developing new alloys or improving existing alloys; and/or achieving better use of alloys and other materials. New materials must be designed for a variety of functions, including structural, esthetic, electrical, or magnetic and operating environments. Materials may come in forms so minute that the work is done under a microscope or in forms so large that special handling cranes are required.

Research efforts in the department involve work on the development of new high-strength steels, corrosion and oxidation, structural and electronic ceramics, smart materials, high-temperature materials, plastic deformation, phase transformations, and strengthening mechanisms. A number of graduate students are engaged in thesis research on these topics, and undergraduates are encouraged to work on related senior projects. The materials science and engineering program is accredited by the Engineering Accreditation Commission of ABET, http:// www.abet.org. For more information on the program, contact undrmems@engr.pitt.edu or see http://www.engineering.pitt.edu/MEMS/Undergraduate/Materials_Science_and_Engineering_Curriculum/.

Mechanical Engineering

Mechanical engineering is concerned with both energy use and the design of machines and systems in such sectors as transportation, manufacturing, materials handling, power generation, and environmental control. Mechanical engineers are involved in design, development, research, management, and related activities in these fields. The breadth and diversity of the profession requires an undergraduate curriculum that provides a sound foundation in the basic sciences, computational skills including use of computers, and the fundamentals of engineering and engineering design. This curriculum provides a base for future professional growth and is also an excellent background for those who wish to pursue careers in other professions including management, law, or medicine. The mechanical engineering program is accredited by the Engineering Accreditation Commission of ABET< http://www.abet.org. For more information on the program, contact pittmems@engr.pitt.edu or see http://www.engr.pitt.edu/MEMS/Undergraduate/Mechanical_Engineering_Curriculum/.

Major

Engineering Science - Engineering Physics Concentration, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Engineering Science

The Engineering Science Program is designed for students who have a strong interest in science and mathematics as well as a desire to acquire the skills and perspective of engineering. The Engineering Science Program offers flexible curricula in several interdisciplinary areas of concentration. The program is built on sequences of courses from multiple science and engineering programs. All areas of concentration combine in-depth exposure

to both science and engineering. All areas of concentration include a two-term capstone design experience. The overall goal of the program is to develop each student's ability to think analytically across disciplines and develop a knowledge base well suited to tackle future technical challenges that will require a thorough understanding of a discipline in the physical sciences and/or mathematics combined with engineering. Interested students are encouraged to pursue the Engineering Science degree jointly with the University Honors College (UHC) by completing the requirements for Engineering Science and satisfying the special degree requirements of the UHC. The Engineering Science program is ideal preparation for graduate school in a wide range of disciplines, for rewarding careers in industry, and is an excellent background for those who wish to pursue careers in other professions, such as management, law, education, or medicine.

NOTE: The Engineering Physics curriculum (which had been available as a separate Engineering Physics Program until 2010) is now an *area of concentration* within Engineering Science.

The program objectives for Engineering Science are to produce engineers who build successful, diverse careers based on:

- an understanding of the physical/life sciences, engineering analysis and design, and interdisciplinary problem solving;
- a commitment to ongoing professional development as exemplified by, for example, graduate study, training, conference participation, and certification;
- advancement and leadership in professional and/or community life.

For more information on the program, contact undrmems@pitt.edu or see
http://www.engineering.pitt.edu/MEMS/Undergraduate/ESCI/What_is_Engineering_Science_/

Engineering Science Undergraduate Curriculum

The Engineering Science Program currently offers three areas of concentration: **Engineering Physics, Nanotechnology, and Nuclear Energy.**

Engineering Physics

Engineering Physics prepares students for engineering practice based on a curriculum designed to develop an understanding of physics and its application in electrical engineering and materials science through classroom instruction and hands-on laboratory experience. The core of the curriculum is comprised of a sequence of fundamental courses in modern physics, electricity and magnetism of materials, design of electronic circuits, semiconductor devices, and signal processing. The curriculum culminates with program electives and a two-term Senior Design sequence. The design project builds on the knowledge gained in coursework and emphasizes independent and team problem solving under the guidance of a faculty mentor.

Area of Concentration: Engineering Physics Sample Curriculum

Third Term

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
ECE 0031 - LINEAR CIRCUITS AND SYSTEMS 1
PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG
Humanities/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 18

Fourth Term

MATH 0290 - DIFFERENTIAL EQUATIONS
ECE 0041 - LINEAR CIRCUITS AND SYSTEMS 2

ECE 0257 - ANAL & DESIGN ELECTRONIC CIRCT
EE 1201 Electronic Measurements and Circuits Laboratory - 3 Credits
MEMS 0051 - INTRODUCTION TO THERMODYNAMICS
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Fifth Term

MEMS 1053 - STRUCT OF CRYSTALS & DIFFRCTN
MEMS 1059 - PHASE EQUILIBRIA IN MATERIALS`
PHYS 0477 - INT THERMAL AND MODERN PHYSICS
Upper Level Physics - 3 Credits
Upper Level Physics - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Sixth Term

MEMS 1063 - PHASE TRANSFRMTN AND EVOLUTION
ECE 1247 - SEMICONDUCTOR DEVICE THEORY
ECE 1552 - SIGNALS AND SYSTEMS ANALYSIS
PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
Humanity/Social Science Elective 4 - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Seventh Term

MEMS 1058 - ELECTROMAGNETIC PROPS MATRLS
ECE 1266 - APPLICTIONS OF FIELDS & WAVES
Senior Design 1 - 3 Credits
P-Upper Level Physics - 3 Credits
Program Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 18

Eighth Term

Upper Level Mathematics - 3 Credits
ECE 1212 - ELECTRONIC CIRCUIT DESIGN LAB
Senior Design 2 - 3 Credits
Program Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits

MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Total Credits: 131

Note:

1 or PHYS 1341

2 or MEMS 1010, MEMS 1057, MEMS 1070

Senior Design: at least one senior design course offered by one of the other SSOE engineering programs is required; the second course may be a senior project arranged with a faculty mentor and taken as ENGSCI 1801. Students wishing to complete a two-term project with a faculty mentor may request approval for the second term to count as a program elective (ENGSCI 1802

Upper Level Physics: Physics courses with course numbers > 1000
Upper Level Mathematics: Mathematics courses with course numbers> 1000

51 credits minimum of Engineering, 53 credits minimum of Math/Science

Engineering Science - Nanotechnology Concentration Chemistry/Bioengineering Emphasis, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1

Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Engineering Science

The Engineering Science Program is designed for students who have a strong interest in science and mathematics as well as a desire to acquire the skills and perspective of engineering. The Engineering Science Program offers flexible curricula in several interdisciplinary areas of concentration. The program is built on sequences of courses from multiple science and engineering programs. All areas of concentration combine in-depth exposure to both science and engineering. All areas of concentration include a two-term capstone design experience. The overall goal of the program is to develop each student's ability to think analytically across disciplines and develop a knowledge base well suited to tackle future technical challenges that will require a thorough understanding of a discipline in the physical sciences and/or mathematics combined with engineering. Interested students are encouraged to pursue the Engineering Science degree jointly with the University Honors College (UHC) by completing the requirements for Engineering Science and satisfying the special degree requirements of the UHC. The Engineering Science program is ideal preparation for graduate school in a wide range of disciplines, for rewarding careers in industry, and is an excellent background for those who wish to pursue careers in other professions, such as management, law, education, or medicine.

NOTE: The Engineering Physics curriculum (which had been available as a separate Engineering Physics Program until 2010) is now an *area of concentration* within Engineering Science.

The program objectives for Engineering Science are to produce engineers who build successful, diverse careers based on:

- an understanding of the physical/life sciences, engineering analysis and design, and interdisciplinary problem solving;
- a commitment to ongoing professional development as exemplified by, for example, graduate study, training, conference participation, and certification;
- advancement and leadership in professional and/or community life.

For more information on the program, contact undrmems@pitt.edu or see
http://www.engineering.pitt.edu/MEMS/Undergraduate/ESCI/What_is_Engineering_Science_/

Engineering Science Undergraduate Curriculum

The Engineering Science Program currently offers three areas of concentration: **Engineering Physics, Nanotechnology, and Nuclear Energy.**

Nanotechnology

Nanotechnology prepares students for engineering practice based on a curriculum designed to develop an understanding of the effect of nanoscale dimensions on the physical behavior of materials, systems, and devices (nanocharacterization and nanometrology), as well as knowledge of processes used to fabricate useful nanoscale materials, systems, and devices (nanomanufacturing). Students take courses in modern physics or chemistry, materials engineering or bioengineering, nanotechnology and nanoscience, fabrication and design in nanotechnology and the materials science of nanostructures. The curriculum culminates with program electives and a two-term Senior Design sequence. Senior Design builds on the knowledge gained in coursework and emphasizes independent and team problem solving under the guidance of a faculty mentor. Nanotechnology has two curricular options, one emphasizing Physics and Materials Science and the other Chemistry and Bioengineering.

Area of Concentration: Nanotechnology

Sample Curriculum for Chemistry/Bioengineering Emphasis

Third Term

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
CHEM 1 - Core Chemistry Course - 3 Credits
LIFESCI 1 - Basic Life Science - 3 Credits
ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Fourth Term

MATH 0290 - DIFFERENTIAL EQUATIONS
CHEM 2 - Core Chemistry course - 3 Credits
MEMS 0051 - INTRODUCTION TO THERMODYNAMICS
LIFESCI 2 - Basic Life Science - 3 Credits
BIOENG 1 - Core Bioengineering course - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Fifth Term

ENGR 0240 - NANOTECHN & NANOENGINEERING
BIOENG 2 - Core bioengineering course - 3 Credits
MEMS 1010 - EXPERIMENTAL METHODS IN MSE
MEMS 1053 - STRUCT OF CRYSTALS & DIFFRCTN
MEMS 1059 - PHASE EQUILIBRIA IN MATERIALS`
Nanotechnology Elective 1
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 18

Sixth Term

ENGR 0241 - FABRICATION & DSGN NANOTECHN
H/SS Elective 3 - 3 Credits
CHEM 3 - Core chemistry course - 3 Credits
Nanotechnology Elective 2 - 3 Credits
H/SS Elective 4 - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Seventh Term

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
Nanotechnology Elective 3 - 3 Credits
Senior Design 1 - 3 Credits
MEMS 1057 - MICRO/NANO MANUFACTURING
H/SS Elective 5 - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Eighth Term

Senior Design 2 - 3 Credits
Nanotechnology Elective 4 - 3 Credits
MATH 1560 - COMPLEX VARIABLES & APPLICATNS *
MEMS 1063 - PHASE TRANSFRMTN AND EVOLUTION
Nanotechnology Elective 4 - 3 Credits
H/SS Elective 6 - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 18

Total Credits: 129

Senior Design: at least one senior design course offered by one of the other SSOE engineering programs is required; the second course may be a senior project arranged with a faculty mentor and taken as ENGSCI 1801. Students wishing to complete a two-term project with a faculty mentor may request approval for the second term to count as a program elective (ENGSCI 1802).

*or MATH 1560

Classes in red constitute a minor in Bioengineering if the student also takes BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR

Classes in green constitute a minor in Chemistry if students add two 1-cr Chemistry Lab courses

49 credits minimum of Engineering, 50 credits minimum of Math/Science

Engineering Science - Nanotechnology Concentration Physics/Materials Emphasis, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)

ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING

ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

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- advancement and leadership in professional and/or community life.

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http://www.engineering.pitt.edu/MEMS/Undergraduate/ESCI/What_is_Engineering_Science_/

Engineering Science Undergraduate Curriculum

The Engineering Science Program currently offers three areas of concentration: **Engineering Physics, Nanotechnology, and Nuclear Energy.**

Nanotechnology

Nanotechnology prepares students for engineering practice based on a curriculum designed to develop an understanding of the effect of nanoscale dimensions on the physical behavior of materials, systems, and devices (nanocharacterization and nanometrology), as well as knowledge of processes used to fabricate useful nanoscale materials, systems, and devices (nanomanufacturing). Students take courses in modern physics or chemistry, materials engineering or bioengineering, nanotechnology and nanoscience, fabrication and design in nanotechnology and the materials science of nanostructures. The curriculum culminates with program electives and a two-term Senior Design sequence. Senior Design builds on the knowledge gained in coursework and emphasizes independent and team problem solving under the guidance of a faculty mentor. Nanotechnology has two curricular options, one emphasizing Physics and Materials Science and the other Chemistry and Bioengineering.

Area of Concentration: Nanotechnology

Sample Curriclum for Physics/Materials Emphasis

Third Term

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
ECE 0031 - LINEAR CIRCUITS AND SYSTEMS 1
PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG
ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Fourth Term

MATH 0290 - DIFFERENTIAL EQUATIONS
ECE 0257 - ANAL & DESIGN ELECTRONIC CIRCT
MEMS 0051 - INTRODUCTION TO THERMODYNAMICS
PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
ECE 0041 - LINEAR CIRCUITS AND SYSTEMS 2
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Fifth Term

ENGR 0240 - NANOTECHN & NANOENGINEERING
Upper Level Physics - 3 Credits
MEMS 1010 - EXPERIMENTAL METHODS IN MSE
MEMS 1053 - STRUCT OF CRYSTALS & DIFFRCTN
MEMS 1059 - PHASE EQUILIBRIA IN MATERIALS`
Nanotechnology Elective 1 - 3 Credits
ECE 1885 - DEPARTMENTAL SEMINAR

Credits: 18

Sixth Term

ENGR 0241 - FABRICATION & DSGN NANOTECHN
MEMS 1063 - PHASE TRANSFRMTN AND EVOLUTION
Nanotechnology Elective 2 - 3 Credits
H/SS Elective 3 - 3 Credits
H/SS Elective 4 - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Seventh Term

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
Nanotechnology Elective 3 - 3 Credits
Senior Design 1 - 3 Credits
MEMS 1057 - MICRO/NANO MANUFACTURING
H/SS Elective 5 - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Eighth Term

Senior Design 2 - 3 Credits
Nanotechnology Elective 4 - 3 Credits
Upper Level Mathematics - 3 Credits
Upper Level Physics - 3 Credits
H/SS Elective 6 - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Total Credits: 130

Upper Level Physics: Physics courses with course numbers > 1000

Upper Level Mathematics: Mathematics courses with course numbers > 1000

* at least one senior design course offered by one of the other SSOE engineering programs is required; the second course may be a senior project arranged with a faculty mentor and taken as ENGSCI 1801. Students wishing to complete a two-term project with a faculty mentor may request approval for the second term to count as a program elective (ENGSCI 1802).

courses in red constitute a minor in Physics if students add PHYS 0219 (2 cr) - Lab. Phys. for Sci. & Eng.

52 credits minimum of Engineering, 48 credits minimum of Math/Science

Engineering Science - Nuclear Energy Concentration, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

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CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

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The program objectives for Engineering Science are to produce engineers who build successful, diverse careers based on:

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- a commitment to ongoing professional development as exemplified by, for example, graduate study, training, conference participation, and certification;
- advancement and leadership in professional and/or community life.

For more information on the program, contact undrmems@pitt.edu or see
http://www.engineering.pitt.edu/MEMS/Undergraduate/ESCI/What_is_Engineering_Science_/

Engineering Science Undergraduate Curriculum

The Engineering Science Program currently offers three areas of concentration: **Engineering Physics, Nanotechnology, and Nuclear Energy.**

Area of concentration: Nuclear Energy

Sample Curriculum

Third Term

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
H/SS Elective 3 - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Fourth Term

MATH 0290 - DIFFERENTIAL EQUATIONS
ENGR 0145 - STATICS & MECHC OF MATERIALS 2

MEMS 0031 - ELECTRICAL CIRCUITS or

ECE 0031 - LINEAR CIRCUITS AND SYSTEMS 1

MEMS 0051 - INTRODUCTION TO THERMODYNAMICS
MEMS 1015 - RIGID-BODY DYNAMICS
H/SS Elective 4 - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 18

Fifth Term

MEMS 1053 - STRUCT OF CRYSTALS & DIFFRCTN
ENGR 1700 - INTRO TO NUCLEAR ENGINEERING
PHYS 0477 - INT THERMAL AND MODERN PHYSICS
PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM
MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Sixth Term

MEMS 0071 - INTRO TO FLUID MECHANICS
ENGR 1701 - FUNDMS OF NUCLEAR REACTORS
PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2
ECE 0041 - LINEAR CIRCUITS AND SYSTEMS 2
H/SS Elective 5 - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Seventh Term

Senior Design 1 - 3 Credits
ENGR 1702 - NUCLEAR PLANT TECHNOLOGY
Program Elective 1 - 3 Credits
Program Elective 2 - 3 Credits
H/SS Elective 6 - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Eighth Term

Senior Design 2 - 3 Credits
MEMS 1071 - APPLIED FLUID MECHANICS
BIOENG 1330 - BIOMEDICAL IMAGING
Program Elective 3 - 3 Credits
Program Elective 4 - 3 Credits

MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Note:

* at least one senior design course offered by one of the other SSOE engineering programs is required; the second course may be a senior project arranged with a faculty mentor and taken as ENGSCI 1801. Students wishing to complete a two-term project with a faculty mentor may request approval for the second term to count as a program elective (ENGSCI 1802).

Program Electives (12 credits)

To earn a B.S. in Engineering Science with a concentration in Nuclear Energy students take an additional 12 credits of Program Electives in addition to the required courses. The 12 credits must include an area of emphasis consisting of at least 6 credits of interrelated courses demonstrating depth of knowledge. At least 6 of the 12 program elective credits must be in Engineering, Science, or Math. Potential 2-course areas of emphasis are listed below but sequences in foreign languages and culture, economics, business, and other areas can be approved by the ESCI program director.

Potential areas of emphasis:

Nuclear Engineering - graduate nuclear engineering courses
Civil and Environmental Engineering - Structural, Water Resources, Construction Management & Sustainability, Environmental Engineering
Bioengineering - Biosignals and Imaging
Electrical Engineering - Power
Industrial Engineering - Engineering Management
Mechanical Engineering - Dynamic Systems, Solid Mechanics
Material Science & Engineering
Physics
Mathematics - Numerical methods and Analysis

Alternatively the student may fulfill the elective requirement by earning a certificate (besides the Nuclear Engineering Certificate) offered by the SSOE:

Energy Resource Utilization
Fessenden Honors Engineering
International Engineering Studies
Product Realization
Sustainable Engineering

Materials Science and Engineering - Ferrous Physical Metallurgy Concentration, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the

Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Materials Science and Engineering Undergraduate Curriculum

The undergraduate program is designed to give the student a basic understanding of the structure and properties of materials, the principles underlying the processing of materials, and the concepts of engineering design and problem solving. Both theory and practice are emphasized. Laboratory experiences are integrated into the curriculum, and a variety of professional and engineering science electives are available. When desirable, specialized programs can be arranged for the students with well-defined interests and goals. Students are prepared to accept positions in production, research, and management, in both the basic materials and advanced or high-tech materials industries. This versatile education is a strong preparation for graduate work in metallurgy and materials and other related fields.

The major objectives of the materials science and engineering program are to

- Prepare students to assume positions of technical leadership in industries that require their specialized knowledge of materials science and engineering.
- Provide students with an education, grounded in the fundamentals, enabling them to succeed in graduate studies and research in materials science and engineering.
- Encourage students to remain committed and engaged in the discipline of materials science and engineering throughout their careers.
- Provide students with a comprehensive education in engineering science that will prepare them to succeed in management positions in industry or other professional careers (e.g. teaching, law, etc.).

Third Term

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
MEMS 0024 - INTRO MECHANICAL ENGR DESIGN
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Fourth Term

MATH 0290 - DIFFERENTIAL EQUATIONS
ENGR 0145 - STATICS & MECHC OF MATERIALS 2
MEMS 0031 - ELECTRICAL CIRCUITS
MEMS 0040 - MATERIALS AND MANUFACTURING
MEMS 0051 - INTRODUCTION TO THERMODYNAMICS
Communication Skills Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 18

Fifth Term

MEMS 1010 - EXPERIMENTAL METHODS IN MSE
MEMS 1052 - HEAT AND MASS TRANSFER
MEMS 1053 - STRUCT OF CRYSTALS & DIFFRCTN
MEMS 1058 - ELECTROMAGNETIC PROPS MATRLS
MEMS 1059 - PHASE EQUILIBRIA IN MATERIALS`
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Sixth Term

MEMS 1011 - STRUCTURE AND PROPERTIES LAB
MEMS 1028 - MECHANICAL DESIGN I
MEMS 1063 - PHASE TRANSFRMTN AND EVOLUTION
MEMS 1070 - MECHL BEHAVIOR OF MATERIALS
MSE Technical Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 14

Seventh Term

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
MEMS 1030 - MATERIAL SELECTION
MEMS 1079 - SR MATERIALS RESEARCH PROJECT
MSE Technical Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Eighth Term

MEMS 1043 - SENIOR DESIGN PROJECT
MSE Technical Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Concentration in Ferrous Physical Metallurgy for Undergraduate Students

The concentration program of study in Ferrous Physical Metallurgy is offered by the Department of Mechanical Engineering and Materials Science. This concentration available as an option for all undergraduate engineering students pursuing the BS degree in materials science and engineering, mechanical engineering or engineering physics. Four courses (12 credits) are required to complete the concentration.

The goal of this concentration is to provide a strong educational and training program focused on the use of physical metallurgy, advanced alloy design philosophies and modern thermomechanical processing strategies for the enhanced design and manufacture of high-performance steels.

Requirements

To obtain a background in ferrous physical metallurgy, the following four courses are required:

MEMS 1010 - EXPERIMENTAL METHODS IN MSE
MEMS 1101 - FERROUS PHYSICAL METALLURGY
MEMS 1102 - PRIN APPLCS STEEL ALLOY DESIGN
MEMS 1103 - PRIN APPLCS STEEL PROCNG DSGN

Enrollment

Students considering enrolling in the ferrous physical metallurgy concentration area are encouraged to declare during their sophomore year. Interested students may wish to speak with Dr. Anthony DeArdo (deardo@engr.pitt.edu) or Dr. Isaac Garcia (Garcia@engr.pitt.edu) for more information.

Materials Science and Engineering, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Materials Science and Engineering Undergraduate Curriculum

The undergraduate program is designed to give the student a basic understanding of the structure and properties of materials, the principles underlying the processing of materials, and the concepts of engineering design and problem solving. Both theory and practice are emphasized. Laboratory experiences are integrated into the curriculum, and a variety of professional and engineering science electives are available. When desirable, specialized programs can be arranged for the students with well-defined interests and goals. Students are prepared to accept positions in production, research, and management, in both the basic materials and advanced or high-tech materials industries. This versatile education is a strong preparation for graduate work in metallurgy and materials and other related fields.

The major objectives of the materials science and engineering program are to

- Prepare students to assume positions of technical leadership in industries that require their specialized knowledge of materials science and engineering.
- Provide students with an education, grounded in the fundamentals, enabling them to succeed in graduate studies and research in materials science and engineering.
- Encourage students to remain committed and engaged in the discipline of materials science and engineering throughout their careers.
- Provide students with a comprehensive education in engineering science that will prepare them to succeed in management positions in industry or other professional careers (e.g. teaching, law, etc.).

Third Term

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
MEMS 0024 - INTRO MECHANICAL ENGR DESIGN
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Fourth Term

MATH 0290 - DIFFERENTIAL EQUATIONS
ENGR 0145 - STATICS & MECHC OF MATERIALS 2
MEMS 0031 - ELECTRICAL CIRCUITS
MEMS 0040 - MATERIALS AND MANUFACTURING
MEMS 0051 - INTRODUCTION TO THERMODYNAMICS
Communication Skills Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 18

Fifth Term

MEMS 1010 - EXPERIMENTAL METHODS IN MSE
MEMS 1052 - HEAT AND MASS TRANSFER
MEMS 1053 - STRUCT OF CRYSTALS & DIFFRCTN
MEMS 1058 - ELECTROMAGNETIC PROPS MATRLS
MEMS 1059 - PHASE EQUILIBRIA IN MATERIALS`
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Sixth Term

MEMS 1011 - STRUCTURE AND PROPERTIES LAB
MEMS 1028 - MECHANICAL DESIGN I
MEMS 1063 - PHASE TRANSFRMTN AND EVOLUTION
MEMS 1070 - MECHL BEHAVIOR OF MATERIALS
MSE Technical Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 14

Seventh Term

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1
MEMS 1030 - MATERIAL SELECTION
MEMS 1079 - SR MATERIALS RESEARCH PROJECT
MSE Technical Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Eighth Term

MEMS 1043 - SENIOR DESIGN PROJECT
MSE Technical Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Mechanical Engineering - Ferrous Physical Metallurgy Concentration, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS

ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Mechanical Engineering Undergraduate Curriculum

In the first two years, the mechanical engineering curriculum concentrates on the fundamentals of sciences, mathematics, and engineering. The last two years provide increased depth in the engineering sciences, including fluid mechanics, heat transfer, and systems analysis and also provide exposure to engineering applications, such as mechanical measurements, manufacturing, mechanical design, and thermal systems. Sufficient technical electives are allowed to permit each student to explore areas of special interest.

Course work in the social sciences and humanities is included for the enhancement of the student's awareness of the importance of social, political, and economic problems in the practice of engineering. Where appropriate, the upper-level courses introduce consideration of human values, social benefits, and constraints to prepare future practicing engineers to be responsive to such concerns.

The major objectives of the program are to:

- Demonstrate successful application of mechanical engineering knowledge and skills for industry, public sector organizations or their profession.
- Pursue life-long learning through advanced professional degrees, graduate studies in engineering, professional training or engineering certification.
- Demonstrate professional and intellectual growth as leaders in their profession and/or community.

Third Term

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
MEMS 0024 - INTRO MECHANICAL ENGR DESIGN
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Fourth Term

MATH 0290 - DIFFERENTIAL EQUATIONS
ENGR 0145 - STATICS & MECHC OF MATERIALS 2
MEMS 0031 - ELECTRICAL CIRCUITS
MEMS 0040 - MATERIALS AND MANUFACTURING
MEMS 0051 - INTRODUCTION TO THERMODYNAMICS
Communication Skills Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 18

Fifth Term

MEMS 0071 - INTRO TO FLUID MECHANICS
MEMS 1014 - DYNAMIC SYSTEMS
MEMS 1028 - MECHANICAL DESIGN I
Engineering Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Sixth Term

MEMS 1015 - RIGID-BODY DYNAMICS
MEMS 1029 - MECHANICAL DESIGN II
MEMS 1041 - MECHANICAL MEASUREMENTS 1
MEMS 1051 - APPLIED THERMODYNAMICS
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Seventh Term

MEMS 1042 - MECHANICAL MEASUREMENTS 2
MEMS 1052 - HEAT AND MASS TRANSFER
ME Technical Elective - 3 Credits
Dynamic Systems Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Eighth Term

MEMS 1043 - SENIOR DESIGN PROJECT
MEMS 1071 - APPLIED FLUID MECHANICS
ME Technical Elective - 3 Credits
ME Technical Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Concentration in Ferrous Physical Metallurgy for Undergraduate Students

The concentration program of study in Ferrous Physical Metallurgy is offered by the Department of Mechanical Engineering and Materials Science. This concentration available as an option for all undergraduate engineering students pursuing the BS degree in materials science and engineering, mechanical engineering or engineering physics. Four courses (12 credits) are required to complete the concentration.

The goal of this concentration is to provide a strong educational and training program focused on the use of physical metallurgy, advanced alloy design philosophies and modern thermomechanical processing strategies for the enhanced design and manufacture of high-performance steels.

Requirements

To obtain a background in ferrous physical metallurgy, the following four courses are required:

MEMS 1010 - EXPERIMENTAL METHODS IN MSE
MEMS 1101 - FERROUS PHYSICAL METALLURGY
MEMS 1102 - PRIN APPLCS STEEL ALLOY DESIGN
MEMS 1103 - PRIN APPLCS STEEL PROCNG DSGN

Enrollment

Students considering enrolling in the ferrous physical metallurgy concentration area are encouraged to declare during their sophomore year. Interested students may wish to speak with Dr. Anthony DeArdo (deardo@engr.pitt.edu) or Dr. Isaac Garcia (Garcia@engr.pitt.edu) for more information.

Mechanical Engineering, BSE

Freshman Engineering Program

All engineering freshmen pursue a common academic program, selecting a major upon completion. The freshman-year curriculum includes two specially designed engineering-oriented courses (ENGR 0011 Introduction to Engineering Analysis and Engineering 0012 Introduction to Engineering Computing). These courses provide freshman students with an overview of the various areas of engineering, introduce certain engineering skills and tools, and acquaint students with the engineering problem solving process. Freshman students also participate in an engineering seminar, conducted in part by the Freshman Leadership Team's Peer Advisors. These seminars provide general information on the transition to college and the improvement of study skills and provide an overview of the various engineering fields so that freshmen can make an informed choice of majors at the end of the first year. Students are also given several opportunities to visit the various programs in order to talk to the faculty and learn about the specific academic requirements. All engineering freshmen participate in the Freshman Engineering Conference during the Spring Term. Outstanding freshman students may also participate in the Fessenden Honors in Engineering Program (See Special Academic Opportunities/Programs for details). For more information on the Freshman Engineering Program, visit http://www.engineering.pitt.edu/freshman/

The freshman-year curriculum is detailed below:

First Term

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Second Term

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2

CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
ENGR 0012 - INTRO TO ENGINEERING COMPUTING
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Humanities or Social Science Elective - 3 Credits*

Credits: 17

Note:

* Students choose electives from an extensive list of acceptable Arts and Sciences humanities and social science courses, including a large number of languages that students are encouraged to study. Students may not take self-paced, hybrid, or online courses to satisfy the humanities/social science requirement.

Honors Courses for Engineering Freshmen

Outstanding freshman engineering students are eligible to participate in the University Honors College (UHC). Entering freshman students who are in the top 5 percent of their graduating class and have a minimum SAT I score of 1450 are eligible for honors courses. Students participating in the University Honors College may take honors courses that substitute for regular required course offerings in their first two terms. For more information on the UHC, visit www.honorscollege.pitt.edu

Honors courses offered include:

First Term

Freshman Course

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)
CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1
ENGR 0011 - INTRO TO ENGINEERING ANALYSIS
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Elective

Honors Freshman Equivalent

MATH 0235 - HONORS 1 - VARIABLE CALCULUS *
PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1
CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1
ENGR 0711 - HONORS ENGR ANAL & COMPUTING
ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1
Honors Elective - 3 Credits

Credits: 17

*Students who receive a C or higher in MATH 0235 will be awarded advanced placement credit for MATH 0220.

Second Term

Freshman Course

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)
CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Elective

Honors Freshman Equivalent

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL
PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2
CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2
ENGR 0716 - ART HANDS-ON SYS DSGN ENGR or
ENGR 0712 - ADV ENGR APPLCS FOR FRESH
ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2
Honors Elective - 3 Credits

Credits: 18

*Students who earn a C or higher in MATH 0235 for the first term may take UHC MATH 0240 the second term and will be awarded advanced placement credit for MATH 0220.

Students who opt to take Engr 0711 (Honors Engineering Analysis and Engineering Computing) in the fall term of their freshman year have the opportunity to take a unique service learning course in the second term. This course, ENGR 0716 Art of Hands-On System Design and Engineering, is only open to students who successfully complete ENGR 0711 with a grade of C or better. In this course, students will explore tools and techniques for inventing, designing and prototyping systems. Students will gain an introduction to 'smart systems'; i.e.,automated systems that can sense the world and automatically respond in useful ways.

Writing-Designated Course (W Course) Requirement

Engineering students must demonstrate an ability to communicate effectively. This includes both written and oral communication and the ability to make professional presentations. Upon admission, students with an SAT Critical Reading score below 500 will be required to take at least one English Composition Course during their freshman year that will not count toward the Swanson School of Engineering graduation requirements.

All students must take at least one W course as part of their humanities/social science requirements. Please note that students may also satisfy the W requirement by taking a science course with a writing component. In addition, each engineering program has substantial communications components throughout the curriculum. Some programs require a specific course in communications. It is important to refer to each program's graduation requirements to identify requisite communication courses.

For students planning on a dual degree from the Swanson School of Engineering and an A&S major, it is important to note the following: The University of Pittsburgh Composition Program has agreed that there is no need for students who have taken freshman writing through the Freshman Engineering English Writing Program to take Seminar in Composition (ENGCMP 0200) as well. Taking just one of these courses to meet the A&S General Education requirement for composition is sufficient to meet the composition requirement.

Mechanical Engineering Undergraduate Curriculum

In the first two years, the mechanical engineering curriculum concentrates on the fundamentals of sciences, mathematics, and engineering. The last two years provide increased depth in the engineering sciences, including fluid mechanics, heat transfer, and systems analysis and also provide exposure to engineering applications, such as mechanical measurements, manufacturing, mechanical design, and thermal systems. Sufficient technical electives are allowed to permit each student to explore areas of special interest.

Course work in the social sciences and humanities is included for the enhancement of the student's awareness of the importance of social, political, and economic problems in the practice of engineering. Where appropriate, the upper-level courses introduce consideration of human values, social benefits, and constraints to prepare future practicing engineers to be responsive to such concerns.

The major objectives of the program are to:

Demonstrate successful application of mechanical engineering knowledge and skills for industry, public sector organizations or their profession.
Pursue life-long learning through advanced professional degrees, graduate studies in engineering, professional training or engineering certification.
Demonstrate professional and intellectual growth as leaders in their profession and/or community.

Third Term

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3
MATH 0280 - INTRO TO MATRICES & LINEAR ALG
ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
ENGR 0135 - STATICS & MECHC OF MATERIALS 1
MEMS 0024 - INTRO MECHANICAL ENGR DESIGN
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 16

Fourth Term

MATH 0290 - DIFFERENTIAL EQUATIONS
ENGR 0145 - STATICS & MECHC OF MATERIALS 2
MEMS 0031 - ELECTRICAL CIRCUITS
MEMS 0040 - MATERIALS AND MANUFACTURING
MEMS 0051 - INTRODUCTION TO THERMODYNAMICS
Communication Skills Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 18

Fifth Term

MEMS 0071 - INTRO TO FLUID MECHANICS
MEMS 1014 - DYNAMIC SYSTEMS
MEMS 1028 - MECHANICAL DESIGN I
Engineering Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Sixth Term

MEMS 1015 - RIGID-BODY DYNAMICS
MEMS 1029 - MECHANICAL DESIGN II
MEMS 1041 - MECHANICAL MEASUREMENTS 1

MEMS 1051 - APPLIED THERMODYNAMICS
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Seventh Term

MEMS 1042 - MECHANICAL MEASUREMENTS 2
MEMS 1052 - HEAT AND MASS TRANSFER
ME Technical Elective - 3 Credits
Dynamic Systems Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Eighth Term

MEMS 1043 - SENIOR DESIGN PROJECT
MEMS 1071 - APPLIED FLUID MECHANICS
ME Technical Elective - 3 Credits
ME Technical Elective - 3 Credits
Humanity/Social Science Elective - 3 Credits
MEMS 1085 - DEPARTMENTAL SEMINAR

Credits: 15

Minor

Materials Science and Engineering Minor

Requirements

Bioengineering majors can earn a Minor in Materials Science Engineering by completing five courses.

ENGR 0022 - MATERLS STRUCTURE & PROPERTIES
MEMS 0040 - MATERIALS AND MANUFACTURING
MEMS 1053 - STRUCT OF CRYSTALS & DIFFRCTN
MEMS 1059 - PHASE EQUILIBRIA IN MATERIALS`
MEMS 1063 - PHASE TRANSFRMTN AND EVOLUTION

Additional Information

ENGR 0022 is a concentration elective for Biomechanics and MPE concentration students. None of the courses can be used for any other Bioengineering Concentration elective. Two of the courses can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement. Any remaining courses are extra and on your own.

Mechanical Engineering Minor

Bioengineering students can earn a Minor in Mechanical Engineering by completing two required courses and three elective courses in one of four focused option areas.

Required Courses

MEMS 0024 - INTRO MECHANICAL ENGR DESIGN
MEMS 1028 - MECHANICAL DESIGN I

Focus Options/Elective Courses

Thermal-Fluids Option

MEMS 0051 - INTRODUCTION TO THERMODYNAMICS
MEMS 0071 - INTRO TO FLUID MECHANICS
and either
MEMS 1051 - APPLIED THERMODYNAMICS or
MEMS 1071 - APPLIED FLUID MECHANICS

Dynamic Systems Option

MEMS 1014 - DYNAMIC SYSTEMS
MEMS 1015 - RIGID-BODY DYNAMICS
MEMS 1045 - AUTOMATIC CONTROLS

Mechanical Design Option

MEMS 1029 - MECHANICAL DESIGN II
MEMS 1033 - FRACTURE MECHANICS
MEMS 1047 - FINITE ELEMENT ANALYSIS

Mechanical Measurements Options

MEMS 1014 - DYNAMIC SYSTEMS
MEMS 1041 - MECHANICAL MEASUREMENTS 1
MEMS 1042 - MECHANICAL MEASUREMENTS 2

Additional Information

Depending upon concentration, Bioengineering students have several different possibilities to earn a Mechanical Engineering minor.

Bioimaging & Signals concentration students : none of the courses in any option can be used as a concentration elective. Two courses can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement. Two, and possibly three, courses are extra and on your own.
Biomechanics concentration students : MEMS 0024 and MEMS 1028 are concentration electives.
Thermal-Fluids Option

BIOENG 1210 is a required course for BioE majors. MEMS 1071 is a concentration elective. MEMS 1071 can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement.

Dynamics Systems Option

BIOENG 1255 is a required course for BioE majors. MEMS 1015 is a concentration elective. MEMS 1045 can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement.

Mechanical Design Option

BIOENG 1161 is a required course for BioE majors. MEMS 1033 and MEMS 1047 can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement.

Mechanical Measurements Option

BIOENG 1255 is a required course for majors. MEMS 1041 and MEMS 1042 can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement.

CE concentration students : all options can use two of the courses to satisfy the Bioengineering 2- course, 6-credit advanced engineering/science elective requirement. At least one other course is extra and on your own.

MPE concentration students : MEMS 0024 and MEMS 1028 are concentration electives.

Thermal-Fluids Option

BIOENG 1210 is a required course for BioE majors. MEMS 1071 is a concentration elective. MEMS 0071 can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science requirement.

Dynamics Systems Option

BIOENG 1255 is a required course for BioE majors. MEMS 1015 and MEMS 1045 can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement.

Mechanical Design Option

BIOENG 1161 is a required course for BioE majors. MEMS 1033 and MEMS 1047 can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement.

Mechanical Measurements Option

BIOENG 1255 is a required course for majors. MEMS 1041 and MEMS 1042 can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement.

Polymer Engineering Minor

The Minor in Polymer Engineering consists of six courses.

Core Courses

CHE 1754 - PRINCIPLES OF POLYMER ENGINRNG

CHEM 1600 - SYNTHESIS & CHARCTRZTN POLYMRS with lab
CHEM 1605 - SYNTH & CHARCTRZTN POLYMRS LAB

Required Chemistry Courses

CHEM 0310 - ORGANIC CHEMISTRY 1
CHEM 0320 - ORGANIC CHEMISTRY 2

Two Research Projects with Polymer Content (3 credits each)

CHE 1097 - SPECIAL PROJECT
CHEM 1710 - UNDERGRADUATE RESEARCH

Other Information

CHEM 0310 and CHEM 0320 are concentration electives for all concentrations. With prior approval of the Undergraduate Coordinator in both BioE and ChE, BIOENG 1095 : Special Projects can be used to satisfy the CHE 1097 research project requirement as long as a significant polymer content is part of the research project. None of the core or research project courses can be used for any Bioengineering concentration elective. Two can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement. The remaining two are extra and on your own.

Certificate

Engineering for Humanity Certificate

The Engineering for Humanity Certificate is open to all undergraduate students and both guides and formalizes student participation in engineering projects in which social and/or environmental sustainability is a core thrust. Moreover, the certificate program addresses the significance of cultural, political, and business forces in rapid and effective penetration of new technologies. This certificate will allow students to earn credit for service learning projects. Students have the option of pursuing either a U.S. or international track.

The certificate embodies significant flexibility, with only 2 of 5 courses being explicitly defined, so participating students may tailor course work to their region and topic of interest. It is expected that with appropriate planning at least two of the courses will align with departmental BS graduation requirements.

Bioengineering students need to plan early to obtain this certificate. Required courses can be used to to satisfy the 2-course, 6-credit advanced engineering/science elective requirement. MPE concentration students can also potentially satisfy a concentration elective. The Societal Perspective requirement can be used as one of the Humanities/Social Science electives. The In Depth Service Learning Project is on your own.

Required Courses

ENGR 1500 - ETHCL DIL BALNC COST,RISK,SCHD
(can be used as advanced engineering/science elective)
CEE 1210 - ENGR & SUSTAINABLE DEVELOPMENT
(can be used as advanced engineering/science elective)

Business Perspective

Choose one.

ENGR 0715 - ENGR APPLICATIONS FOR SOCIETY
(can be used as advanced engineering/science elective)
ENGR 1050 - PRODUCT REALIZATION
(MPE concentration elective, can be used as advanced engineering/science elective)
ENGR 1060 - SOCL ENTREP-ENGRG FOR HUMANITY
(can be used as advanced engineering/science elective)
ENGR 1610 - PRODUCT REALIZ GLOBAL OPPORT
(can be used as advanced engineering/science elective)
CEE 1209 - LIFE CYCLE ASSMNT METH & TOOLS
(can be used as advanced engineering/science elective)
CEE 1218 - DESIGN FOR THE ENVIRONMENT
(can be used as advanced engineering/science elective)
BUSECN 1010 - MANAGERIAL ECONOMICS
BUSMKT 1040 - INTRODUCTION TO MARKETING

Tracks

Students can choose either the U.S. Track or International Track.

U.S. Track

Service Learning Project

In Depth Service Learning Project (3 credits)
Subject to Committee Pre-Approval

Societal Perspective

Select one.

(Examples for the United States)

PS 0200 - AMERICAN POLITICS
PS 0300 - COMPARATIVE POLITICS
SOC 0312 - SCIENCE IN SOCIETY
SOC 0432 - WEALTH AND POWER
SOC 0434 - POLITICAL SOCIOLOGY
SOC 0444 - URBAN SOCIOLOGY
SOC 1445 - SOCIETY AND ENVIRONMENT
ANTH 1777 - AMERICAN CULTURE

International Track

Service Leanring Project

In Depth Service Learning Project (3 credits)
Subject to Committee Pre-Approval

Societal Perspective

Select one.

(Examples for the Latin America)

SPAN 0082 - LATIN AMERICA TODAY
SOC 0362 - LATIN AMERICAN SOCIETIES
SOC 0432 - WEALTH AND POWER
SOC 0444 - URBAN SOCIOLOGY
PS 1321 - LATIN AMERICAN POLITICS
PS 1503 - INTERNATIONAL ORGANIZATION
PS 1542 - GLOBAL ENVIRONMENTAL POLITICS
ENGR 2210 - UNDST BRAZIL-PREP RES & STUDY

Nuclear Engineering Certificate

The objective of the Nuclear Engineering Certificate is to develop the basic competencies needed by science and engineering graduates to contribute quickly and effectively to the renaissance of nuclear science and technology in the United States and abroad.

The nuclear engineering certificate currently targets competency gaps that exist in the following educational areas :

Basic theoretical concepts of nuclear physics, reactor physics, reactor kinetics, fuel depletion and energy removal.
Fundamental analytical skills that can aid in understanding nuclear energy problems and solutions.
Interfaces between engineering disciplines involved with the design of a reactor core and the reactor coolant system for light water reactors.
Knowledge of important social and technical issues related to nuclear science and technology.

Requirements for Bioengineering Students

None of the three core courses, ENGR 1700, 1701 or 1702, satisfy any concentration elective. Two of the three courses can be used to satisfy the Bioengineering 2-course, 6-credit advanced engineering/science elective requirement. The third course is extra and on your own.

ENGR 1700 - INTRO TO NUCLEAR ENGINEERING
ENGR 1701 - FUNDMS OF NUCLEAR REACTORS
ENGR 1702 - NUCLEAR PLANT TECHNOLOGY

Supporting Courses

Two (as yet to be specified) supporting courses are required.

Product Realization Certificate

A total of five courses are required for the Product Realization Certificate.

Business Administration Courses

Students choose at least one of the College of Business Administration courses:

BUSERV 1985 - SMALL BUSINESS MANAGEMENT
BUSMKT 1431 - PRODUCT DEVELOPMNT & MGMNT

Swanson School of Engineering Courses

Students choose at least two of the Swanson School of Engineering courses:

IE 1052 - MFG PROCESSES AND ANALYSIS
IE 1089 - ADDITIVE MANUFACTURING (NOT CURRENTLY OFFERED)
ME 1037 - MANUFCTRNG QUALITY ASSESSMNT (NOT CURRENTLY OFFERED)
ENGR 1859 - PRODUCTRONICS (NOT CURRENTLY OFFERED)

Required Course

All students must take the following course to complete the Certificate:

ENGR 1050 - PRODUCT REALIZATION

Additional Information

MPE concentration students : Because either BUSERV 1985 or BUSMKT 1431 is a concentration elective and IE 1052 and ENGR 1050 are concentration electives, MDE Concentration students can obtain the Product Realization Certificate with an additional two courses that can be counted toward the 2-course, 6-credit advance engineering/science elective requirement.

NOTE : Elective requirements for the Product Realization Certificate are currently in a state of flux. Updates can be obtained from the certificate administrator: Dr Mary Besterfield-Sacre.

Supply Chain Management Certificate

The Certificate in Supply Chain Management (CSCM) provides undergraduate engineering students with the opportunity to understand important concepts in supply chain management and develop technical and managerial skills which are highly valued in today's corporate environment. The program also offers an international travel experience for students to gain hands-on exposure to global supply chain organizations.

Supply chain management encompasses not only the design and planning of supply chain activities, but also the execution, control and monitoring that help companies build a competitive infrastructure and create net value. The supply chain covers all areas, not just manufacturing and services, but also includes suppliers, retailers, warehouses, logistics and customer service; all functional areas involved in receiving and filling a customer's order with a repeatable and satisfying experience. This certificate requires 15 credits to complete.

Enrollment is open to students in all of the undergraduate engineering programs in the Swanson School of Engineering. Students interested in the program should contact Dr. Karen Bursic (kbursic@pitt.edu) for more details.

School of Health and Rehabilitation Sciences

Welcome to The School of Health and Rehabilitation Sciences (SHRS)

The School of Health and Rehabilitation Sciences (SHRS) offers educational programs leading to a baccalaureate degree in the following areas:

- Athletic Training
- Communication Science
- Emergency Medicine
- Health Information Management
- Nutrition and Dietetics
- Rehabilitation Science

SHRS participates in the University Honors College. Students with high GPAs, and whose studies demonstrate breadth and depth, may apply to complete a research thesis and earn a Bachelor of Philosophy (BPhil) degree in their area of major study.

Through the undergraduate program in Rehabilitation Science, SHRS offers three undergraduate certificate programs in the following areas:

- Assistive Technology in Rehabilitation
- Pathokinesiology in Rehabilitation
- Psycho-Social Issues in Rehabilitation and Personal Care

The School of Health and Rehabilitation Sciences is affiliated with the University of Pittsburgh Schools of the Health Sciences and also shares a close affiliation with the world-class University of Pittsburgh Medical Center (UPMC). The medical center comprises a variety of hospitals and clinical facilities that affords students a wealth of opportunities for professional experience.

The mission of the school is to advance the theoretical base of knowledge underlying the practice of health and rehabilitation disciplines and professions through research, teaching, and professional service.

The SHRS faculty base their teaching upon research studies, clinical service, and participation in their respective professional associations. Faculty research and service typically occurs through multi-disciplinary collaboration in diverse health care and research environments. Consequently, SHRS students are exposed to state-of-the art curricula, which are continually being reviewed.

Our students are educated and trained to question the basis of current practice, and to challenge prevailing models and assumptions. The entry-level curricula reflect the importance of effective team participation in an inter-disciplinary and rapidly changing environment. Emphasis is given to the student's development of analytical problem solving skills and human relations skills required for effective clinical and supervisory practice. The student is confronted with the transition between a professional commitment to providing high quality care and service, while recognizing the effects of competitive pressures and cost constraints upon the health care organization.

The primary objective of our entry-level professional programs is to educate knowledgeable, skilled, and ethically responsible practitioners, committed to their respective professions and to the high standards of health care and rehabilitation services.

The primary objective of our pre-professional programs is to provide students with an excellent preparation for entry-level professional health care educational programs that are offered at the graduate level, either at the University of Pittsburgh or other universities.

Contact Information

University of Pittsburgh
School of Health and Rehabilitation Sciences
Office of Admissions
4020 Forbes Tower
Pittsburgh, PA 15260
412-383-6558

admissions@shrs.pitt.edu
www.shrs.pitt.edu

Admission Information

Admissions Policy

Admission to most SHRS undergraduate programs is on a competitive basis as class sizes are limited. Students are strongly encouraged to complete as many prerequisites as possible prior to applying and to apply by the application deadlines published by the individual departments. Applications will be evaluated and qualified applicants will be admitted until classes are filled. Visit SHRS Programs and Course Offerings for individual department and program admission policies.

Admission Requirements

General admission requirements for the SHRS baccalaureate degree programs include a cumulative grade point average (GPA) of at least 2.500 (based on 4.000) and successful completion of a minimum of 60 college-level credits which includes specific prerequisite courses. If letter grading is available, all prerequisite courses must be taken for a letter grade, and a minimum grade of C- is required. (A minimum grade of C is required for all credits transferred from other institutions). SHRS also recommends prior study in a second (foreign) language and prior completion of a college-level computer science course. Visit admissions pages for each program's specific admission and application requirements.

30 of the 60 credits required for admission must be from four basic content areas, with minimum credits in each of the four areas as listed in the table below. These 30 credits must consist of courses which are equivalent to those taken by students in the first two years of a four year liberal arts or science degree. Courses from two-year colleges are acceptable if they meet this standard.

Content Area	Minimum Required Credits	Examples of courses
Natural Sciences/Psychology (Introductory basic science or psychology courses)	6	Physics, Chemistry, Biology, Psychology, Neuroscience, etc.
Humanities/Social Sciences	6	Foreign language, English literature, Economics, History, Philosophy, etc.
Oral and Written Communication	6	Public Speaking, English Composition, Intensive Writing Course, etc.
Mathematics/Statistics / Computer Science	4	Algebra, Calculus, Introduction to Statistics, Computer Programming, etc.
Total from all four Content Areas must equal 30 credits		

Students with questions about identifying specific courses that will satisfy the prerequisites for our undergraduate program should contact the SHRS Admissions Office at admissions@shrs.pitt.edu or 412-383-6558.

Application Procedures

Freshman application is made through the Office of Admissions and Financial Aid. SHRS is an upper-division school and does not admit students to its undergraduate programs at the freshman level. Therefore, students must first be admitted to another school at the University of Pittsburgh or to another institution. (See Pittsburgh campus Freshman Admissions section of this bulletin for more information.)

Transfer students who have previously enrolled at a college or university other than the University of Pittsburgh, including former University of Pittsburgh students who have since earned college credits at another institution and now wish to return to the School of Health and Rehabilitation Sciences must complete a University of Pittsburgh *transfer* application, submit an application fee of $45 to the University of Pittsburgh's Office of

Undergraduate Admissions and Financial Aid and complete the supplemental information required for SHRS. (See Transfer Student Admissions section of this bulletin for more information.)

International applicants must complete the International Undergraduate Student application and the supplemental information required for SHRS. (See International Undergraduate Student Admissions section of this bulletin for more information.)

University of Pittsburgh students applying to the Athletic Training, Communication Science, Emergency Medicine, Health Information Management, Nutrition and Dietetics, and Rehabilitation Science programs must complete the SHRS Apply Yourself application. An application fee is not required of current Pitt students applying to the SHRS undergraduate programs.

The following information is required as part of the application process:

- Essay: See individual program admission pages on SHRS website, for specific essay requirements. This essay should be no longer than two pages.
- One letter of recommendation: This letter should be from a college level instructor, employer, or a clinical supervisor. These individuals should be able to comment on a student's academic, professional, and interpersonal abilities. This recommendation can be submitted electronically through the online application system by the applicant's reference, or by mailing a hard copy letter to the SHRS admissions office accompanied by the appropriate recommendation form as provided in the downloadable forms and recommendation section of the application. A letter of recommendation is not required for the Communication Science program.
- Transcripts: Official transcripts from all colleges attended are required. Transfer applicants must also submit their high school transcripts to the Office of Admission and Financial Aid. Credits shown on a transcript as transfer credits from another institution cannot substitute for the official transcript of the college or university at which the credits were earned.
- While not required, a resume is highly encouraged.

University of Pittsburgh students applying from the University of Pittsburgh in Bradford, Greensburg, Johnstown and Titusville should follow the same guidelines as stated above for students at the Oakland campus. A Relocation Form should only be submitted to the regional campuses if a student is admitted to a program at SHRS to facilitate the transfer of student records.

Advanced Standing on Admission

Students enter SHRS as juniors with 60 advanced standing credits. (Exception is the Emergency Medicine Senior Transfer option for paramedics and currenlty serving military applicants. These students are granted 90 advanced standing credits and admitted as seniors.)

Students are expected to take all core courses required by their program at SHRS; however, students with more than 60 credits of undergraduate coursework completed at a four year academic institution may be granted up to 30 additional credits pending approval of the Program Director. The Program Director must:

- review and approve these additional credits
- indicate additional classes/credits on the student's Plan of Study, and
- submit to the Director of Student Services, Registrar a request to accept additional credits
- all required academic work for a degree in SHRS, including courses for which advanced- standing credit has been granted, must be completed within ten (10) consecutive calendar years. Departments have the discretion to lessen this number for specific coursework deemed integral to the course of study in a particular discipline

See **Allowable Credits** section of this catalog for additional information about advanced standing.

Admission Status

Students are admitted to SHRS on one of the following statuses: full, conditional or non-degree.

- Full status is granted to those who have met all admission criteria and have been admitted either as full-time or part-time students for study toward the baccalaureate degree
- Conditional status is granted to those who are in the process of completing prerequisite courses. These students must complete all requirements successfully prior to matriculation. At the discretion of the Department Chair students may to be admitted to an SHRS undergraduate program with a maximum of two courses of prerequisite work remaining to be taken in their designated program. Any outstanding prerequisite work taken while enrolled in an SHRS undergraduate program must be completed by the end of the fall term of the senior year.
- Non-degree status is granted to those who enroll at SHRS to take courses for credit without reference to a degree

Reinstatement

Reinstatement is not guaranteed. Students who have been dismissed from SHRS for academic reasons or who have not enrolled at SHRS for three consecutive terms may apply for reinstatement. To request reinstatement a student must initiate the request via a letter to the department chair. This letter must be submitted at least three months prior to the beginning of the term for which the student is requesting reinstatement. The faculty within the student's academic program will review the request for reinstatement. The review will be conducted with consideration given to the following criteria:

A period of one year must have elapsed from the time the student is dismissed to the time in which he/she is reinstated
Demonstration of academic success since leaving the program
Demonstration of personal and/or professional development since leaving the program
Space available within the program of study

Financial Information

Tuition and Fee Rates

Tuition and fee rates are availiable on the Financial Information page.

Additional Fees

Lab Fees: Lab courses may incur an additional fee to cover laboratory expenses. These fees will be charged to the student directly and will appear on the invoice generated by Student Accounts in addition to tuition and other fees each semester.

Liability Insurance: Students enrolled in a clinical education or practicum must carry liability insurance. Liability insurance is required for SHRS students and will automatically be included on the tuition bill.

Scholarships, Grants and Financial Aid

If you are interested in applying for loans, scholarships, grants, or work study, you should call, write or visit the University of Pittsburgh, Office of Admissions and Financial Aid, Alumni Hall, Pittsburgh, PA 15260, 412-624-PITT, https://oafa.pitt.edu/learn-about-aid/ See also the SHRS website financial information page.

Financial Obliation of Students

The University of Pittsburgh has the right to withold services if a student defaults on any financial obligation until repayment arrangements have been made that are satisfactory to the office or department to which the debt is owed.

SHRS Academic Regulations

Academic Integrity Policy

Students have the responsibility to be honest and to conduct themselves in an ethical manner while pursuing academic studies. Students have the right to be treated by faculty in a fair and conscientious manner in accordance with the ethical standards generally recognized within the academic community (as well as those recognized within the profession). Should a student be accused of a breach of academic integrity or have questions regarding faculty responsibilities, procedural safeguards including provisions of due process have been designed to protect student rights. *These may be found in SHRS Guidelines on Academic Integrity: Student and Faculty Obligations and Hearing Procedures.*

Student Roles and Responsibilities

University of Pittsburgh Nondiscrimination Policy Statement

The University of Pittsburgh, as an educational institution and as an employer, values equality of opportunity, human dignity, and racial/ethnic and cultural diversity. Accordingly, the University prohibits and will not engage in discrimination or harassment on the basis of race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, disability. Further, the University will continue to take affirmative steps to support and advance these values consistent with the mission of the University. This policy applies to admissions, employment, access to and treatment in University programs and activities. This is a commitment made by the University and is in accordance with federal, state, and/or local laws and regulations.

University and SHRS Rules and Regulations

Students should understand and know how to access University, SHRS and individual program rules and regulations. Students should complete the SHRS new student orientation, and review the most updated online version of the **University Undergraduate Catalog, handbook and their program's policy information**. Students should be aware of and meet important academic deadlines, e.g. registration, add/drop and monitored withdrawal. See the Academic Calendar .

Communicate with SHRS Faculty and Staff

Students should stay in regular communication with their academic advisor and faculty members. To facilitate this, the student should:

check **Pitt email** regularly
inform academic advisor, faculty or department chair of difficulties that may impact academic standing
seek help as needed
make and keep regular advising/registration appointments with academic/faculty advisor

Name and Social Security Number Changes

Students are required to notify the University Registrar (G-3 Thackeray) to process changes in name and social security number. Please visit http://www.registrar.pitt.edu/personalinfo.html for more information. Students should also notify the SHRS Dean's Office and their academic department of any changes to their contact information.

Plan of Study

Every student in SHRS must have a Plan of Study, signed by academic/faculty advisor, on file with Student Services by the end of the first semester in SHRS and as revised. Any changes to the Plan of Study must be approved by the academic/faculty advisor or Department Chair. To be certified for graduation, students must have successfully completed all courses outlined in their final Plan of Study as well as any other requirements for the degree. A final Plan of Study must be on file in Student Services 4019 Forbes Tower.

Minimum Academic Standard

All required and prerequisite coursework must be taken for a grade, when letter grade option is available. Students must receive a C- or better in each required course and SHRS elective course to earn credit. For non-SHRS, non-required coursework, students must earn a grade of D or better (C required for transfer credits). All Pitt grades will still appear on the transcript and be calculated into the GPA unless the student repeats the course. However, credits from courses in which student has earned unacceptable grades will not be counted toward graduation.

Students who receive a grade below a C- in a required course must repeat that course and attain a grade of C- or better. Students will not be permitted to register for a course until they attain a C- or better in its prerequisite. Failure to receive an acceptable grade after the second repeat of a required course may result in the student being dismissed from the program and SHRS.

Advising

Academic and faculty advisors for SHRS undergraduate students are assigned by the Program Directors. Students are notified of the name of their advisor by their Department.

Change of Advisor

If either the student or his or her assigned advisor prefers, the student can choose another advisor. The student must obtain a *Change of Academic Advisor form*, located on the SHRS website under forms, complete the form and secure the required signatures, and return the form to the Office of Student Services. As a general rule, students who have more than 50% of the credits required for graduation should not initiate change of advisor procedures.

Initial Responsibilities of the Advisor

Meet with each student advisee as soon as possible after admission to review goals, policies and procedures of the program, to assist the student in clarifying his or her educational goals, and to design a preliminary Plan of Study. The preliminary Plan of Study must be on file in Student Services by the end of the first term and then as revised.

Assist the student in selecting courses for the first term registration, sign all completed enrollment forms.

Ongoing Responsibilities of the Advisor

The student's advisor should continue to provide support by:

- being available to the student on a regular basis
- meeting with the student as needed prior to each registration and reviewing academic progress
- signing all completed necessary forms in a timely manner
- helping the student meet important deadlines, e.g. registration, application for graduation
- meeting with the student upon his/her notification of probationary status
- assisting the student to access resources as needed
- assist the student in creating, reviewing, and updating his/her Plan of Study according to undergraduate program and intended graduate program or professional requirements
- help ensure that that Plan of Study is submitted to Student Services and updated as necessary
- assist the student in planning internships or research projects

Allowable Credits

Some SHRS programs may allow students to earn particular course credits by successful completion of the following:

Advanced Placement (AP) and International Baccalaureate (IB) Credits

See https://oafa.pitt.edu/apply/ap-ib-credit/ for credits and course equivalencies currently granted by the University of Pittsburgh for Advanced Placement and International Baccalaureate examinations.

College Level Examination Program (CLEP)

SHRS does NOT accept CLEP general examination credits.

Credit by Course Examination

The following regulations govern this procedure:

- The individual department shall determine specific courses open to examination

A student may not earn credit by examination if s/he has previously taken the course
Student may obtain the form, Credit by Course Examination, from the Office of Student Services (4019 Forbes Tower)
Enrolled students must apply for examination during the term preceding the term in which the course is scheduled
Newly admitted students may apply and take the examination early in the term in which the course is taught

The Credit by Course Examination form and a check or money order for the appropriate fee must be processed in the Cashier's Office, G-7 Thackeray Hall, for validation prior to taking the examination. Upon passing the examination, the department will submit the Credit by Course Examination form to Student Services. Students will receive advanced standing credit for the course, which may be applied towards graduation. If a student fails the exam, neither a failing grade nor credits will be posted on the transcript. An exemption examination may be taken only once per course. The faculty of each Department will determine the number of courses that can be exempted by students enrolled in that academic program.

Online Courses

The acceptance of online coursework is at the discretion of the department to which the student is applying. All online coursework must be taken at a regionally accredited institution.

Reserve Officer Training Corps (ROTC)

A total of four (4) ROTC credits earned by students will be accepted for purposes of admission and graduation. Grades for ROTC courses will be included in calculating the student's GPA.

Transfer Credit Policy

At the time of application coursework completed outside the University of Pittsburgh is evaluated by the SHRS Admissions Office to determine if it meets University and SHRS policy required for transfer.

A maximum of 60 credits can be transferred into the University of Pittsburgh from a two-year degree program; and a maximum of 90 from a four-year college/university
Courses must be passed with a grade of C or better and must be earned at an appropriately accredited institution
Courses must have reasonable equivalents at the University of Pittsburgh to be eligible for transfer. When requested, students are responsible for supplying descriptions for courses taken elsewhere
The number of credits granted for a given course cannot exceed the number awarded for the course on the transcript of the school where the course was taken or the number earned for the corresponding course at the University of Pittsburgh
Credits earned on the quarter system will be converted into semester credits. A quarter credit is equal to two-thirds of a semester credit (e.g., five quarter-system credits equal three semester credits, and three quarter-system credits equal two semester credits)
SHRS accepts credits, but not grades, for transfer. Consequently, any courses that are accepted for transfer will be used as credit toward graduation, but will not be calculated into the student's GPA at the University of Pittsburgh
Contact the SHRS Admissions Office at 412-383-6557 for information about transfer credit evaluation
Please note: All transfer credits are subject to re-evaluation when a student transfers from one school to another within the University of Pittsburgh.

Information for Transfer Students

Upon application, transfer students will receive a formal credit evaluation. Following admission, transfer students will receive formal notification from SHRS indicating which requirements have been satisfied and if any prerequisite coursework or credits are outstanding.

Information for Current SHRS Students

Current SHRS students in good academic standing (cumulative GPA of at least 2.00) may attend another accredited institution in order to complete their degree requirements, provided they receive prior approval from the SHRS Dean's office. Students will be required to fill out an approval form and provide appropriate course descriptions. Students will not receive credit for courses taken without advance approval. SHRS students may not enroll in courses outside the University of Pittsburgh in the semester they are graduating from SHRS.

Independent Study

The independent study allows the student to pursue independent academic work for credit. The independent study must be supervised by an SHRS approved faculty member. To register for an independent study, the student must:

- identify and develop an independent study project with independent study supervisor
- complete the *Independent Study form* (Found on the SHRS website)
- have *Independent Study form* approved and signed by the IS supervisor, academic/faculty advisor, and Assistant Dean of Undergraduate Studies
- copy *Independent Study form* as necessary
- submit an *Independent Study form*, *Enrollment form*, and have your advisor send Student Services an approval email to receive a permission number
- enroll online for the independent study course

Clinical Education and Directed Practice

Clinical learning experience is an integral and essential part of SHRS undergraduate entry level professional programs. All students in these programs are required to participate in clinical education. Participation is optional but recommended for students in pre-professional programs. The following is required for all SHRS undergraduate clinical education:

- all clinical education sites must have current contracts with the University of Pittsburgh
- each program's clinical education coordinator will assign students to their clinical education site
- student must use an *Enrollment Form* to register for appropriate clinical education and submit other forms as directed by clinical education coordinator and listed below
- student must provide proof of HIPAA certification with registration
- student must provide proof of Blood Borne Pathogen certification with registration
- students are required to carry personal health insurance
- student must provide proof of having undergone a physical exam and blood work as well as proof of vaccinations
- list of exam and vaccination requirements and required form will be provided by the clinical education coordinator

Some SHRS programs require that students complete clinical education at facilities internal or external to the University and may require completion of: 1) Pennsylvania Department of Human Services Child Abuse History Clearance; 2) Pennsylvania State Police Criminal Record Check; 3) FBI Criminal Record Check to determine whether the student is qualified to participate in clinical education. If these are deemed to be required and the student has not already done so, he/she should immediately start the process of obtaining these three clearances and background checks.

The Commonwealth of Pennsylvania has posted information on how to obtain these clearances and background checks here: http://www.dhs.state.pa.us/findaform/childabusehistoryclearanceforms/S001087.

Additional requirements may also include a drug screen, CPR training, attending orientation sessions, compliance with dress code, and personal transportation. Each program's clinical education coordinator will advise students of additional program or site-specific requirements and instructions on how to submit required documentation to verify completion of all requirements.

Students may be required to travel a distance or to relocate outside the city for their clinical education assignments. All expenses for transportation, housing, food, etc. are the responsibility of the student. Any student who misses clinical education time for any reason must meet with his/her clinical education coordinator to discuss any needed make-up time. See individual program for specific details regarding clinical education.

Health Insurance Portability and Accountability Act (HIPAA)

All SHRS students participating in clinical education or field experience must complete HIPAA certification training prior to beginning at the clinical/field site. No clinical contact in a "covered entity" will be allowed before certification is completed. (Student should see individual department information regarding additional HIPAA certification requirements.)

Procedure for completing HIPAA certification: Go to http://cme.hs.pitt.edu. Look for UPMC HIPAA Security Awareness Training for Physicians (formerly RPF Module 15) and HIPAA Physicians Privacy Awareness Training by UPMC (formerly RPF Module 8). Complete the UPMC HIPAA Security Awareness Training for Physicians and HIPAA Physicians Privacy Awareness Training by UPMC. Complete the quizzes. Print certificates, complete all information, sign them, and turn them in to your department.

Blood Borne Pathogen Training and Certification

All SHRS students who will be going into a clinical setting must complete Blood Borne Pathogen (BBP) training and certification annually. This certification must be completed prior to the beginning of the term in which the clinical setting will begin. No clinical placement will be allowed before certification is completed.

Procedure for completing online BBP training and certification: Go to http://cme.hs.pitt.edu. Look for Blood Borne Pathogen Training (formerly RPF Module 9). Complete Blood Borne Pathogens Training. Complete the quiz. Print certificate, complete all information, sign it, and turn it in to your department.

Dual Degree Option

Students may pursue dual degrees within SHRS or between SHRS and another school at the University. SHRS follows the University policy concerning dual degrees.

- the student must complete 150 credits accepted by the University
- the student must complete all requirements necessary to complete each degree
- the student must receive both degrees simultaneously
- the student must be admitted and enrolled in SHRS as his/her primary academic center for half the terms necessary to complete both degrees, typically this is 4-5 semesters
- students must contact SHRS Admissions Office, 4021 Forbes Tower, to be admitted prior to the midpoint of their studies

Registration and Add/Drop Processes

A student must be registered **for at least one credit in a twelve (12) month period** from the time of admission until the degree is granted **in order to maintain active status.** Those students who fail to observe this rule will be placed on inactive status and will have to seek formal readmission in order to continue in the program. If active status is not maintained, the student is not permitted to use University facilities or receive counseling or active supervision by a faculty member, advisor, or committee.

Student Enrollment Process

Appointment times are assigned to students by the University Registrar's Office process (fall and spring terms only). To access your Enrollment Appointment go to the Pitt Portal www.my.pitt.edu and log in; go to the Academic Resources tab and log in to PeopleSoft at the Student Center Login, click the Self Services link, then the Student Center link. Once in your Student Center, your Enrollment Appointment will be listed in the box entitled Enrollment Dates on the right hand side of the page.

Prior to your appointment date/time you must meet with your academic advisor within your department to determine your courses, complete enrollment form, if required by your department (signed by you & advisor). The schedule of Classes can be found on the University Registrar's website at http://www.registrar.pitt.edu/courseclass.html

Be sure to pay attention to any Special Indicators noted for the course (@, R, etc.) and go to the Schedule of Classes Guide on p.4 to see what they mean. Most of these are here to inform you of courses that require special permission. **If courses require permission** please seek permission from the instructor of the course. You may do so via email with the instructor. If it is a course within SHRS see the Student Services Coordinator with proof of permission for a "permission number." If it is a course outside of SHRS you will need to receive a "permission number" from the school in which the course is offered. You will need this "permission number" in order to register for a closed/restricted course in PeopleSoft.

Resolve any holds that you may have on your account with the respective departments that have placed the holds or they will prevent you from registering for your classes.

Demos/handouts on how to do your Self-Enrollment are available in PeopleSoft. Go to the Portal www.my.pitt.edu, University Services & Information tab, and then click on Self Service Enrollment. Handouts/demos are available on the following:

- Preparation Steps
- Adding a Class
- Dropping a Class
- Editing a Class

Swap a Class
Waitlist a Class

Add/Drop Process

Students are allowed to add or drop classes until the end of the second week of classes each fall and spring term. Add/drop during the summer sessions is dependent on the length of the class session. (See University Academic Calendar for specific dates.) The following is a typical add/drop process:

Students should make an appointment with their advisor to discuss adding/dropping courses
Once approved by the advisor, students will make the enrollment changes online

Problem with Enrollment After the Add/Drop Deadline

Should a student find an error in their enrollment after the add/drop period had ended, a formal memo is required from the student's advisor to the SHRS, Director of Student Services, Registrar. This memo will need to include the student name, PeopleSoft number, the course(s) to be added or dropped (subject, name & section), the number of credits, and the reason for the error. If the error is the students fault, the student will be charged a late fee at the discretion of the main University of Pittsburgh Registrar. If the fault is with the Department the student is enrolled, that department Chair can provide an account number in which the late charge is to be paid from.

Upon approval from the SHRS Director of Student Services, Registrar the memo will be submitted to the University of Pittsburgh Registrar to process the exception.

Monitored Withdrawal

After the add/drop deadline has passed, the student must process a Monitored Withdrawal Request form to drop a class. (See University Academic Calendar for deadlines to process a Monitored Withdrawal.) Student should consult with academic/faculty advisor before withdrawal from course(s). The form must be signed by the instructor of the course and be returned to the Director of Student Services, Registrar, 4024 Forbes Tower within the first nine weeks of the term in the fall and spring.

Because summer sessions vary in length, students should check the summer Schedule of Classes for those deadlines. The grade W will appear on the student's grade report and transcript. There is no tuition adjustment associated with a course withdrawal. Please note, withdrawing from a course may jeopardize satisfactory academic progress, financial aid, and assistantships or fellowships.

Resignation from All Courses and SHRS

If you are considering resigning for the term (academic withdrawal from all of your classes), please discuss your situation with your academic advisor, a Financial Aid counselor, or a staff member in the Office of Student Appeals to be certain you understand all of your options and obligations.

The effective date of your resignation determines if you are eligible for an adjustment in the tuition and fees you were charged for the term. The effective date of your resignation will normally be the date you notify the University by one of the methods listed on the Student Payment Website under Resignation. You are responsible for satisfying all financial obligations accumulated until the time you officially resign. The timing of your resignation also has an impact on how grades are recorded on your transcript. The last day to resign from a term is when sixty percent of the term has passed.

Please visit the Student Payment center resignation page on the University of Pittsburgh website for more information.

Grading Policy and Records

Grade Point Average (GPA)

The GPA is a numerical indication of a student's academic achievement based on a 4.000 grade point scale. The University letter grade system identified below will be followed without exception:

Grade	Quality Points
A+	4.00
A	4.00
A-	3.75
B+	3.25
B	3.00
B-	2.75
C+	2.25
C	2.00
C-	1.75
D+	1.25
D	1.00
D-	0.75
F	0.00

Course Grading

The method of evaluation and grading is the prerogative of the course instructor and is based on the course objectives and expectations. SHRS faculty have the option of issuing "+" or "-" grades. SHRS faculty have the option of assigning letter grades or HSU evaluations, as printed in the course catalog and determined at student's enrollment. Students will be apprised of the evaluation procedure by the instructor at the beginning of each course. It is the student's responsibility to request clarification of any evaluation or grading policy.

Dean's List for SHRS

The SHRS Dean's List is compiled upon completion of each fall and spring term. The criteria used to determine eligibility for the Dean's List is as follows:

full-time student status for the term
minimum GPA of 3.500 for the term
minimum cumulative GPA of 3.000 (total Pitt)

SHRS Policy and Procedure for G and I Grades

G Grade Policy

Student's assigned G (incomplete) grades due to course work unfinished because of extenuating personal circumstances, are required to complete course requirements no later than one year after the term in which the course was taken. Once the deadline has passed, the G grade will remain on the record, and the student will be required to re-register for the course if it is needed to fulfill requirements for graduation. Students will not be permitted to register for courses in which a prerequisite course resulted in a 'G' grade, unless approval has been obtained by the Department/Program Chair, or their designee.

I Grade Policy

The I grade indicates that the work of the course for which it is awarded has not been completed due to the nature of the course, clinical work, or incomplete research work in individual guidance courses or seminars. It is to be awarded only to students who have been doing the regular work of the course but who need more time than the term allows to complete the course work. That is, the extenuating circumstances ought to arise from the nature of the course work rather than from the student's personal difficulties (in which case a G grade is appropriate; see above).

Starting the fall of 2016, all *incomplete* grades are expected to be completed by no later than the end of the next consecutive semester. It is the responsibility of the faculty member to clearly state to the student the expected due date.

If the incomplete grade is given in the spring, it is expected to be completed by the end of the summer term in August.

Action required by the student and faculty member for a "G" or "I" grade:

The student, faculty and advisor are to fill out a Completion Agreement of Incomplete Credits Form (Form can be found on the SHRS website)
A copy of this agreement will need to be submitted to Student Services, no later than the end of the add/drop period for the current semester.
Failure to submit this form before the end of the add/drop period will result in an automatic change to a failing grade.

Student Services, will be following up on any Incompletes or G grades that are not changed within the expected timeframe at the end of every term.

Satisfactory/No Credit (S/NC) grading option

Prerequisite and required courses must be taken for a letter grade when available, and a student must earn a C- or better (C for transfer credits). Students planning to apply to SHRS are strongly encouraged to consult their advisor whenever considering the S/NC grading option to make certain the course is not required for the degree being sought in SHRS.

Repeating Courses

A sequence course may not be repeated for credit if the student passes a higher sequence course with a C or better grade.
A student may not enroll in the same course at another institution and have that grade replace the original grade earned at the University.
The original course and grade remain on the transcript; however, the grade and credits originally earned are not counted in the calculation of the GPA.
The grade earned by repeating a course is used instead of the grade originally earned. Withdrawal (W), Repeat (R), and Audit/Non-Credit (N) grades reported for the repeated course will not be identified as a course repeat, and therefore the original grade earned will continue to be counted in the GPA.
Incomplete grades (G and I) are not identified as repeated courses until the coursework is completed.
Students are only permitted to repeat a course twice. Any grade earned in the repeated course will be recorded on the academic transcript, even if it is lower than the original grade.
Students seeking to repeat other non-SHRS (prerequisites, electives, etc.) courses will be permitted to do so at the discretion of the program director.

Statute of Limitations on Allowable Coursework

All required academic work for a degree in SHRS, including courses for which advanced- standing credit has been granted, must be completed within ten (10) consecutive calendar years. Departments have the discretion to lessen this number for specific coursework deemed integral to the course of study in a particular discipline.

Leave of Absence

Under special conditions, undergraduate students may be granted one leave of absence. All request should be put in writing to the Associate Dean of Undergraduate Studies.

Academic Probation and Dismissal Policy

Students who have completed at least 12 credits and whose cumulative GPA falls below 2.000 will be placed on academic probation and will receive written notification of this status. At this point it is the student's responsibility to meet with his or her advisor.

To be removed from academic probation, the student will need to achieve a cumulative GPA of 2.000 within his or her next two terms of study. Failure to do so may subject the student to recommendation for immediate dismissal from the program by the Department Chair, in collaboration with the Associate Dean of Undergraduate Studies.

Students who fail to demonstate progress toward meeting graduation requirements in a timely manner may be placed on academic probation or recommended for dismissal fro the program by the Department Chair in collaboration with that Assoicate Dean of Undergraduate Studies. SHRS reserves the right to terminate a student at any time for academic or other reasons.

Dismissal from the program is at the discretion of the SHRS Dean. Notwithstanding the foregoing, in the event it is not mathematically possible for a student to remediate their cumulative program GPA within their next two terms of study the student may be immediately dismissed.

A student may appeal their dismissal with the University of Pittsburgh Provost office.

Graduation Requirements

Graduation Requirements for a Bachelor's Degree from the School of Health and Rehabilitation Sciences are as follows:

- satisfactory completion of a minimum of 120 approved credits (including advanced standing)
- minimum of 30 SHRS credits taken once admitted and enrolled in SHRS department or program
- minimum cumulative GPA 2.000
- the GPA will be calculated as a composite of all courses taken at the University of Pittsburgh and counting toward completion of the degree
- completion of all requirements for the program in which student has enrolled
- no outstanding D, F, G or I grades in a required course
- updated and approved Plan of Study on file in Student Services, 4019 Forbes Tower
- An **application for graduation** must be filed in the SHRS Office of Student Services, based on the deadlines determined for that term. Email notification of theses deadlines will be sent to students in the prior term. The graduation application is available on the SHRS website under forms.
- no unresolved financial obligations to the University
- student must be considered an "active student" at time of graduation; s/he must have been registered for at least one credit at the University of Pittsburgh within the last three terms or sessions
- students may **not** enroll in courses outside the University of Pittsburgh in the semester they are graduating

Graduation with Honors

A baccalaureate degree student attaining an outstanding scholastic record will be graduated with University honors if a minimum of 60 letter-graded credits have been earned at the University of Pittsburgh. The GPA used for the awarding of honors at graduation will be calculated as a composite of courses taken at the University of Pittsburgh and counting toward completion of the degree. The following recognition of academic standing with honors applies:

Cum Laude	3.250 - 3.490
Magna Cum Laude	3.500 - 3.740
Summa Cum Laude	3.750 - 4.000

SHRS Student Organizations

The School of Health and Rehabilitation Sciences has student organizations for undergraduate students. Visit http://www.shrs.pitt.edu/studentgroups/ for more information.

Disability Resources and Services (SHRS specific Regulations)

Students with disabilities who require special testing, accommodations or other classroom modifications should notify no later than the 4th week of the term:

- their Department Chair
- their instructor(s)
- the Office of Disability Resources and Services (DRS)
  Students will be asked to provide documentation of any necessary accommodations as prescribed by DRS. For more information, go to: http://www.studentaffairs.pitt.edu/drswelcome.

Veteran Benefits

Veterans and dependents of disabled or deceased veterans may be eligible for benefits according to federal administration guidelines. The University has an Office of Veterans Services located on the fourth floor of the Cathedral of Learning (www.veterans.pitt.edu). For additional information on Veterans Education Benefits, visit www.gibill.va.gov.

School of Health and Rehabilitation Sciences Faculty

SHRS Faculty

Program and Course Offerings

Department of Sports Medicine and Nutrition

The Department of Sports Medicine and Nutrition offers outstanding undergraduate programming in Athletic Training as well as Nutrition and Dietetics with the mission to provide superior academic, clinical and research opportunities for students interested in a career in the areas of Athletic Training, Sports Medicine, Nutrition, Dietetics and Human Performance. SMN is committed to promoting intellectual curiosity, ethical practice, critical thinking and professional responsibility in students as well as the faculty and staff who contribute to all facets of the department's infrastructure.

The department aims to meet these objectives by:

- developing cognitive skills, psychomotor mastery, and affective values in students through the delivery of a proven formula of sound classroom education, combined with invaluable clinical education experiences, for the promotion of competent entry-level clinicians and enhancing the health and well-being of individuals and diverse populations
- becoming thought leaders by advancing the state of the science through evidenced-based practice, rigorous curricula, interdisciplinary collaboration and innovative technology
- mitigating injury and disease and optimize human performance by conducting innovative, multidisciplinary basic and applied research, and contributing to the scientific community in order to enhance clinical decisions and education

Major

Athletic Training, BS

The undergraduate athletic training education degree program earned initial accreditation in 1997 and continuing accreditation in 2004 and 2012 through the Commission on Accreditation of Athletic Training Education (CAATE). Prior to this, the curriculum had been National Athletic Trainers' Association approved since 1978. The athletic training curriculum is defined by the current Board of Certification, Inc. Role Delineation Study/ Practice Analysis, which consists of five performance domains to include: (1) Injury/Illness Prevention and Wellness Protection; (2) Clinical Evaluation and Diagnosis; (3) Immediate and Emergency Care; (4) Treatment and Rehabilitation; (5) Organizational and Professional Health and Well-Being. The curriculum is structured to provide both academic and clinical instruction. The academic curriculum includes such courses as anatomy, kinesiology, human and exercise physiology, injury evaluation and treatment, and therapeutic modalities and exercise, among others. This course work provides a foundation for the hands-on clinical experiences provided in the clinical education setting. The students' clinical requirements include direct patient care with athletes and physically active patients and evaluation of skills by preceptors who supervise each student's clinical experience. Students rotate through four on-campus athletic training facilities and several off-site affiliated settings during the clinical education component acquiring valuable skills under the direct supervision of certified athletic training staff, team physicians and other allied health professionals. Upon completion of the four-year baccalaureate degree, students are eligible to sit for the BOC, Inc. certification examination. Successful completion of this exam affords the candidate a variety of employment opportunities including athletic training positions at the high school, college, or university level; sports medicine and rehabilitation clinics; and professional athletic teams. Additionally, many students pursue graduate education opportunities in a number of sports medicine-related professions.

Application Procedures

Admission to the Athletic Training Education Program requires successful completion of a minimum of 60 credits and enrollment in ATHLTR 1811 and ATHLTR 1812. Notification of admission occurs following a personal interview with the athletic training faculty and verification of completion of all prerequisite criteria. The deadline for submission of an application for admission consideration is March 15 annually.

Prerequisites for Admission

Completion of the following

Completion of	Credits
1. Foundations of Biology/Lab: BIOSC 0150/BIOSC 0050	4
2. General Chemistry/Lab: CHEM 0110	4
3. Introduction to Physics: PHYS 0110	3
4. Mathematics, Algebra: MATH 0031	3
5. Statistics, Basic Applied Statistics: STAT 0200	4
6. Psychology, Introduction to Psychology: PSY 0010	3
7. Developmental Psychology: PSY 0310	3
8. English Composition: ENGCMP 0200 minimum	6
9. Writing Intensive Course: ENGCMP 0400 recommended	3

10. Public Speaking: COMMRC 0520 3

11. Humanities Electives: 6

12. Basic Athletic Training: ATHLTR 1811 3

13. Basic Athletic Training Lab: ATHLTR 1812 1

A grade of C- or better is required for 1-11.
A grade of B or better is required for 12-13.
46 credits of prerequisite course work
14 additional credits of elective course work required

Successful completion of at least 60 credits of course work.

EMT certification is required through course for credit or other qualified course leading to the EMT or NREMT credential.

Forty-five clinical observation hours under the direct supervision of a certified athletic trainer at the University of Pittsburgh. These hours are made available to students who are registered for ATHLTR 1812 - BASIC ATHLETIC TRAINING LAB.

Twenty clinical observation hours outside the University of Pittsburgh and under the direct supervision of a certified athletic trainer at a high school facility.

Completion of admissions application including Technical Standards for admission.

The Athletic Training Education Program at the University of Pittsburgh is a rigorous and intense program that places specific requirements and demands on the students enrolled in the program. An objective of this program is to prepare graduates to enter a variety of employment settings and to render care to a wide spectrum of individuals engaged in physical activity. The technical standards set forth by the Athletic Training Education Program establish the essential qualities considered necessary for students admitted to this program to achieve the knowledge, skills, and competencies of an entry-level athletic trainer, as well as meet the expectations of the program's accrediting agency (Commission on Accreditation of Athletic Training Education [CAATE]).

The following abilities and expectations must be met by all students admitted to the Athletic Training Education Program.

Candidates for selection to the Athletic Training Education Program must demonstrate:

The mental capacity to assimilate, analyze, synthesize, integrate concepts, and problem solve to formulate assessment and therapeutic judgments and to be able to distinguish deviations from the norm.
Sufficient postural and neuromuscular control, sensory function, and coordination to perform appropriate physical examinations using accepted techniques; and accurately, safely, and efficiently use equipment and materials during the assessment and treatment of patients.
The ability to communicate effectively and sensitively with patients and colleagues, including individuals from different cultural and social backgrounds; this includes, but is not limited to, the ability to establish rapport with patients and communicate judgments and treatment information effectively. Students must be able to understand and speak the English language at a level consistent with competent professional practice.
The ability to record the physical examination results and a treatment plan clearly and accurately.
The capacity to maintain composure and continue to function well during periods of high stress.
The perseverance, diligence, and commitment to complete the athletic training education program as outlined and sequenced.
Flexibility and the ability to adjust to changing situations and uncertainty in clinical situations.
Affective skills and appropriate demeanor and rapport that relate to professional education and quality patient care.

Candidates for selection to the Athletic Training Education Program will be required to meet these Technical Standards with or without reasonable accommodation.

Selection Criteria

Based upon the following:

A. Overall minimum GPA of 2.50
B. Completion of all prerequisites

C. Personal interview
D. Personal qualities important for athletic training, i.e., enthusiasm, motivation, positive health habits, strong work ethic, and time commitment

Transfer Students

Students with prior athletic training experience seeking to transfer to the University of Pittsburgh for admission to the Athletic Training Education Program must complete the same pre-requisite requirements as all other candidates including the Basic Athletic Training (ATHLTR 1811) and Basic Athletic Training Lab (ATHLTR 1812) courses and all observation hours. If admitted to the program, all students must complete University of Pittsburgh core athletic training courses. In some instances, credit may be given for other coursework taken at another institution and will be evaluated on an individual case basis.

Curriculum Sequence

The following course sequence is identical for all athletic training students in the junior and senior years.

Junior Year-Fall Term

REHSCI 1200 - HUMAN ANATOMY
REHSCI 1205 - HUMAN PHYSIOLOGY
ATHLTR 1821 - INJURY EVAL AND TREATMENT 1
ATHLTR 1824 - ATHLETIC TRAINING PRACTICUM 1
ATHLTR 1831 - THERAPEUTIC MODALITIES AND LAB

Total: 18

Junior Year-Spring Term

REHSCI 1220 - KINESIOLOGY AND BIOMECHANICS
ATHLTR 1822 - INJURY EVAL AND TREATMENT 2
ATHLTR 1832 - THERAPEUTIC EXERCISE AND LAB
ATHLTR 1833 - STRENGTH AND CONDITIONING
ATHLTR 1835 - ATHLETIC TRAINING PRACTICUM 2

Total: 15

Senior Year-Fall Term

HRS 1006 - INTRO TO HUMAN NUTRITION
REHSCI 1215 - EXERCISE PHYSIOLOGY
REHSCI 1235 - MEDICAL TERMINOLOGY
ATHLTR 1885 - INTRODUCTION TO EVIDENCE BASED REHABILITATION
ATHLTR 1823 - ADMINV ASPECT OF ATHL TRAINING
ATHLTR 1841 - ATHLETIC TRAINING PRACTICUM 3
Elective (1-3)

Total: 14-18

Senior Year-Spring Term

REHSCI 1265 - PHARMACOLOGY IN REHABILITATION
ATHLTR 1834 - SPEC TOPICS ATHLETIC TRAINING
ATHLTR 1842 - ATHLETIC TRAINING PRACTICUM 4
ATHLTR 1843 - ADVANCED ORTHOPEDIC ASSESSMENT
ATHLTR 1866 - PSYCHOLOGY OF SPORT
Elective (1-5)

Total: 14-18

Total Prerequisite Credits: 60

Total SHRS Credits: 61-69

Total Degree Credits: 121-129

Nutrition and Dietetics, BS

Proper nutrition plays a major role in the maintenance of health and the quality of life, prevention and treatment of certain diseases, as well as recovery and rehabilitation following physiological trauma. Although a number of professions include nutrition as one area of research and/or practice interests, it is the profession of dietetics that dedicates its efforts entirely to the improvement of the nutritional status of people and the advancement of the science of nutrition. Registered Dietitian Nutritionists (RDNs) possess specialized education to provide nutritional care to people, both well and ill, by using their expertise in nutrition science, food science, psychological and social significance of eating behavior management, food economics, budgeting, counseling, and education, and research methodology. Registered Dietitian Nutritionists practice in a variety of settings. These include hospitals and other health care institutions, industry, wellness and community programs, government, research, and private practice.

Preparation for a career as a Registered Dietitian Nutritionist requires the completion of:

a bachelor's degree and coursework verified by the Accreditation Council on Education in Nutrition and Dietetics (ACEND)
an accredited supervised practice experience
The National Registration Examination for Dietitians.

The Nutrition and Dietetics program offers several options for meeting the eligibility requirements to take the registration examination:

Completion of a Bachelor of Science degree in Nutrition and Dietetics. The B.S. degree is a Didactic Program in Dietetics accredited by the Accreditation Council for Education in Nutrition and Dietetics, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995. Following competition of the didactic BS degree, completion of an accredited post baccalaureate supervised practice program is required in order to be eligible for the National Registration Examination for Dietitians. The University assumes no responsibility for the placement or supervision of graduates in supervised practice programs.

Completion of the Coordinated Master Program in Nutrition and Dietetics (CMD), which combines didactic education leading to a Master of Science degree with supervised practice. The CMD emphasis area is nutrition therapy. Admission prerequisites for the CMD are provided in the graduate bulletin or see http://www.shrs.pitt.edu/ndms/. The CMD is accredited by the Accreditation Council on Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995

Application Procedures

Admission to the Nutrition and Dietetics program requires successful completion of a minimum of 60 credits including all prerequisite courses below. The deadline for submission of an application for admission consideration is March 15th annually.

Prerequisites for Admission

	Completion of the following courses:	Credits
1.	Foundations of Biology 1: BIOSC 0150	3
2.	Foundations of Biology Lab 1: BIOSC 0050	1
3.	Foundations of Biology 2: BIOSC 0160	3
4.	Introduction to Microbiology: HRS 1025 or BIOSC 1850	3
5.	General Chemistry 1 with Lab: CHEM 0110	4
6.	General Chemistry 2 with Lab: CHEM 0120	4
7.	Organic Chemisty: Students should take Principles of Organic Chemistry:CHEM 0350 offered each spring term or must take both Organic Chemistry 1: CHEM 0310 and Organic Chemistry 2: CHEM 0320	3-6
8.	Economics: ECON 0800, ECON 0100 , or ECON 0110	3
9.	English Composition: ENGCMP 0200	3
10.	Intensive Writing (W) Course: ENGCMP 0450 recommended	3
11.	Algebra or higher math: MATH 0031 , MATH 0032 , MATH 0100 , or MATH 0200	2-4
12.	Introduction to Psychology: PSY 0010	3
13.	Public Speaking: COMMRC 0520	3
14.	Introduction to Sociology: SOC 0010	3
15.	Statistics: STAT 0200 or STAT 1000	4
16.	Introduction to Human Nutrition: HRS 1006 or NUTR 1006	3
17	Introduction to the Profession of Dietetics: NUTR 1600 Note: Transfer students may take this course in the Fall Term, of the Junior Year.	1

Admission Selection Criteria Include:

A minimum cumulative GPA of 2.5
A minimum prerequisite GPA of 2.5
A minimum grade of C- in all courses designated as prerequisites taken at the University of Pittsburgh. If the course is taken at another college/university, a minimum grade of C is required.

Submission of one letter of recommendation (college instructor/professor, recent supervisor, or academic advisor preferred).
Submission of a personal statement discussing why the applicant is interested in the program and the field of nutrition and dietetics, professional goals, and any work or volunteer experience in the field.

Please note that admission is competitive. Meeting the minimum admission criteria does not guarantee admission.

Curriculum Sequence

The BS degree in Nutrition and Dietetics requires the completion of a minimum of 122 credits which includes 60 credits prior to admission and 62 credits of required courses taken within the program. The program curriculum is as follows:

Junior Year - Fall Term

HRS 1000 - INTRODUCTION TO RESEARCH
HRS 1023 - HUMAN PHYSIOLOGY
NUTR 1620 - MACRONUTRIENT METABOLISM
NUTR 1609 - CLINICAL BIOCHEMISTRY
NUTR 1602 - NUTRITION ASSESSMENT 1

Credits: 16

Junior Year - Spring Term

NUTR 1610 - FOOD SCIENCE 1
NUTR 1613 - FOOD SCIENCE 1 LABRATORY
NUTR 1612 - SOCL & CULTL DETRM HABITS
NUTR 1621 - MICRONUTRIENT METABOLISM
Electives - 6 Credits

Credits: 16

Senior Year - Fall Term

NUTR 1605 - PRINCPLS NUTRTNS EDUC & CNSLG
NUTR 1614 - NUTRITION & CRITICAL THINKING
NUTR 1630 - NUTRITION THERAPY 1
NUTR 1603 - NUTRITION ASSESSMENT 2
HRS 1009 - ORGANIZATIONAL THEORY & BEHAVR

Credits: 15

Senior Year-Spring Term

NUTR 1608 - PROFESSIONAL TRENDS & ISSUES
NUTR 1622 - NUTRITION IN THE LIFE CYCLE
NUTR 1604 - FOOD SERVICE MANAGEMENT

NUR 1632 - NUTRITION THERAPY 2
Electives - 3 Credits

Credits: 15

Total Program Credits: 62

Total Degree Credits: 122

Department of Communication Science and Disorders (CSD)

The Department of Communication Science and Disorders offers an undergraduate major in Communication Science. The program focuses on the anatomical, physiological, and psychological foundations of communication as well as on the basic structure of language and the process of speech and language development. The program is also designed to develop critical thinking skills including the ability to evaluate scientific information.

This major is particularly appropriate for students considering graduate study and a career in Speech-Language Pathology [SLP] or Audiology [AuD]. (A graduate degree is required for clinical practice in both professions). Speech-language pathology and audiology are among the most attractive and diverse healthcare and educational professions available. The scientific basis of the field appeals to the scientist who has an interest in basic or applied research, whereas the clinical element of the field appeals to the practitioner who is motivated to make a difference in people's lives.

Recent projections from the U.S. Department of Labor indicate a shortage of speech-language pathologists and audiologists. The future of the job market is healthy due to an increasing public awareness of the need for early diagnosis of communication disorders; an awareness of the educational, social, and vocational benefits of programs for communication disorders; and an aging population. The need for speech, language, and hearing scientists is also great; there are many research and academic opportunities for those interested in research in these fields.

The undergraduate degree in Communication Science is also an excellent preparation program for profesional or graduate programs in education of the deaf and hard of hearing, early-childhood, elementary or special education, the neurosciences, speech and hearing sciences, and other health-related professions such as rehabilitation counseling, occupational therapy, and physical therapy. The necessary prerequisites for these programs can be taken while completing the major.

Students attain broad-based knowledge in this major about the basic aspects of speech, language, and hearing sciences, which prepares students for a number of related career fields and employment positions upon graduation as well. More information is available in the CSD Advising Office.

Interested students should contact the Director of CSD Undergraduate Education, Dr. Janice Vance, jvance@pitt.edu or 412-383-6562.

Admission Requirements

Students are eligible for admission to the Communication Science program after successful completion of 60 credits. Students should complete the Basic Skills Prerequisites and Basic Sciences prior to application. Students should also complete as many of the General Education Requirements and Additional Requirements courses as possible prior to application. Some may be completed while enrolled in the program. Applications will be reviewed when approximately 45 credits are completed and 15 credits are in progress.

Students should contact the Director of CSD Undergraduate Education, Dr. Janice Vance, jvance@pitt.edu or 412-383-6562, prior to applying. (Specialized advising is available to freshman and sophomore students.) For admission, an application with all transcripts from universities/colleges attended and a personal essay is required. Resumes are strongly suggested. A letter of recommendation is NOT required. A minimum GPA of 2.75 is preferred, but students may be admitted provisionally if program capacity permits.

University of Pittsburgh Freshman Guarantee

Entering freshmen may qualify for a guarantee into the graduate programs in Audiology or Speech-Language Pathology. For consideration for the Freshman Guarantee, indicate an intended field of study as Pre- Communication Science on your application when applying as a freshman (at regional campuses, choose corresponding codes). Qualifying students admitted in the Fall of 2016 will meet the following criteria: SAT scores of 1410 (combined Critical Reading and Math) or an ACT Composite score of 30. Students must also be in the top 10% of their high school graduating class.

The student must have an overall GPA of 3.6 when applying to the Communicaiton Science program at the beginning of the spring semester of sophomore year. At the time of application to the a graduate program, guaranteed students must have a cumulative grade point average (GPA) of 3.6 or better and a GPA of 3.75 in the core communication science major courses. Additionally, guaranteed students must achieve a GRE ranking in the 50th percentile or higher for the Quantitative and Verbal sections and a 3.5 on the Analytical Writing section. Finally, a full application must be submitted on time through the CSDCAS website.

Early Decision for Graduate Programs

Students pursuing an undergraduate degree in Communication Science from the University of Pittsburgh are eligible to apply Early Decision to either the University of Pittsburgh's graduate program in Audiology or Speech-Language Pathology. Contact Dr. Erin Lundblom, lundblom@pitt.edu, for candidate details and information on the process.

Major

Communication Science, BA

Course Requirements for the Undergraduate Major in Communication Science

(Total credits required = 120)

Students can contact the Director of CSD Undergraduate Education, Dr. Janice Vance, jvance@pitt.edu or 412-383-6562, for specialized advising as a freshman and/or sophomore.

Basic Skills Prerequisites

(15 credits)

Basic Writing (or exemption) - 3 Credits

English Composition (ENGCMP 0200 or higher) - 3 Credits

Mathematics (MATH 0031 or higher.) - 3 Credits

Second Language: First and Second Levels - 6 Credits

(Spanish, Latin, ASL, etc.)

(May also be satisfied by three years of high school second language.)

General Education Requirements

(21 to 24 credits)

English or American Literature - 3 Credits

Writing Intensive (W)* - 3 Credits

*May be combined with another requirement *(e.g., literature, history, etc.)*

Music or Art - 3 Credits

Second Literature / Music / Art or Creative Expression - 3 Credits

History - 3 Credits

International Culture - 6 Credits

International Culture (non-western) - 3 credits

Basic Science

(9 credits)

Behavioral Science - PSY 0010 INTRODUCTION TO PSYCHOLOGY - 3 Credits

Biological Science - A course in human biology (i.e.,BIOSC 0850 , BIOSC 0815 , or BIOSC 0150) or human anatomy and physiology. - 3 Credits

Physical Science -Suggested courses include: PHYS 0091 , PHYS 0110, or PHYS 0174 - 3 Credits

Additional Requirements

(15 credits)

Five additional courses must be completed, one from each of the areas listed below. These courses are designed to ensure that the student is well educated in related disciplines, in keeping with the place of communication science and disorders at the confluence of several realms of study. Some are also required for professional certification. Consult with the CSD Advising Office for more course options.

Statistical Methods - STAT 0200 or STAT 1000.

Neurological and Cognitive Foundations of Language - PSY 0405, PSY 0422, PSY 0505, PSY 0510, NROSCI 0080, or NROSCI 1000.

Philosophy of Science -HPS 0515, HPS 0608, HPS 0611, HPS 0612, HPS 0613, HPS 1653, PHIL 0350, PHIL 0610, or PHIL 1610.

Sociocultural Studies - ANTH 0620, ANTH 0780, PSY 0105, HIST 1090, LING 1235, LING 1263, LING 1267, LING 1722, LING 1724, SOC 0007, SOC 0312, SOC 0317, SOC 0352 , SOC 0477, or SOC 1450.

Lifespan Development - PSY 0310

Major (Core) Courses (41 credits)

Most of the core courses in Communication Science are taken after admission to the Communication Science program. Four of the core courses are available to freshman and sophomore students. These four courses can also be as part of the Communication Science program of study. Several core courses have prerequisites resulting in a sequence of courses. The course sequence is represented in the example Plan of Study. Interested students should be aware that the core courses or sequence of courses may change.

Courses

All courses are required.

CSD 1020 - NATURE OF LANGUAGE
CSD 1021 - LANGUAGE DEVELOPMENT
CSD 1022 - TRANSCRIPTION PHONETICS
CSD 1023 - ANATMY & PHYSIOLOGY OF SPEECH
CSD 1024 - ANATMY & PHYSIOLOGY OF HEARING
CSD 1025 - HEARING SCIENCE
CSD 1026 - SPEECH SCIENCE
CSD 1027 - LAB IN ANAT/PHYSIOLGY OF SPCH
CSD 1028 - LAB IN HEARING SCIENCE
CSD 1029 - LAB IN ANAT/PHYSLGY OF HEARNG
CSD 1030 - LAB IN SPEECH SCIENCE
CSD 1101 - INTRO TO CLINICAL PROCESSES
CSD 1230 - INTRO SPEECH LANG PATHOLOGY
CSD 1231 - EVAL TREATMNT COMMNCTN DISEAS
CSD 1232 - INTRODUCTION TO AUDIOLOGY
CSD 1233 - INTRODUCTION TO RESEARCH
CSD 1234 - WRIT PRAC FOR EVAL & TREATMENT

Courses Available to Freshman and Sophomore

The following courses are available to freshman and sophomore students. These courses can also be completed during the Communication Science program of study if not completed prior to admission.

Freshman Fall

CSD 1232 - INTRODUCTION TO AUDIOLOGY

Freshman Spring

CSD 1230 - INTRO SPEECH LANG PATHOLOGY

Sophomore Fall

CSD 1020 - NATURE OF LANGUAGE
If not already completed - CSD 1232 - INTRODUCTION TO AUDIOLOGY

Sophomore Spring

CSD 1101 - INTRO TO CLINICAL PROCESSES in SLP and Audiology - Prerequisites for this course are CSD 1232 and CSD 1230 (CSD 1230 may be taken simultaneously.)
If not already completed - CSD 1230 - INTRO SPEECH LANG PATHOLOGY

Plan of Study

This plan of study identifies the sequence of core courses offered in the Communication Science program. A course schedule for each semester is completed with any remaining General Education Requirements or Additional Requirements, minor or certificate courses, or other elective courses.

Junior Fall

If not already completed - CSD 1020 - NATURE OF LANGUAGE

If not already completed - CSD 1232 - INTRODUCTION TO AUDIOLOGY
CSD 1022 - TRANSCRIPTION PHONETICS
CSD 1023 - ANATMY & PHYSIOLOGY OF SPEECH
CSD 1027 - LAB IN ANAT/PHYSIOLGY OF SPCH

Junior Spring

If not already completed - CSD 1230 - INTRO SPEECH LANG PATHOLOGY
If not already completed - CSD 1101 - INTRO TO CLINICAL PROCESSES
CSD 1021 - LANGUAGE DEVELOPMENT
CSD 1026 - SPEECH SCIENCE
CSD 1030 - LAB IN SPEECH SCIENCE

Senior Fall

CSD 1024 - ANATMY & PHYSIOLOGY OF HEARING
CSD 1029 - LAB IN ANAT/PHYSLGY OF HEARNG
CSD 1231 - EVAL TREATMNT COMMNCTN DISEAS
CSD 1234 - WRIT PRAC FOR EVAL & TREATMENT

Senior Spring

CSD 1025 - HEARING SCIENCE
CSD 1028 - LAB IN HEARING SCIENCE
CSD 1233 - INTRODUCTION TO RESEARCH

Related Area / Minors and Certificates / Directed or Independent Studies

No additional related area is required for this undergraduate degree.

Many students are able to complete certificate programs or minors in addition to the requirements for the BA in *Communication Science*. In recent years, students have attained certificates in Conceptual Foundations of Medicine, Latin American studies, American Sign Language, and Children's Literature and minors in Neuroscience, Linguistics, Social Work and Sociology, among others. These are only a few of the many certificate and minor programs available at the University of Pittsburgh.

In some locations, employment within an educational setting requires additional courses and/or certification. Students considering work in educational settings should consider enrolling in education courses (i.e., IL) as electives. Students can consult with Dr. Erin Lundblom (lundblom@pitt.edu) in the CSD Advising Office for more information about teaching certification or state licensure.

Students may consult with Dr. Janice Vance (jvance@pitt.edu), Director of CSD Undergraduate Education, about the possibility of pursuing a directed or independent study with a member of the faculty as a formal approval process is required.

Emergency Medicine Program

Today, the field of out-of-hospital medicine is expanding rapidly to include many aspects of patient care in addition to emergency management and community medicine. As this field continues to grow and change, leaders and educators with a background in emergency medicine are needed to help shape the future of Emergency Medical Services (EMS). A Bachelor of Science degree in Emergency Medicine can benefit the EMS professional in many ways. This dynamic and multidisciplinary approach to emergency medicine education will provide the student with a strong foundation in clinical experiences, educational expertise and administrative leadership.

This Program is designed to meet the growing need for the advanced skill levels required in the EMS profession and to prepare students for the technical, clinical and administrative challenges of a career in EMS and health care today. Many Emergency Medicine (EM) students continue to medical school, PA School and other graduate level education.

Recognizing that students will be entering the Program with varying levels of education and experience, students are admitted into the program at the appropriate level based on student's career and academic experiences.

Students who have completed a minimum of 60 credits, including Pennsylvania or National Registry of EMTs (NREMT) EMT certification and the designated prerequisites, are admitted into the program for the junior year and with successful completion are provided the opportunity to obtain Pennsylvania paramedic certification and National Registry paramedic certification at the end of that year.

Students who have earned the aforementioned credits and are currently certified or licensed at the paramedic levels (by a state EMS agency or the National Registry of EMTs), may be awarded advanced standing and admitted into the Program as a senior transfer student. During the senior year, these students will be required to complete 30 credits within the School of Health and Rehabilitation Sciences to be eligible for graduation. Senior transfer students must complete EM core credits in a traditional format; web-based or distance course delivery format is not available. For more information, please contact the program at 412-647-4547.

Students who have earned the aforementioned credits, are currently active with the military and are currently US SOCM ATPs or certified or licensed at the paramedic level (by a state EMS agency or the National Registry of EMT), may be awarded advanced standing and admitted into the Program as active military transfer students. During the senior year, these students will be required to complete 30 credits within the School of Health and Rehabilitation Sciences to be eligible for graduation. Web-based delivery format is provided for all core courses. For more information, please contact the program at 412-647-4547.

Due to the ever changing health care industry and the integral part EMS has played in public safety, EMS will be more than a medical response in an emergency. It will play a vital role in improving the general health of the population in the community it serves. The demand is also growing for EMS professionals to have an expertise in business, management, teaching and clinical techniques. This Program is intended to give its students the edge in every aspect of the field.

Admission Requirements

Notification of admission occurs following a personal interview with the Emergency Medicine faculty and evidence of completion of all prerequisite criteria.

Applications are due March 15 and interviews will begin in January for all applicants. Applications received after the deadline will be reviewed based upon available space. All applicants are encouraged to apply early, as limited seats are available. Applications may be submitted while course requirements are in progress.

For Juniors: For Juniors: This Program requires students to complete clinical education at facilities external to the University, and such facilities will require a criminal background check, an Act 33/34/73 clearance, physical examination, blood titers, and a drug screen to determine whether the student applicant is qualified to participate in the clinical education. Students must be currently certified as an EMT by the Commonwealth of Pennsylvania. Out of state and Nationally Registered EMTs must apply for and receive endorsement by certification equaling reciprocity. A Program Fee of $1,500 is charged to each junior student to cover the cost of disposable equipment, supplies and specialty certifications. Students are required to purchase and wear clinical uniforms designated by the Program and maintain health insurance throughout the entire junior year. Additionally, in order to become certified/ licensed, many states will inquire as to whether the applicant has been convicted of a misdemeanor and a felony.

Major

Emergency Medicine Program

Prerequisite Courses

Students are admitted into the Emergency Medicine program after successful completion of a minimum of 60 college credits, including the following prerequisite courses:

Oral*/Written Communications - 6 Credits
Mathematics/Statistics/Computer Science - 4 Credits
Natural Sciences/Psychology - 6 Credits
Humanities/Social Science (ex . Anthropology, Economics, English Literature/Writing, Second Language, History, Music, Performing & Visual Arts, Philosophy, Religion, Sociology, etc.) - 6 Credits
Additional Credits from Above Content Areas - 8 Credits
EMT with Lab ** - 4 Credits
Additional Coursework - 26 Credits

*Accepted Oral Communications Courses: COMMRC 0500, COMMRC 0510, COMMRC 0520, COMMRC 0530, COMMRC 0540, COMMRC 0550.

**Verification of current Pennsylvania or National Registry EMT certification must be provided. If a non-credit course was taken for this certification, 4 credits may be granted through credit by course examination. Junior year students without Pennsylvania EMT certification will be required to apply for and receive reciprocity from the Pennsylvania Department of Health.

**Current Paramedic certification must be demonstrated to receive the advanced standing of 39 credits (*includes four credits of EMT). The awarding of 39 advanced standing credits limits the transfer of college credits to no more than 51 credits (including required 30 prerequisites and 21 additional coursework credits). College classes taken as requirement for obtaining paramedic certification may not be utilized toward the 51 credits.

Emergency Medicine Curriculum

Fall Term-Junior Year

EM 1111 - FOUNDATIONS OF EMERGENCY CARE
EM 1112 - PATHOPHYSIOLOGY
EM 1114 - MEDICATION ADMINISTRATION
EM 1115 - INTRO TO PHYSICAL ASSESSMENT
EM 1116 - PHYSICAL EXAM LAB
EM 1122 - CARDIOLOGY AND RESPIRATORY
EM 1131 - CLINICAL 1

Spring Term-Junior Year

EM 1113 - PHARMACOLOGY
EM 1117 - EMS OPERATIONS
EM 1123 - CARDIOLOGY LAB
EM 1124 - ADULT MEDICAL EMERGENCIES
EM 1125 - OB/GYN, NEWBORN, & PEDS CARE
EM 1126 - ASSESSMENT BASED MANAGEMENT
EM 1132 - CLINICAL 2

Fall Term-Senior Year Core Content

EM 1152 - ISSUES IN HEALTH CARE
EM 1153 - ISSUES IN HLTH CARE EDUCATION
EM 1154 - HEALTH CARE RESEARCH
EM 1155 - LEGAL ISSUES IN HEALTH CARE
EM 1158 - FINC & ACCT FOR HEALTH CARE
EM 1180 - HEALTH CARE MANAGEMENT

Spring Term-Senior Year Core Content

EM 1160 - PROFESSIONAL ISSUES
EM 1166 - SENIOR INTERNSHIP
EM 1168 - LEADERSHIP IN HEALTHCARE
EM 1169 - CRITICAL CARE MANAGEMENT
EM 1177 - SENIOR SEMINAR

Additional Senior Level Elective Courses

EM 1185 - BEYOND THE BODY - WEB
EM 1187 - ORGANIZATIONAL THEORY-WEB
EM 1186 - CERTIFIED AMBULANCE CODER-WEB
EM 1250 - INTRODUCTION COMMUNITY HEALTH
EM 1251 - MOBILE INTEGRATED HEALTHCARE
EM 1260 - COGV PSYCH OF DECISION MAKING

Transfer Students

Students are required to earn 30 credits within the University of Pittsburgh School of Health and Rehabilitation Sciences and these may not include prerequisite courses. Senior transfer students are required to have current certification/licensure as a paramedic and have completed 51 college credits, including the required prerequisite courses. All senior transfer students will be offered a 3-credit online EM course each semester to fulfill the 30-credit requirement (Beyond the Body will be offered in the fall semester and Organizational Theory will be offered in the spring). Students may take other 3-credit courses within SHRS each semester to fulfill the 30-credit requirement. Senior transfer students must complete EM core credits in a traditional format; web-based or distance course delivery format is not available.

For Juniors: This Program requires students to complete clinical education at facilities external to the University, and such facilities will require a criminal background check, an Act 33/34/73 clearance, physical examination, blood titers, and a drug screen to determine whether the student applicant is qualified to participate in the clinical education. Students must be currently certified as an EMT by the Commonwealth of Pennsylvania. Out of state and Nationally Registered EMTs must apply for and receive endorsement by certification equaling reciprocity. A Program Fee of $1,500 is charged to each junior student to cover the cost of disposable equipment, supplies and specialty certifications. Students are required to purchase and wear clinical uniforms designated by the Program and maintain health insurance throughout the entire junior year. Additionally, in order to become certified/ licensed, many states will inquire as to whether the applicant has been convicted of a misdemeanor and a felony.

Active Duty Militaty Students

Students are required to earn 30 credits within the University of Pittsburgh School of Health and Rehabilitation Sciences and these may not include prerequisite courses. Active military transfer students are required to have current certification/licensure as a paramedic and have completed 51 college credits, including the required prerequisite courses. Beyond the Body and Organizational Theory are offered as part of the core curriculum for this program. All core coursework for active military students is provided in a web-based format.

Department of Health Information Management

Accurate, reliable patient data is critical to health professionals, and the health information management department is the key health center for medical staff, administrators, other health professionals, and the community. In today's, environment, HIM professionals engage in a variety of roles, from the more traditional HIM directors, to privacy officers, systems analysts, and electronic health record specialists. The health information management professional is a key member of an organization and ensures that patient information is available when it is needed, while maintaining high standards of data integrity, confidentiality, and security. Health information management professionals design, develop, evaluate, and manage health information systems and disease registries in all types of health care facilities, organizations, and agencies. Please visit AHIMA.org for more information on career paths.

Health information management graduates are prepared to serve the health care industry wherever health information is collected, organized, and analyzed, and work in a variety of health care settings such as acute-care hospitals, psychiatric facilities, ambulatory-care facilities, physician office practices, long-term care facilities, mental health agencies, and rehabilitation centers. HIM professionals use their expertise in over 40 different work

settings such as hospitals, healthcare technology vendors, consulting firms and insurance companies to name a few. Their ranks are also increasing in consulting, accounting and legal firms, disease registries, payer organizations (e.g. insurance, reimbursement), research and policy agencies, and educational institutions.

Due to the increased presence of technology as a key component of health care delivery, more HIM professionals are finding career opportunities in the information systems environment, where they develop, market, and implement software; ensure that systems comply with standards and regulations, and work in support of quality, privacy, and security in paper-based as well as electronic medical records. The opportunities for graduates continue to be plentiful. The Bureau of Labor Statistics cites health information professionals as one of the 20 fastest-growing occupations in the US. On top of strong job prospects, competitive salaries also await HIM graduates. More than half of new HIM graduates with a bachelor's degree start with salaries in the $40-50,000 range.

In order to meet the data requirements of all facets of the health care delivery system, a broad-based curriculum has been designed for health information management students. The health information manager combines knowledge of health care, health records, information management, and administration to provide quality services that meet the medical, epidemiological, administrative, legal, ethical, regulatory, and institutional requirements of the health care delivery system being served. The graduate must also have an understanding of anatomy, physiology, pathophysiology, epidemiological research, statistical methods, and legal aspects of health care, as well as knowledge of both state and federal regulations.

Clinical education, beginning in the spring term of the junior year, is scheduled at various health care institutions to provide the student with real experiences in the profession. The final clinical education is a six-week full-time management affiliation at a health care institution within, or, at times, outside the state. Students are required to provide their own transportation to clinical sites, whether they are on campus or located at an off-campus site and are responsible for all expenses during clinical education.

The health information management program is accredited by the Commission on Health Informatics and Information Management Education (CAHIIM). Following satisfactory completion of all course requirements, the graduate will be awarded the degree of Bachelor of Science and students are eligible to sit for the RHIA (http://www.ahima.org/certification/RHIA) credentialing examination administered by the Commission on Certification for Health Informatics and Information Management (CCHIIM) an affiliate of the American Health Information Management Association (AHIMA) during their last semester of study. For more information, see http://www.shrs.pitt.edu/him/.

Results from the 2015 outcomes assessment reported to CAHIIM in the 2016 Annual Program Report (APAR) indicate:

A 100% employer satisfaction rate

A 100% graduate satisfaction rate

A 93% pass rate National Certification Exam

Part-Time Study

Students may pursue this program on a part-time basis. A meeting with the appropriate advisor is recommended.

Progression for the Registered Health Information Technician (RHIT)

Provision for transfer of credits may be made for those students who have satisfactorily completed a junior college health information technology program accredited by the Commission on Health Informatics and Information Management Education (CAHIIM). In addition, the HIM department has an articulation agreement with the Health Information Technology Program at the Community College of Allegheny County, enabling qualified graduates of the HIT program to matriculate into the HIM program at the University of Pittsburgh as juniors.

The Pitt Freshman Guarantee

All incoming Pitt freshmen choosing the Pre-Health Information Management major will be granted guaranteed admission for the Master of Science in Health and Rehabilitation Sciences with a concentration in Health Information Management (at regional Pitt campuses, choose corresponding codes).

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http://www.shrs.pitt.edu/HIM/

Admission Requirements

Students are admitted into the health information management program after successful completion of a minimum of 60 credits, including the following prerequisite courses:

- General Biology - 3 Credits
- General Chemistry - 3-4 Credits
- Communication/Public Speaking - 3 Credits
- Information Science/Computer Science (must include a programming course) - 9 Credits
- General Writing - 6 Credits
- Mathematics* - 2-3 Credits
- General Psychology - 3 Credits
- Statistics* - 3-4 Credits
- Humanities/Social Sciences - 6 Credits

*A combination of 6 credits of math and statistics is required.

Other admission criteria include minimum cumulative GPA of 2.50 (based on 4.00), and minimum of a C- grade in all courses designated as prerequisite (C required for credit transfer from other institutions); volunteer or paid work experience in the field of health information management is recommended.

Pitt Students (including regional campuses)

Complete the SHRS ApplyYourself online application.

Transfer Students

Transfer students must apply to the University of Pittsburgh by completing the Office of Admission and Financial Aid's Transfer Application and selecting Health Information Management as their intended field of study. International transfer students click here.

All applicants must:

- Submit a personal essay-a brief statement discussing why you are interested in the Undergraduate Program in Health Information Management, your professional goals including how and when you became interested in this field of study. You may also include other areas of interest, extra-curricular activities and leadership experiences;
- Submit one letter of recommendation. Recommendation from a college instructor/professor, recent supervisor, or academic advisor preferred;
- Submit official transcripts from all colleges and universities attended;
- Applications can be submitted when course requirements are in progress.

Applications are reviewed on a rolling basis.

Major

Health Information Management, BS

Program Curriculum

Fall Term-Junior Year

HRS 1020 - ANATOMY AND PHYSIOLOGY
HRS 1027 - PATHOPHYSIOLOGY
HIM 1405 - MEDL TRMNLGY PHCOL PATHPHYLGY
HIM 1406 - DATABASE MGT AND ANALYTICS
HIM 1407 - DATABASE MGT & ANALYTICS LAB
HIM 1415 - INTRO HEALTH INFOR & HLTH CARE
HIM 1416 - INTRO HEALTH INFOR LAB 1

HIM 1420 - ORGANIZATIONAL THEORY & BEHAVR or
HRS 1009 - ORGANIZATIONAL THEORY & BEHAVR

Credits: 18

Spring Term-Junior Year

HIM 1435 - CLASSIFICATION SYMS HEALTH CRE
HIM 1436 - CLASSIFICATION SYSTEMS LAB 2
HIM 1438 - CANCER REGISTRY THRY & PRA LAB
HIM 1440 - HIM CLINICAL EDUCATION 1

HIM 1442 - APPLC OF STATCL CONCPTS IN HIM or
HRS 1008 - APPLC OF STATCL CONCPTS IN HIM

HIM 1455 - QUALITY MANAGEMENT
HIM 1456 - QUALITY MANAGEMENT LAB

Credits: 14

Summer Session 1-Junior Year

HIM 1445 - HUMAN RELATIONS IN HLTH CARE
HIM 1460 - HIM CLINICAL EDUCATION 2
HIM 1462 - EPIDEMIOLOGY
HIM 1465 - REIMBURSEMENT SEMINAR

Credits: 6

Fall Term-Senior Year

HIM 1470 - SUPERVISION HUMAN RESOURCES HC
HIM 1475 - HIM NON-TRADITIONAL SETTING
HIM 1480 - HIM CLINICAL EDUCATION 3
HIM 1482 - LEGAL ASPECTS OF HEALTH CARE
HIM 1485 - SYSTEMS ANALYSIS IN HLTH CARE

Credits: 13

Spring Term-Senior Year

HIM 1486 - FINANCIAL MANAGEMENT FOR HIM
HIM 1490 - ELECTRONIC HEALTH RECORDS
HIM 1495 - HIM CLINICAL EDUCATION 4
HIM 1496 - CAPSTONE COURSE IN HIM *

Credits: 12

Total Prerequisite Credits: 60

Total SHRS Credits: 63

Total Credits: 123

***Students take the RHIA Registration Exam**

Note: For part-time and registered health information technician students, HIM Clinical Education HIM 1440, HIM 1460, HIM 1480, and HIM 1495 and HIM 1496 (Capstone Course in HIM) may be taken in any term with permission of advisor and the instructor after the appropriate prerequisite courses have been completed.

Clinical Education

Health Information Management undergraduate students participate in four different clinical education (CE) internships that facilitate a deeper understanding of the professional practice aspects of health information and related health-care areas. The overall goal of the clinical education is to provide students with practical experiences to apply their knowledge and skills that they develop as they progress through the HIM curriculum. Each internship experience provides the HIM student with a different focus, and the opportunity for the student to interact with HIM professionals as well as other professionals in the health care field.

The HIM department has affiliation agreements with approximately 200+ clinical sites for student internships. The following list provides a sample of these sites:

Adelphoi Village (behavioral health)
Allegheny Valley Hospital

Center for Connected Medicine
Country Meadows Nursing Home
creehan & company
Diskriter, Inc.
Geisinger Health System
Heritage Valley Health Center
Intermountain Health Care, Salt Lake City, UT
Jameson Health System
M*Modal
MedAllies
PA Department of Corrections
The Innovation Center of UPMC
Trinity Health System
UCLA Medical Center
University of Pittsburgh Dental Informatics
University of Pittsburgh Cancer Institute (Hillman Cancer Center)
UPMC Health Plan
UPMC Health System
UPMC Physician Services Division
Wheeling Hospital
WVU Healthcare

Prerequisites for Clinical Education:

Students must complete certain requirements to be eligible to participate in clinical education. The HIM Clinical Education Coordinator will provide detailed information and time guidelines for completion of these requirements once the student matriculates into the HIM program.

- Physical examination including proof or completion of specific immunizations
- TB test, 2-step
- Pennsylvania Criminal Record Check
- Pennsylvania Child Abuse Clearance
- FBI Background Check (includes fingerprinting)
- HIPAA Training and Certification
- Bloodborne Pathogen Training and Certification
- Students must carry personal health insurance while participating in clinical education
- Students must carry professional student liability insurance coverage while participating in clinical education. This coverage is provided by the SHRS group insurance plan and will appear as a charge on the students' tuition bill.
- Some sites may have additional requirements (i.e. drug screen, influenza vaccine, or orientation programs specific to their organization).
- Clinical Education sites may not allow a student to participate in an internship at their site if the background check reports that they have been convicted of a misdemeanor; a felony; or a felonious or illegal act associated with alcohol and/or substance abuse.

Additional Information:

- Travel to clinical education sites is the responsibility of the student. Students are expected to have a car or to provide their own transportation to all remote sites; no exceptions will be made. Not all sites are accessible by public transportation.
- All expenses for transportation, parking, meals, and costs of prerequisites associated with clinical education are the responsibility of the student.
- Approximate cost for clearances is $100 annually, and costs for physical exam and immunization status are dependent on health insurance coverage and provider costs.
- Approximate cost for drug screen is $40.

For more information on Clinical Education, email Patti Anania Firouzan, HIM Clinical Education Coordinator: patti@pitt.edu.

Department of Rehabilitation Science

Major

Rehabilitation Science, BS

The Bachelor of Science program in rehabilitation science offers a dynamic curriculum designed to prepare students for graduate education in occupational therapy, physical therapy, physician assistant studies, prosthetics and orthotics, rehabilitation counseling and assistive technology, as well as for graduate studies in other health care fields. In addition to the coursework offered, the program has the flexibility to allow students to pursue their particular interests and goals. Students are encouraged to explore other areas of academic inquiry through elective courses, minors and certificates throughout the University and abroad; to participate in clinical experiences; to involve themselves in undergraduate research; and to develop their leadership and community building skills through participation in student organizations and community service.

The majority of faculty members who teach in this program are a strong interdisciplinary group of individuals from the School of Health and Rehabilitation Sciences departments, including the departments of Emergency Medicine, Occupational Therapy, Physical Therapy, Physician Assistant Studies, and Rehabilitation Science and Technology. In addition, instructors from other schools of the health sciences teach within the program along with community leaders, clinicians and researchers with experience in selected areas.

Admission Requirements

Students are eligible for admission to the rehabilitation science program after successful completion of 60 college credits including the following prerequisite courses, other admission criteria and an application.

General Biology (BIOSC 0150) and Lab (BIOSC 0050 or BIOSC 0057) - 4 Credits
General Chemistry and Lab (CHEM 0110) - 4 Credits
Physics 1 (PHYS 0110) - 3-4 Credits
Mathematics (MATH 0031 or higher) - 2-3 Credits
MATH 0032 - TRIGONOMETRY AND FUNCTIONS or higher is highly recommended.
Statistics (STAT 0200, STAT 1000, or higher) - 3-4 Credits
Introduction to Psychology (PSY 0010) - 3 Credits
Human Development - 3 Credits
REHSCI 1245 - HUMAN DEVELOPMENT or PSYED 0005 - LIFE SPAN DEVELOPMENT preferred; PSY 0310 - DEVELOPMENTAL PSYCHOLOGY accepted
English Composition (Minimum ENGCMP 0200 or equivalent) - 3 Credits
Intensive Writing (W) (ENGCMP 0450 recommended) - 3 Credits
Social Science/Humanities (ANTH 0780 recommended) - 6 Credits

Total Prerequisites: 34-37

Students planning to apply to graduate programs in health sciences are encouraged to complete most of the prerequisite courses for those programs (e.g., Physics 2, Biology 2, Chemistry 2, etc.) prior to admission to the undergraduate rehabilitation science program. Anatomy and Physiology (prerequisites for many professional health science programs) are included in the rehabilitation science curriculum.

For additional admission criteria, see the SHRS Admissions section of this Bulletin.

Please note that admission to the Rehabilitation Science program is competitive. Meeting the minimum admission criteria does not guarantee admission.

Rehabilitation Science Degree Requirements

General Requirements

Prerequisites for admission into BS program
Minimum of 60 Rehabilitation Science credits
(minimum 30 SHRS credits and 30 additional credits approved by RS Program Director)
120 credits total
Fulfillment of core requirements
Plan of study approved by Academic Advisor

Core Curriculum Requirements

REHSCI 1225 - INTRO TO REHABLTTN SCIENCE
REHSCI 1235 - MEDICAL TERMINOLOGY
REHSCI 1240 - ISSUES IN HEALTH CARE
REHSCI 1265 - PHARMACOLOGY IN REHABILITATION
REHSCI 1280 - PSYCH AND SOCLGY OF DISABILITY

Human Anatomy:

(One of the following)

REHSCI 1200 - HUMAN ANATOMY
Another approved human anatomy course

Human Physiology:

(One of the following)

REHSCI 1205 - HUMAN PHYSIOLOGY
NROSCI 1250 - HUMAN PHYSIOLOGY
Another approved human physiology course

Neuroscience:

(One of the following)

REHSCI 1210 - NEUROSCIENCE
NROSCI 1000 - INTRO TO NEUROSCIENCE
PSY 0505 - INTRO TO BIOPSYCHOLOGY

Research:

(One of the following)

REHSCI 1000 - INTRODUCTION TO RESEARCH
PSY 0035 - RESEARCH METHODS
SOC 0230 - SOCIAL RESEARCH METHODS

Global Citizenship:

(One of the following)

REHSCI 1292 - DIVERSITY/CULTL HEALTH/REHAB
REHSCI 1297 - CROSS-CULTURAL INDP STUDY
ANTH 1761 - PATNTS & HEALERS: MEDCL ANTH 1
HIST 1090 - HISTORY MEDICINE & HEALTH CARE
NUR 1829 - CONTEM ISSUES CROS CULTL HLTH

PUBHLT 1001 - INTRODUCTION TO GLOBAL HEALTH
PUBHLT 1002 - SPECIAL TOPICS GLOBAL HEALTH
SOCWRK 1035 - GLOBL PERSPECTIVES SOCIAL WORK
SPAN 1323 - MEDICAL SPANISH

Study/Internship abroad with health, rehabilitation, or disability component, and an academic inquiry into culture. Contact department for additional details and requirements.

Additional Rehabilitation Science Elective Courses

REHSCI 1215 - EXERCISE PHYSIOLOGY
REHSCI 1218 - EMERGING BIOMEDICAL TECHN
REHSCI 1220 - KINESIOLOGY AND BIOMECHANICS
REHSCI 1230 - REHABILITATION ETHICS
REHSCI 1245 - HUMAN DEVELOPMENT
REHSCI 1250 - PATHOPHYSIOLOGY/HUMAN DISEASE
REHSCI 1275 - INTRO TO OCCUPATION SCIENCE
REHSCI 1285 - INTRO TO EVIDENCED-BASED REHAB
REHSCI 1290 - PRACTICAL ISSUES IN DISABILITY
REHSCI 1295 - FIELD EXPERIENCE
REHSCI 1296 - ATR FIELD EXPERIENCE
REHSCI 1299 - INDEPENDENT STUDY
HRS 1052 - TOPICS IN CLINICAL PSYCHOLOGY
HRS 1095 - COMMUNITY CONNECTOR COURSE
HRS 1701 - INTRO ORTHOTICS & PROSTHETICS
HRS 1704 - INTRO TO ASSISTIVE TECHNOLOGY
HRS 1706 - INTRO REHAB ENGR DESIGNS
HRS 1718 - PROJ BASED TECHNLGY DESIGN

Example Plan of Study

This plan of study example includes both required and elective courses offered in the Rehabilitation Science program. Students are encouraged to design their own plan of study based on their career, academic and personal interests.

Junior Year-Fall Term

HRS 1701 - INTRO ORTHOTICS & PROSTHETICS
REHSCI 1200 - HUMAN ANATOMY
REHSCI 1205 - HUMAN PHYSIOLOGY
REHSCI 1225 - INTRO TO REHABLTTN SCIENCE
REHSCI 1235 - MEDICAL TERMINOLOGY
REHSCI 1240 - ISSUES IN HEALTH CARE

Credits: 15

Junior Year-Spring Term

Study Abroad - 15 Credits

or

REHSCI 1000 - INTRODUCTION TO RESEARCH
REHSCI 1220 - KINESIOLOGY AND BIOMECHANICS
REHSCI 1275 - INTRO TO OCCUPATION SCIENCE
REHSCI 1265 - PHARMACOLOGY IN REHABILITATION
REHSCI 1292 - DIVERSITY/CULTL HEALTH/REHAB

Credits: 15

Senior Year-Fall Term

HRS 1704 - INTRO TO ASSISTIVE TECHNOLOGY
REHSCI 1210 - NEUROSCIENCE
REHSCI 1215 - EXERCISE PHYSIOLOGY
REHSCI 1230 - REHABILITATION ETHICS
REHSCI 1285 - INTRO TO EVIDENCED-BASED REHAB

Credits: 15

Senior Year-Term 2

REHSCI 1250 - PATHOPHYSIOLOGY/HUMAN DISEASE
REHSCI 1280 - PSYCH AND SOCLGY OF DISABILITY
REHSCI 1295 - FIELD EXPERIENCE
Electives - 5 Credits

Credits: 15

Certificate

Assistive Technology in Rehabilitation Certificate

Undergraduate Rehabilitation Science Certificates

The undergraduate program in Rehabilitation Science offers undergraduate certificates for students planning to continue their education in rehabilitation science programs or seeking a concentration of courses in a particular rehabilitation science area. These certificates are designed to best prepare students for rehabilitation-related graduate programs; however, the certificates are not a requirement for application.

The undergraduate Rehabilitation Science certificates are listed below followed by the specific course requirments for each:

Assistive Technology in Rehabilitation
Pathokinesiology in Rehabilitation
Psycho-Social Issues in Rehabilitation and Personal Care

Requirements

This certificate provides a focused area of study for students interested in careers providing technology to individuals with disabilities. It will prepare students for graduate programs such as prosthetics and orthotics or rehabilitation technology. It will also provide the course work and some of the clinical hours needed to satisfy the requirements for the RESNA (Rehabilitation Engineering and Assistive Technology Society of North America) Assistive Technology Supplier certification.

REHSCI 1200 - HUMAN ANATOMY *

REHSCI 1205 - HUMAN PHYSIOLOGY *
HRS 1701 - INTRO ORTHOTICS & PROSTHETICS
HRS 1704 - INTRO TO ASSISTIVE TECHNOLOGY
HRS 1706 - INTRO REHAB ENGR DESIGNS

REHSCI 1210 - NEUROSCIENCE or
NROSCI 1000 - INTRO TO NEUROSCIENCE or
PSY 0505 - INTRO TO BIOPSYCHOLOGY

REHSCI 1220 - KINESIOLOGY AND BIOMECHANICS

REHSCI 1290 - PRACTICAL ISSUES IN DISABILITY or
HRS 1017 - INTRO TO EPIDEMIOLOGY or
HRS 1052 - TOPICS IN CLINICAL PSYCHOLOGY or
PSY 1052 - TOPICS IN CLINICAL PSYCHOLOGY or
IL 1580 - FOUNDATIONS OF SPECIAL EDUC or
IL 1562 - ASSMNT: YOUNG CHILD W/DISABS

REHSCI 1275 - INTRO TO OCCUPATION SCIENCE
REHSCI 1296 - ATR FIELD EXPERIENCE

Total Certificate Credits: 32-33

*Or other approved Human Anatomy/Physiology course sequence.

Pathokinesiology in Rehabilitation Certificate

Undergraduate Rehabilitation Science Certificates

The undergraduate program in Rehabilitation Science offers undergraduate certificates for students planning to continue their education in rehabilitation science programs or seeking a concentration of courses in a particular rehabilitation science area. These certificates are designed to best prepare students for rehabilitation-related graduate programs; however, the certificates are not a requirement for application.

The undergraduate Rehabilitation Science certificates are listed below followed by the specific course requirments for each:

Assistive Technology in Rehabilitation
Pathokinesiology in Rehabilitation
Psycho-Social Issues in Rehabilitation and Personal Care

Requirements

Completion of this certificate provides the student with an excellent background in the sciences related to normal and pathological motion. It often complements coursework offered in graduate programs such as physical therapy, occupational therapy, physician assistant studies, exercise science, kinesiology, and sports medicine. With minimal additional coursework (nutrition and fitness instruction), it also prepares students to take examinations for certification as a personal trainer or fitness expert, such as the Certified Strength and Conditioning Specialist (CSCS®) offered by the National Strength and Conditioning Association.

REHSCI 1200 - HUMAN ANATOMY
REHSCI 1205 - HUMAN PHYSIOLOGY
REHSCI 1210 - NEUROSCIENCE
REHSCI 1215 - EXERCISE PHYSIOLOGY
REHSCI 1220 - KINESIOLOGY AND BIOMECHANICS
REHSCI 1250 - PATHOPHYSIOLOGY/HUMAN DISEASE
REHSCI 1285 - INTRO TO EVIDENCED-BASED REHAB

Total Certificate Credits: 25

Psycho-Social Issues in Rehabilitation Certificate

Undergraduate Rehabilitation Science Certificates

The undergraduate program in Rehabilitation Science offers undergraduate certificates for students planning to continue their education in rehabilitation science programs or seeking a concentration of courses in a particular rehabilitation science area. These certificates are designed to best prepare students for rehabilitation-related graduate programs; however, the certificates are not a requirement for application.

The undergraduate Rehabilitation Science certificates are listed below followed by the specific course requirments for each:

Assistive Technology in Rehabilitation
Pathokinesiology in Rehabilitation
Psycho-Social Issues in Rehabilitation and Personal Care

Requirements

Completion of this certificate provides the student with a background in the psychological and social issues involved in disability, rehabilitation, and personal care. It helps prepare students for graduate programs in areas such as occupational therapy, physician assistant studies, rehabilitation counseling, accelerated or direct entry nursing programs, or disability studies. This certificate also introduces the student to some of the knowledge needed to provide personal care to individuals with disabilities.

HRS 1704 - INTRO TO ASSISTIVE TECHNOLOGY
REHSCI 1200 - HUMAN ANATOMY
REHSCI 1205 - HUMAN PHYSIOLOGY

REHSCI 1210 - NEUROSCIENCE or
NROSCI 1000 - INTRO TO NEUROSCIENCE or
PSY 0505 - INTRO TO BIOPSYCHOLOGY

REHSCI 1230 - REHABILITATION ETHICS
REHSCI 1250 - PATHOPHYSIOLOGY/HUMAN DISEASE

REHSCI 1290 - PRACTICAL ISSUES IN DISABILITY or
HRS 1052 - TOPICS IN CLINICAL PSYCHOLOGY or
PSY 1052 - TOPICS IN CLINICAL PSYCHOLOGY or
HRS 1017 - INTRO TO EPIDEMIOLOGY or
IL 1580 - FOUNDATIONS OF SPECIAL EDUC or
IL 1562 - ASSMNT: YOUNG CHILD W/DISABS or
PSYED 1012 - DEVELOPMENTAL DISABILITIES or
REHSCI 1255 - EPIDEMIOLOGY OF DISABILITY

REHSCI 1275 - INTRO TO OCCUPATION SCIENCE

Total Certificate Credits: 26-27

*Or other approved Human Anatomy/Physiology course sequence.

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School of Information Sciences

The Bachelor of Science in Information Science degree program at the University of Pittsburgh offers a curriculum that meets industry's needs. In fact, industry leaders have helped to develop this program. Our graduates have gained critical skills and broad theoretical knowledge in programming principles, database systems, networks, human-computer interaction, and systems design. They understand how to manage today's complex information systems and design the systems that business and industry will need in the future.

The program offers a chance to focus on one of three industry-centered specializations: information systems, user-centered design, and networks and security. Or, take advantage of the breadth of courses offered in the School by self-designing a major. Students are required to participate in a capstone experience such as an internship with a regional company. With the University located in a major urban environment, our students find amazing internship opportunities with health care entities, manufacturing companies, and technology-related corporations.

This undergraduate program has prepared students for successful careers as system analysts and designers, database managers, network analysts, software engineers, project data managers, business analysts, security managers, Web site designers, Web report developers, information architects, and information analysts.

For more information about the program, please visit the School of Information Sciences' Web site, www.ischool.pitt.edu/bsis.

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Admission Procedures

The freshman and sophomore years are spent in the College of Arts and Sciences or the College of General Studies. During the first two years, a pre-Information Science student takes courses needed for admissions and begins satisfying some of the required Skills, General Education, Related Area, and Information Science course requirements.

Upon completion of 55 credits, pre-Information Science students can apply to the Information Science program by meeting with their advisors and completing an Undergraduate Academic Program/Plan Add/Change Form and a BSIS School Transfer Application. Your advisor will send these, plus your folder, to the School of Information Sciences, and they will be reviewed by an admissions committee. Decisions are made in about two weeks. Deadlines: August 1 for the Fall Term, December 1 for the Spring Term, April 1 for the Summer Term.

Admission Requirements

To be considered for transfer to the Information Science program, applicants must present an adequate lower-level undergraduate academic record and be in good standing in the college or school in which they are currently enrolled. Applicants must have earned at least 55 credits hours of course work (including current term credits) and have demonstrated strong evidence of academic achievement. Students must have earned a "C" or better in any General Education, Skills, Related, or Information Science course. Meeting these minimum qualifications does not guarantee admission to the program. The total academic record, as well as the probability of completion of the Information Science program requirements within the remaining credit hours, will be considered. For further information, see the Transfer Students section below.

Students must complete INFSCI 0010-Introduction to Information, Systems, and Society.

Transfer Students

Students at other institutions who wish to apply for admission as transfer students to the program should submit a Transfer Application and supporting materials to the Office of Admissions and Financial Aid. Prospective transfer students should note especially that the evaluation of course work taken at other colleges and universities will be made by advisors at the iSchool. Students who have been admitted as transfer students will be told at the time of admission how much advanced standing credit they have been awarded by the undergraduate advisor.

Students in Pitt's undergraduate schools or regional campuses at the University should initiate the process of transferring into the Information Science program by completing an Undergraduate Academic Program/Plan Add/Change form and a BSIS Transfer Application and requesting that the school in which they were most recently enrolled send these to the School. Students currently on inactive status in the school of last registration must first be reinstated in that school before the transfer process can be completed.

Former students who have enrolled in other institutions may apply for readmission with advanced standing. Such students should apply to the University's Office of Admissions and Financial Aid. Credits earned elsewhere and accepted for transfer by the School will be added to those satisfactory credits originally earned at the University of Pittsburgh.

Post Baccalaureate and Guest Students

Post baccalaureate and guest students are holders of bachelor's degrees who have been permitted to take additional undergraduate course work as nondegree students. The number of credits that may be taken by nondegree, post baccalaureate students is limited to a maximum of 12.

Guest students are students who are matriculated in degree programs elsewhere but whom, with the permission of their home schools, wish to take courses in the Information Science program. The expectation is that credit thus earned will be transferred to the home school to be used in satisfying degree requirements. The home school must certify that the proposed arrangement is satisfactory before such a student will be admitted. Suspended or dismissed students, even with their home school's permission, cannot be admitted as guest students. Guest student status is not usually granted for more than two terms.

Application forms for admission as either a nondegree post baccalaureate or guest student are available at the School of Information Sciences. Acceptance cannot be granted until all necessary materials have been received, including the completed application form, official transcripts, and application fee. The deadlines for application for special students are August 1 for Fall Term, December 1 for Spring Term, and April 1 for Summer Term admissions.

Academic Integrity

A student has an obligation to exhibit honesty, and to respect the ethical standards of the information professions in carrying out his or her academic assignments. All students are responsible for adhering to policies on academic integrity, which are available on the School's Web site.

Advising

Since several of the Information Science courses may be taken during the first and second years of study, Information Science faculty cooperate with Arts and Sciences (A&S) and College of General Studies (CGS) advisors to help students plan the first two years of study. Information Science courses taken during the first two years serve two purposes:

- For those students who are undecided on a major, early contact with Information Science can provide a basis for deciding whether or not to major in the subject; and
- For those students who have already decided on Information Science as a major, the courses can indicate more fully the topics that are of interest and also reduce the load to be taken during the third and fourth years.

Once students have been accepted into the Information Science program, they are assigned an advisor. Initially, the student and advisor discuss the student's program in Information Science, a related field, and other academic options. Each term, the student and advisor should review the student's progress and select the courses to be taken to satisfy the student's program goals. In addition, the student and advisor should discuss career goals, educational plans, and any academic-related problems.

The School's policy emphasizes the role of an advisor in providing advice for academic decisions, and students are urged to take full advantage of their advisor's experience and knowledge as often as needs arise. To avoid schedule conflicts, students are strongly advised to contact their advisors for an appointment.

Academic Standards

Full-time students in the program are expected to complete 24 credit hours of work each academic year with a GPA of at least 2.75 (12 credit hours for students granted part-time status). They are also expected to maintain a cumulative GPA of 2.50 and a 2.50 GPA in Information Science courses. Failure to meet any or all of these conditions automatically places a student in academic jeopardy. Students who fail to meet these conditions for two consecutive terms and who, in their most recent term of residence, failed to complete 12 credits (6 credits for part-time students) with a GPA of 2.50 are liable to be suspended. Students who have been suspended are not permitted to enroll in University courses for one calendar year.

Students who have been admitted to the Information Science program are eligible to continue as long as a satisfactory academic standing is maintained or until the degree has been earned. The School's statute of limitations requires that all of the credits required for the Bachelor of Science degree, whether earned in residence or transferred from another institution, must have been earned within 12 years prior to the date on which the degree is awarded. However, when given evidence that the previous courses still provide adequate preparation for courses yet to be taken and still represent a reasonable part of the total academic program, the director of the undergraduate program may waive this limitation. In such cases, the waiver is for a specific period during which the program must be completed.

Credit Load

A normal credit load ranges from 12 to 18 credits per term, with a minimum of 24 credits in an academic year. Any term credit load in excess of 18 credits requires the approval of the director of the undergraduate program and approval of the dean at the School of Information Sciences. No more than 60 credits may be taken in one department or school, and usually not more than 40 credits are considered desirable in a well-balanced program.

Course Repetitions

Required courses for an Information Science major must be repeated or replaced by a comparable course if a grade of C- or lower is received. If a grade of C- or lower is earned in a prerequisite course, the course must be repeated before the higher-level course may be taken. If a grade of C- or lower is earned in any course taken to satisfy a degree requirement, the course must be repeated or replaced. Course repetitions are subject to the following limitations:

- No course passed with a C or higher letter grade or with an S grade should be repeated.
- The grade earned by repeating the same course replaces the grade originally earned, although the original grade is not removed from the transcript. The grade originally earned is not counted in the computation of the GPA. The new grade does not increase the number of credits counted toward graduation unless an F grade is replaced by a higher grade or an S grade.
- No course may be repeated at any other institution.
- A specific course may be taken for credit only once.

Similar Course Content

Students should not take courses with similar content from other departments. Limitations have been imposed on certain computer programming language and psychology courses. A listing of these limitations may be obtained from the director of the undergraduate program.

Courses Taken Elsewhere

Students in good academic standing may attend a summer or special session at another accredited institution in order to supplement their program. The students should meet with and obtain approval from either the BSIS Program Director or their advisor PRIOR to registering for these special courses. Students who have already completed 90 credits of coursework are not allowed to take courses elsewhere. Generally, courses may not be a repetition of any course previously taken (passed or failed).

To obtain permission to attend another institution, a student must have begun his or her program at the University of Pittsburgh or have been admitted as a transfer student from another institution with no more than 60 advanced standing credits.

A maximum of two summer or special sessions may be taken at other institutions with a maximum of two courses per session. After completing such courses, an official transcript should be submitted to the BSIS office.

Transfer Credits

Students admitted by transfer will have their transfer credits evaluated subject to the following conditions:

- Students who have not satisfied the second language requirement (detailed under the Program Description section) shall be required to do so in the first two terms of residence at the School of Information Sciences.
- An official transcript of all courses taken at other institutions must be submitted at the time of application, whether or not it is intended that such courses be counted toward the degree. For acceptance, courses must be passed with a satisfactory grade (minimum of C or equivalent) and must be earned at an institution accredited by the appropriate regional accrediting association. Grades for such courses are not used in computing a student's GPA nor in determining probationary status or eligibility for graduation honors.
- Generally, courses that have a reasonable counterpart in the curricula of the various schools/departments of the University of Pittsburgh are eligible for transfer.
- The number of credits granted for a course cannot exceed the number on the transcript from the institution where they were earned nor, usually, exceed the number to be earned in the corresponding course at the University of Pittsburgh.
- No transfer credits may be part of the final 30 required credits for the degree. These credits must be earned in residence at the School of Information Sciences. Credits earned at regional campuses and in international programs are considered as transfer credits.
- Credits accepted for advanced standing must have been earned within 12 years of the date when the degree requirements must be completed.
- Transfer credits for courses that do not have reasonable counterparts in the curricula of the various schools or departments of the University cannot be used to satisfy requirements for the degree, unless approved by the director of the undergraduate program.
- No more than 90 credits may be transferred from a four-year institution, and no more than 60 credits may be transferred from a two-year institution.
- If a course for which advanced standing credit has been granted is repeated, the advanced standing credit is canceled.

Credit by Examination

Students may earn credits toward graduation not only by successfully completing courses but also by taking special examinations. Each test for credit by examination must be arranged with the school/department offering the course for which credit is desired. The examination must be in a specific course offered by the faculty of the school or department. Schools/departments may specify the time and type of examination as well as which courses are possible to elect as credit.

Students may not take credit by examination for material prerequisites for college admission. If, during their high school careers, students have mastered material traditionally covered in college courses and not required for college admission, they may request credit by examination for the material if the school's or department's equivalent course is one for which it generally permits credit by examination. Credit by examination cannot be obtained for a college-level course for which credit has already been awarded, nor can it be used to alter a grade already received. Credit may not be earned by examination in lower-level sequence courses when the student has already obtained credit for a higher-level course in the sequence. Students are not permitted to audit courses without registering and then apply for credit by examination. Students wishing to earn credit by examination should consult the school/department in which the course is given and then obtain the requisite form from the appropriate dean's office. There is a fee for the examination whether or not credits are earned.

Grades

The School of Information Sciences uses both the University's letter grade and Satisfactory/No-Credit (S/NC) grade options (formerly the S/N option) (see Grading and Records for more information). In addition to the general University rules governing those grading systems, there are a few formal limitations to the student's freedom of choice regarding grading systems:

- Students must decide by one week after the end of the add/drop period which grading system they propose to use for each of their courses. This decision may not be changed, nor may a grade of one kind received for a course be changed to a grade of the other kind (e.g., from an S/NC grade (formerly the S/N option) to a letter grade).

Schools/departments may decide which courses may be taken on the S/NC system (formerly the S/N option).

No courses required for the information science major, the related field, information science distribution, general distribution, English composition, or language requirements may be taken on the S/NC system (formerly the S/N option).

Students are limited to a total of 18 credits of S grades that may be applied to the 120 credits required for the degree.

Students should be sure, before deciding on the grading system for a course, that their decision will not have an adverse effect on their plans for a major.

Under certain circumstances, schools/departments may declare a course available only on the S/NC system (formerly the S/N option). In such courses, students may not elect to receive a letter grade.

Evaluation of a student's ability and achievement in a course is not eliminated by the Satisfactory/No-Credit (S/NC) system (formerly the S/N option). Recitations, tests, and papers may all be required and assessed by instructors who will convey to the student their judgments of the worth of the student's work. Because the publicly recorded evaluation is minimal, students should use the instructor's comments in the most helpful way possible: as a guide to their own future course of study and for assessment of their own potential.

Since it is difficult to evaluate transcripts containing very few letter grades, students seriously considering transferring to the Information Science program or considering graduate study should keep this in mind. The student may wish to ask instructors from whom they have taken courses on the Satisfactory/No-Credit (S/NC) system to write letters of recommendation for them immediately at the end of the course. The office of the undergraduate program will supply forms for such letters and will make them a permanent part of the student's file. Students may also wish to keep portfolios of their best academic work and other evidence of ability and accomplishment with which they might supplement the formal transcript and letters of evaluation when they apply for transfer or for graduate study. This recommendation is useful for all students whatever grade options they select.

Dean's List

Early in each term, a list is compiled of students whose academic record in the preceding term indicates outstanding academic achievement. To be placed on the School's Dean's List, a student must have earned at least 12 credits with a grade of A, B, or C; must have no grade lower than C; and must have a term GPA of at least 3.25. Full-time and part-time students are eligible for placement on the Dean's list.

Reinstatement

Students who have resigned or been suspended, as well as other students who have been away from the University for more than one term may apply for reinstatement. Students interested in reinstatement should contact the BSIS office. A reinstatement application should be submitted to the Undergraduate Admissions and Evaluation Committee at least one month prior to the beginning of the term in which the student plans to enroll. Favorable action may be expected if students provide evidence that they can pursue an academic program with some prospects for success. Since registration advising meetings are usually held from the seventh to the twelfth week of the preceding term, applications for reinstatement should be received within that period so that the faculty advisor may assist in planning the program and in registering the student. The student's status upon reinstatement will be that attained at the end of his or her last term in residence or at the beginning of the term during which resignation took place. Applicants will be notified by letter of the action taken on their requests. Any courses that students take at another institution during a period of suspension shall not be granted credit by the School after the student has been reinstated unless the student petitioned the faculty and received permission in advance.

Dismissal

A suspended student who is subsequently reinstated remains on probation for at least one term and until the cumulative GPA has been raised to at least 2.50 and the information science major GPA has been raised to at least 2.50. As long as the reinstated student remains on probation, failure in any term to complete 12 credits of work (or those credits for which a part-time student has registered) with a cumulative GPA of at least 2.50 and an information science GPA of 2.50 will constitute grounds for dismissal from the School of Information Sciences for five years.

Special Academic Opportunities/Programs

The following additional academic opportunities are available through the School of Information Sciences:

Cooperative Program with the University of Pittsburgh at Greensburg

A cooperative arrangement between the School and the Greensburg campus of the University of Pittsburgh makes it possible for Greensburg students to major in information science. Students may complete most of their course work, including work in major courses, on the Greensburg campus but will typically want to cross register for some courses on the Pittsburgh campus to take advantage of courses and laboratories not available at Greensburg. The Bachelor of Science degree in Information Science is awarded by the School of Information Sciences. For additional information about this program, students should contact Susan Hahn (shahn@pitt.edu) at the University of Pittsburgh at Greensburg.

Double Degrees

Students in the School of Information Sciences may choose to simultaneously pursue more than one undergraduate degree, either within the College of Arts and Sciences or in another undergraduate school at the University. The School of information Sciences also offers a joint degree program with the College of Business Administration. In general, earning two degrees requires a minimum of 150 credits and completion of the curriculum requirements of both schools. Detailed information about double degrees or joint programs is available from the BSIS office.

Second Degree Program

Those who already have received a Baccalaureate degree in another discipline and wish to earn a BSIS degree are encouraged to apply to:

The BSIS office (if you've received a Baccalaureate degree from the University of Pittsburgh within the last 12 years).

The University of Pittsburgh's Office of Admissions and Financial Aid (if you earned a Baccalaureate degree from an institution other than the University of Pittsburgh within the last 12 years). You will need to complete a Transfer Application and submit any requested fees.

Enrollment in Graduate Courses

Undergraduates with sufficient preparation are encouraged to take advantage of the rich variety of graduate courses offered by the departments and schools of the University. Students enrolled in the Information Science program may use credits in graduate courses toward their undergraduate degree. To enroll in a graduate course, students must obtain the written consent of the instructor of the course, have a 3.00 cumulative GPA, and have the approval of the director of the undergraduate program.

Independent Study Courses

The Information Science program offers the student the option of conducting an independent study with a faculty member in the School of Information Sciences. Students who have a special project or wish to work in an area not adequately covered by regular iSchool courses should request a faculty member to supervise independent work aimed at their particular interests, and, if accepted, they should register for INFSCI 1080 Independent Study. Any student registering for an information science independent study course must have at least five information science courses completed, a 3.00 cumulative GPA, and consent of the faculty advisor and faculty sponsor.

To obtain permission to complete an independent study, students must submit a proposal presenting a design for the project and must find a faculty sponsor who will serve as director. The proposal must include detailed plans for the project. Substantial written work or some other form of creative product is usually one outcome of an independent study course.

The Capstone Experience/Course

Students in the undergraduate program in information science will participate in a capstone experience, gaining experience through a research project in the school, an internship with regional industry, or a self-designed project.

Students planning to enter the workforce upon graduation are strongly encouraged to intern with one of the many businesses and industries in the Pittsburgh region. Pittsburgh is home to many international corporations in a variety of industries including health care, financial services, education, manufacturing, and technology.

In completing your capstone experience, you can:

- Assist with graduate-level research
- Self-design a project
- Intern with a regional company. iSchool students have interned with PPG, U.S. Steel, Alcoa, Mellon Financial Corp., Google, Lockheed-Martin, Deloitte, FedEx Ground, and the University of Pittsburgh Medical Center.

School of Information Sciences Course Offerings

Courses offered by the School of Information Science are available at: www.ischool.pitt.edu/bsis/course-ofstudy/course-descriptions.php

School of Information Sciences Undergraduate Program Faculty

www.ischool.pitt.edu/isis/about/faculty/index.php

Program and Course Offerings

Department of Information Sciences

Major

Information Science, BS

To be awarded a Bachelor of Science degree with a major in Information Science, the student must:

- Earn a minimum of 120 credits with a minimum of 15 of those credits in a related field. A related field consists of five courses from the same academic area. All of the final 30 credits and at least 15 credits in Information Science (INFSCI) must be taken through the School of Information Sciences.
- Possess an overall cumulative and Information Science GPA of at least 2.50.
- Satisfy the distribution of studies requirement.
- Fulfill any remaining requirements that may have been noted at the time of entrance (e.g., English composition, language requirements, and statistics requirements).
- To apply for graduation, you should make an appointment with the Undergraduate advisor in the term BEFORE you expect to graduate.

Note:

The School of Information Sciences offers the Bachelor of Science in Information Science. The requirements outlined in this section represent minimum degree satisfaction. For further information about these requirements, please consult the BSIS Web site at www.ischool.pitt.edu/bsis.

Major Requirements

English Composition Requirements

All students entering Arts and Sciences (A&S) as freshmen are required to take a writing placement examination. (For more information on the A&S composition requirement, see Skills Requirements in the Arts and Sciences section.)

In addition, Information Science students are required to take ENGCMP 0200 - SEMINAR IN COMPOSITION along with ENGCMP 0400 - WRITTEN PROFESSNL COMMUNICTN, ENGCMP 0440 - CRITICAL WRITING, or ENGCMP 0450 - RESEARCH WRITING.

Language Requirements

All students entering the Information Science program are required to satisfy a second language requirement. This requirement can be fulfilled by one of the following:

Two years of the same second language in high school completed with a grade of C or better each year,
One year of a second language in high school completed with a grade of C or better and one term of the same second language in college completed with a letter grade of C or better, or
Two terms of the same second language in college completed with a letter grade of C or better.

If the second language requirement has not been satisfied by the time of admission, the student will be required to resolve this deficiency by the end of the second term at the School. In addition, all Information Science students are required to complete LING 1000 - INTRODUCTION TO LINGUISTICS or PHIL 0500 - INTRODUCTION TO LOGIC with a letter grade of C or better.

Quantitative Requirements

All Information Science students must complete one of the following mathematics courses with a letter grade of C or better:

MATH 0120 - BUSINESS CALCULUS
MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1
MATH 0400 - FINITE MATHEMATICS

Note:

In addition, a statistics course must be completed with a letter grade of C or better. See this Web site for listing of specific statistics courses.

General Distribution of Studies Requirement

All students are required to complete 9 credits in each of the three traditional divisions of A&S: the humanities, the natural sciences, and the social sciences. A copy of the Information Science-approved list of courses may be obtained from the BSIS Web site.

Literature: A minimum of one literature course selected from the Information Science-approved list and completed with a letter grade of C or better.

Music and Art: A minimum of one course selected from the Information Science-approved list and completed with a letter grade of C or better.

Communication: A minimum of one of the following communication courses with a letter grade of C or better:

COMMRC 0300 - COMMUNICATION PROCESS
COMMRC 0520 - PUBLIC SPEAKING

Social Science: A minimum of two courses from among two different fields selected from the Information Science-approved list must be completed with a letter grade of C or better.

History and Culture: A minimum of one course from the Information Science-approved list must be completed with a letter grade of C or better.

Psychology: All Information Science students must complete one of the following courses with a letter grade of C or better:

PSY 0010 - INTRODUCTION TO PSYCHOLOGY
PSY 0012 - FOUNDATIONS OF PSYCHOLOGY
PSY 0015 INTRO TO PSYCHOLOGY AS A NATURAL SCIENCE

Natural Science: Students must complete a two-course sequence in biological sciences, neurosciences, chemistry, geology and planetary science, or physics and astronomy, selected from the Information Science-approved list. In addition, one course in a field different from the two-course sequence will be required. All courses must be completed with a letter grade of C or better.

Information Science Course Requirements

Core courses must be taken by all students

INFSCI 0010 - INTRO TO INFORM, SYS & SOCIETY
INFSCI 0017 - FUNDAMNTLS OF OBJ-ORIEN PRGMG
INFSCI 1022 - DATABASE MANAGEMENT SYSTEMS
INFSCI 1070 - INTRO TO TELCOM & NETWORKS
INFSCI 1024 - ANALYSIS OF INFORMTN SYSTEMS
INFSCI 1044 - HUMAN FACTORS IN SYSTEM DESIGN

Note:

Students may then choose to tailor their studies by taking one of our industry-advised specializations.

Information Systems

This specialization in information systems enables students to use object-oriented design tools and state-of-the-art best practices to design, build, implement, and test Web-based information systems. Coursework may include INFSCI 1017 - IMPLEMENTATION OF INFO SYSTEMS, INFSCI 1068 - GEOSPATIAL INFO SYSTEMS (GIS), INFSCI 1025 - DESIGN OF INFORMATION SYSTEMS, INFSCI 1026 - MGMNT OF INFORMATION SYSTEMS, and INFSCI 1092 - SPECIAL TOPICS: SYSTEMS. See the course descriptions here for more details and prerequisites.

Networks and Security

This specialization offers skills needed to design, build, and test LANS, WANS, Wireless, Internet, and Web-based networks. Coursework might include INFSCI 1071 - APPLICATIONS OF NETWORKS, INFSCI 1074 - COMPUTER SECURITY, INFSCI 1072 - INTRO TO WIRELESS NETWORKS, and INFSCI 1073 - APPLC DEVELP MOBILE DEVICES, INFSCI 1070 - INTRO TO TELCOM & NETWORKS, INFSCI 1075 - NETWORK SECURITY, and INFSCI 1092 - SPECIAL TOPICS: SYSTEMS. See the course descriptions here for more details and prerequisites.

User-Centered Design

This specialization provides the visual and human-computer interaction skills needed to design and build prototypes of information systems interfaces as well as to perform usability testing of these systems. Coursework might include INFSCI 1052 - USER CENTERED DESIGN, INFSCI 1014 - GRAPHICS, INFSCI 1059 - WEB PROGRAMMING, INFSCI 1079 - COMPUTER NETWORKING LABORATORY, and INFSCI 1092 - SPECIAL TOPICS: SYSTEMS (see the course descriptions here for more details and prerequisites.)

School of Nursing

The School of Nursing, as an integral part of the University of Pittsburgh, subscribes to the University's commitment to teaching, research, and service. Through these major functions, the school strives to have a positive impact on the quality of health care for all people.

The school offers baccalaureate (BSN), master's (MSN), and doctoral programs in philosophy (PhD) or nursing practice (DNP) that anticipate and reflect health care needs locally, nationally, and internationally. It prepares graduates to function effectively in multifaceted, roles in a variety of settings to promote the health and well-being of people. It strives to instill a spirit of inquiry, encourage academic excellence, and foster lifelong learning in all students. The school seeks to enroll highly qualified students who represent racial, cultural, and geographic diversity and to prepare students for employment in a multicultural society. In keeping with the University's emphasis on excellence in undergraduate education, the school is committed to providing an undergraduate program with a strong clinical focus that builds upon a background in the liberal arts and sciences and provides the foundation for its graduates to become outstanding clinicians.

The knowledge, skill, teaching effectiveness, and diversity of the faculty are important factors in the success of our graduates. The school is committed to fostering excellence in teaching through the faculty's clinical expertise and practice, instructional competency, and development of state-of-the-art knowledge through research. State-of-the-art technology is used to enhance student access and learning. The school supports an environment conducive to research, encourages interdisciplinary collaboration, and seeks to make research an integral part of the learning environment. The success of the school's research agenda continues to determine its national recognition and realm of influence.

The school believes that faculty and students should engage in public, professional, and community services as a way for them to share their knowledge, positively influence patient care delivery, and enhance their own and their peers' professional growth. Such involvement provides leadership for societal change, helps develop effective health care policies, and enhances health care for all people. Service is reflected in leadership and volunteer responsibilities related to the political process, professional organizations, and community service agencies.

Nursing Living Learning Center (NLLC)

The NLLC is an on-campus residency/learning community for nursing students. NLLC expresses the School of Nursing's commitment to giving a small campus experience at a large institution. Students are provided with a well-rounded approach to their studies as well as University life, while allowing students to be housed together on one floor, in a group setting. Situated in Lothrop Hall, the NLLC is adjacent to the Victoria Building, which houses the School of Nursing. This proximity to the Nursing School provides and added element of convenience for the student. The resident assistant for the NLLC is a Junior or Senior nursing student who works closely with the faculty and staff in the School of Nursing. One of the goals for the NLLC is to provide students with educational experiences that are not normally afforded to incoming freshmen. Students who participate in the NLLC are given an early opportunity to develop their leadership skills by attending the prestigious Emerging Leaders Program. The NLLC also schedules and facilitates study group sessions, nursing presentations, and social gatherings for the nursing residents.

Admission to the NLLC is by application only and is limited to incoming freshman in the traditional undergraduate baccalaureate program. Applications will also be considered from Sophomores, Juniors and transfer students, according to University guidelines and space availability.

Contact Information

University of Pittsburgh
School of Nursing
Student Affairs & Alumni Relations
239 Victoria Hall
Pittsburgh, PA 15261
412-624-4587 or 1-888-747-0794
sao50@pitt.edu
www.nursing.pitt.edu

Admission Information

The School of Nursing will accept applications for the Undergraduate Baccalaureate Program from prospective students who have had the following educational preparation:

High school graduates
Students transferring from the regional campuses and other schools of the University of Pittsburgh
Students transferring from other colleges and universities
Graduates from a baccalaureate program in any field of study (Accelerated 2nd Degree BSN Program)

All students who wish to obtain a Bachelor of Science in Nursing degree must apply and be accepted into the School of Nursing. Admission to other schools within the university, or to regional campuses does not guarantee admission to the School of Nursing. In general, the student's educational background will determine the most appropriate curriculum plan and program track in which to earn a BSN.

Individual State Boards of Nursing may prohibit a person convicted of any felonious act from licensure as a registered nurse (RN) Prospective students in that situation should contact the Board of Nursing in the state where they plan to practice following graduation.

High School Graduates

Applicants may obtain application information from the Office of Admissions and Financial Aid's Web site: http://www.oafa.pitt.edu/freshadm.aspx. Online application is also available on the OAFA web site

Additional information regarding the application process and eligibility criteria is available on the School of Nursing Web site: http://www.nursing.pitt.edu/degree-programs/undergraduate-bsn-program

All high school applicants must meet the requirements for admission to the University of Pittsburgh as well as those specifically for the School of Nursing. High school courses required of all applicants are:

Course	**Units***
English	4
Mathematics	4
Social Studies	3
Science with a related laboratory or the equivalent (one unit must be in chemistry)	3
Academic Electives**	5
Total	19

*A unit is equivalent to one year of successful completion of acceptable coursework.

**Two units of second language as an elective are highly recommended.

Each high school applicant is required to submit results of the SAT or ACT. The Admissions Office may request additional information, examinations, or measures for determining eligibility.

Students Applying for Transfer from within the University (Internal Transfer)

Students who wish to transfer from schools within the University (College of Arts and Sciences, College of General Studies, and regional campuses) to the undergraduate program in the School of Nursing must consult with their academic advisor to officially initiate the transfer process. All records must be received by the School of Nursing in order for students to be considered for admission. Admission is offered for the Fall and Spring terms. The School of Nursing makes transfer decisions through a competitive process based upon academic eligibility and seating availability. For more information refer to:

http://www.nursing.pitt.edu/admissions/internal-transfer-applicants

Students Applying for Transfer from Other Universities or Colleges (External Transfer)

Applicants who have completed at least 12 credits or one full-time term of study at any institution of higher education other than the University of Pittsburgh will be considered for transfer into the School of Nursing on a competitive basis. Prospective transfer students are required to complete an online Transfer Application and submit all necessary supporting materials to the Office of Admissions and Financial Aid. For more information refer to: http://www.nursing.pitt.edu/admissions/external-transfer-applicants

Admission to the School of Nursing as a transfer student is contingent upon vacancies in the freshman class. Competitive transfer applicants typically have a minimum GPA of 3.5 (on a 4.0 scale) after completion of 24 credits at a college level and B grades or better in science classes and a SAT score of 1200 or higher (or an ACT composite score of 27 or higher). However, exceptions may be considered based upon the qualifications of the applicant. Applicants will be evaluated on their academic performance in both high school and a college or university. The following points govern the allowable advanced-standing credits:

- Official transcripts of courses taken at other universities or colleges must be submitted.
- Course descriptions for each course must be submitted to be considered for advanced-standing credits.
- Course content must be comparable to that offered at the University of Pittsburgh.
- The credit transferred for any course can be no greater than the credit given at the University of Pittsburgh.
- Only courses with letter grades of B- or better are transferable.
- Credit for service, correspondence, or extension courses is not transferable.
- Courses must have been completed within the past ten years. The Associate Dean for Clinical Education (or designee) must approve any exception to the ten-year guideline.

Readmission

A student who has not been in attendance in the school for more than one year will be required to seek readmission through the School of Nursing. A student who has attended a different university/college while not attending the University of Pittsburgh is required to reapply through the University Office of Admissions and Financial Aid. Readmission will be contingent upon a vacancy in the class to which the student is to be readmitted. The program of studies will be based on courses completed, current curriculum, and placement considerations.

Admission of Students from Other Countries

International applicants for the traditional undergraduate BSN should apply using the International Student Undergraduate Application. For more information go to the International Student Admissions Web site: http://www.oafa.pitt.edu/intladm.aspx.

RN Options and Accelerated 2nd Degree BSN International applicants should apply directly to the School of Nursing: https://app.applyyourself.com/?id=up-nurs

Applicants are required to submit official, original academic credentials in certified English translation. The application process should be started 9 to 12 months in advance of the intended enrollment date.

An applicant whose native language is not English must take the Test of English as a Foreign Language (TOEFL) and submit official test results. Applicants must have a level of English proficiency reflected by a score of at least 213 or greater (computer-based test), or 550 or greater (paper-based test), or 80 or greater (Internet-based test). Applicants seeking fall term admission must take the TOEFL no later than the preceding March. The TOEFL code for the University of Pittsburgh is 2927. See the International Student Admissions section of this bulletin for more information on the TOEFL. Subject-specific international academic credential evaluation of official college transcript is required. For more information refer to: http://www.oafa.pitt.edu/intladm.aspx.

RN Options Applicants

The University of Pittsburgh RN Options (Early Admission to MSN or DNP) curriculum is designed for registered nurses, who obtained their initial nursing education through either a CCNE, ACICS or ACEN [NLN] accredited diploma or associate degree or diploma program and want to pursue

undergraduate education with early admission to graduate nursing program. Courses are taught by nursing leaders who are experts in their field. Faculty serve as educators, role models and mentors for their students. The RN Options curriculum builds upon the individual professional nurse's strengths and experiences to expand professional knowledge and practice skills. Graduates of the University of Pittsburgh School of Nursing possess critical appraisal/thinking skills, sophisticated clinical practice knowledge, and the ability to integrate the latest research findings to provide quality, safe and effective patient care.

Registered nurses who are interested in pursuing a Bachelor's Degree and Early Admission to the MSN or DNP track applicants should apply online directly to the School of Nursing at: http://app.applyyourself.com/?id=up-nurs

Course offerings are flexible and students may begin coursework in any term (fall/spring/summer). Upon finishing the first 84 of 96 credits in the RN Options track, students must select to complete their remaining requirements in the Early Admission to the MSN or DNP selected program or complete the BSN curriculum.

Students who pursue the Early Admission to the MSN or DNP track students must: (1) take the Graduate Record Examination (GRE), (2) provide necessary documentation for desired major, and (3) complete the remaining 36 credits of which 24 will be at the graduate level. Full and part-time schedules are available.

Application Guidelines

Applications are reviewed on a rolling basis. Applicants must submit evidence of previous education and other required documents as listed below.

Graduate from a CCNE, ACICS or ACEN [NLN] accredited associate degree program or diploma school of nursing
Cumulative Grade Point Average (GPA) of 3.0 or above in previous academic work
Valid Registered Nurse license (all admitted students must obtain PA License)or transferable to PA)
Complete RN Option application
Application Deadline: August 1 (fall term); December 1 (spring term); and April 1 (summer term)

Accelerated 2nd Degree BSN Program Applicants

The Accelerated 2nd Degree BSN is designed to enable individuals with a Baccalaureate Degree in another discipline the ability to earn a Bachelor's of Science Degree in Nursing (BSN) in three consecutive full-time terms. The Accelerated 2nd Degree BSN requires 122 credits: 31 credits from a previous degree, 36 prerequisite credits, and 55 curriculum credits. The curriculum is fast-paced and designed to build upon the individual's previous education while providing additional science and nursing content. At the completion, graduates are eligible to take the National Council Licensure Examination (NCLEX) to become Registered Nurses (RN).

Admission to the Accelerated 2nd Degree BSN is competitive and is based upon proven academic achievement and grades earned in prerequisite courses. The school admits three cohorts, Fall, Spring and Summer.

The Accelerated 2nd Degree BSN requires an applicant to complete 36 prerequisite credits. These courses may be taken at any college or university. Courses from other institutions must be evaluated as equivalent to University of Pittsburgh courses. (Coursework taken at the University of Pittsburgh School of Nursing prior to admission may be taken as a non-degree seeking student.)

Required prerequisites include:

Course	**Credits**
General & Bio-Organic Chemistry*+ *(includes a lab)*	4
English Composition (scientific/technical)	3
Directed Elective	3
Psychology	3

Sociology	3
Statistics *(descriptive, probability, & inferential)*	3
Human Anatomy & Physiology *+ *(includes a lab)*	6-8
Human Genetics *+	3
Microbiology *+ *(includes a lab)*	4
Pathophysiology	4

**Should have been completed within the past ten years*

+Should have achieved a grade of "B-" or better

Early submission of an application is recommended. New classes begin in the Fall, Spring and Summer term. Accelerated 2nd Degree BSN applications are reviewed, and admission decisions are made based on the application deadlines: Fall Term--February 15; Spring Term--June 1; and Summer Term--October 1. Application information and other materials are located on the web at http://www.nursing.pitt.edu/degree-programs/accelerated-2nd-degree-bsn/accelerated-2nd-degree-bsn-applicationadmission. Prospective students must apply online to the School of Nursing at http://app.applyyourself.com/?id=up-nurs.

Application items include:

- Completed online application
- Official transcripts of all course work taken at any university or college
- Official copy of GRE score sent to the University of Pittsburgh (Institution Code-2927).
- Two (2) letters of professional recommendation (via online application or mailed in signed, sealed envelopes)
- Resume
- Personal essay explaining how this program will help achieve professional goals
- Application fee (non-refundable and does not apply to payment of tuition)
- INTERNATIONAL APPLICANTS: (in addition to above items)
    - Official graduation certificate verifying degree obtained (English translation)
    - Subject-specific international academic credential evaluation of official college transcript
    - Official TOEFL or IELTS score - exempt if native language is English or graduate of a degree program at an accredited institution in the United States

NOTE: All official documentation must be submitted in sealed envelopes from the originating institutions to the School of Nursing (3500 Victoria Street, 239 Victoria Building, Pittsburgh, PA 15261).

Provisional admission may be granted after completion of 6 credits of prerequisites if all other admission requirements are met. Undergraduate applicants who are within 12-18 credits of graduation will be considered for provisional admission. All prerequisite courses must be completed and official transcripts received by the start of the first term. Effective of the Fall Term 2016, all admitted students will be required to place a $250 as non-refundable deposit upon acceptance of admission, which will be count towards tuition in the first term of study.

Academic Standards

Students have the obligation to exhibit honesty and to respect the ethical standards of the nursing profession in carrying out their academic assignments. The academic standards of the school are:

- A student may be placed on probation or dismissed for illegal, unsafe, or unethical professional conduct.
- Students must maintain a cumulative GPA of 2.00 or better throughout the program.
- Students must fulfill the requirements for the baccalaureate degree within a period of eight years.

Students should view the School of Nursing Web site's Student Affairs and Alumni Relations web page http://www.nursing.pitt.edu/resources-students/policies for current policies.

Academic Advising

For students in the traditional BSN undergraduate track, the academic advisement process begins during the University freshman orientation program (PittStart), at which time students meet with their assigned academic advisor to develop their individual plan of study. Students maintain the same advisor throughout the program of study, and continue to meet on a regular basis. This continuity permits advisors to promote academic achievements by guiding students through each level in the program, assisting in career planning and preparation, and by serving as primary educational resource, facilitator and student advocate.

Preclinical Requisites

Before beginning each school year, it is mandatory that students meet the following requirements for clinical experience (the frequency of these requirements vary by clinical site):

HIPAA module (completed during the Spring Term of the Freshman year for traditional licensure)
The American Heart Association (AHA)--BLS- Healthcare Provider Course Certification
Personal health insurance coverage
ACT 33/34 clearances (child abuse/criminal record check)
ACT 73 FBI fingerprinting background check
ACT 168 Pennsylvania Sexual Misconduct/Abuse Disclosure Release (for seniors)
Initial health or an updated health form to be submitted to Clinical Site Coordinator in the Office of the Dean, School of Nursing

School of Nursing Faculty

School of Nursing Faculty

Program and Course Offerings

Track

Nursing - Accelerated 2nd Degree, BSN

Accelerated 2nd Degree BSN Curriculum

Term 1

NUR 1281 - FOUNDATIONS OF NURSING PRACTICE 1
NUR 0082 - NUR MGT ACUT/CHRNC HLTH PROBS
NUR 1282C - NUR ADLT AC/CRNC HLTH PROB CLN
NUR 2000 - RESEARCH FOR EVIDENCE-BASED PRACTICE 1
NUR 0066 - NUTRITION FOR CLINCAL PRACTICE
NUR 0087 - PHARMACOLOGY AND THERAPEUTICS

Total Credits: 18

Term 2

NUR 1120 - ADV NUR MGT ACU/CPLX HLTH PROB
NUR 1220C - ADV NURSING MANAGEMENT OF THE ADULT WITH ACUTE/COMPLEX HEALTH PROBLEMS CLINICAL
NUR 1060 - NUR CARE CLIENTS PMH PROBLEMS
NUR 1260C - NUR CARE CLIENTS PMH PROB CLIN
NUR 1050 - NUR CRE MTHRS, NEWBRNS & FMLYS
NUR 1250C - NUR CARE MTHRS NB & FAML CLIN
NUR 1052 - NUR CARE CHILD & THEIR FMLYS
NUR 1252C - NUR CRE CHILD/THEIR FMLYS CLIN
NUR 1054 - NURSING CARE OF OLDER ADULTS

Total Credits: 18

Term 3

NUR 1121 - ADVNCD CLINCAL PROBLEM SOLVING
NUR 1221C - ADVNCD CLIN PROB SOLVING CLIN
NUR 1134 - TRANSTN INTO PROF NUR PRACT
NUR 1234C - TRANSITION INTO PROFESSIONAL NURSING CLINICAL
NUR 1128 - COMMUNITY HEALTH NURSING
NUR 1228C - COMMUNITY HEALTH NURSING CLIN
NUR 1085 - ETHICS IN NURSING & HEALTH CRE
NUR 0086 - NURSING INFORMATICS
NUR 1990 - SENIOR SEMINAR
Baccalaureate Comprehensive Exam 0 cr.

Total Credits: 18

Note:

Successful completion of the Baccalaureate Comprehensive Exam is required during 3rd term.

Nursing - RN Options

RN Options Curriculum

(subject to change)

Prerequisites:

(U.S. institution courses-evaluated for equivalency to Univ of Pgh courses)

General Ed Courses

(may be transferred)

Anthropology 3 cr.
English Composition 3 cr.
CHEM 0910 - CHEMCL PRINCPL HEALTH PROFESSN *+
NUR 0012 - HUMAN ANATOMY AND PHYSIOLOGY 1 *+
NUR 0002 - NSG ANATOMY & PHYSIOLOGY LAB 1 *+
NUR 0013 - HUMAN ANATOMY AND PHYSIOLOGY 2 *+
NUR 0003 - NSG ANATOMY & PHYSIOLOGY LAB 2 *+
NUR 0031 - MICROBIOLOGY *+
NUR 0032 - MICROBIOLOGY LABORATORY *+
NUR 0066 - NUTRITION FOR CLINCAL PRACTICE
Psychology 3 cr.
Communication/Public Speaking 3 cr.
Sociology 3 cr.
Statistics (descriptive, probability & inferential) completed within past 10 years 3 cr. +

Total: 37

Note:

* Completed within past 8 years

+ B- or higher grade required

Credits listed are term credits (quarter courses will be individually evaluated)

Prerequisities Nursing Courses

(may be transferred or credit by course examination- challenged by standardized exam/case study)

NUR 0081 - FOUNDATIONS OF NURSING PRACT 2
NUR 0082 - NUR MGT ACUT/CHRNC HLTH PROBS
NUR 0082C - NUR MGT ACUT/CHRNC HLTH PROBS
NUR 1050 - NUR CRE MTHRS, NEWBRNS & FMLYS
NUR 1050C - NUR CARE MTHRS NB & FAML CLIN
NUR 1052 - NUR CARE CHILD & THEIR FMLYS
NUR 1052C - NUR CRE CHILD/THEIR FMLYS CLIN
NUR 1060 - NUR CARE CLIENTS PMH PROBLEMS
NUR 1060C - NUR CARE CLIENTS PMH PROB CLIN
NUR 1120 - ADV NUR MGT ACU/CPLX HLTH PROB
NUR 1120C - ADV NUR MGT ACU/CPLX HLTH CLIN
NUR 1054 - NURSING CARE OF OLDER ADULTS

Total: 31

Curriculum:

RN Options - Early Admission to MSN or DNP

Tier 1:

BSN Courses

NUR 0067 - NSG RES: INTRO CRITL APPRL EBP

NUR 0086 - NURSING INFORMATICS
NUR 0087 - PHARMACOLOGY AND THERAPEUTICS
NUR 1085 - ETHICS IN NURSING & HEALTH CRE
NUR 1128 - COMMUNITY HEALTH NURSING
NUR 1127C - COMMUNITY HEALTH NURSING CLIN
NUR 1074 - PROF DVLP AND PRACTICUM 1
NUR 1079 - PROFESSIONAL DVLP & PRACTCM 2
NUR 1121 - ADVNCD CLINCAL PROBLEM SOLVING
NUR 1021C - ADV CLIN PROB SOLV CLIN
NUR 1134 - TRANSTN INTO PROF NUR PRACT
NUR 1134C - TRANSTN PROF NUR PRACT CLIN

Total: 28

Tier 2:

Graduate Bridge Courses (Applicable to BSN and selected MSN or DNP Program)

NUR 2000 - RESEARCH FOR EVIDENCE-BASED PRACTICE 1
NUR 2004 - PATHPHYLGY ACROSS LIFE SPAN
NUR 2044 - NUR GRAD ORIENTATION MODULE
NUR 2010 - HEALTH PROMO/DISEASE PRVNTN
NUR 2011 - APPLIED STATISTICS FOR EBP
NUR 2031 - DIAGC PHYSCL EXAM LIFE SPAN **
NUR 2680 - INTRO GENETCS & MOLEC THERPUTC **
NURSP 2061 - ORGANIZTNL & MANAGEMENT THEORY **
NURSP 2092 - LEADERSHIP DEVELOPMENT **

Total: 24

(graduate bridge credits)

Note:

** Alternate courses tailored to selected graduate program curriculum (with advisor guidance)

Tier 3: (BSN Degree Awarded)

Remaining Courses in Selected MSN or DNP Program

View Brochure (pdf)

Note:

+ Credits may be transferred from other University/College institutions for credit if approved by University of Pittsburgh School of Nursing

Note: All previous coursework corresponding to this curriculum must have been completed within 10 years of admission to the University of Pittsburgh.

Students who wish to pursue traditional BSN only will be scheduled individually by academic advisor.

Nursing, BSN Curriculum

Nursing, BSN Curriculum, Class of 2016
Nursing, BSN Curriculum, Class of 2017
Nursing, BSN Curriculum, Class of 2018

School of Nursing Faculty

Full-Time Faculty

Susan A. Albrecht, PhD, University of Pittsburgh
Sheila A. Alexander, PhD, University of Pittsburgh
Salah S. Al-Zaiti, PhD, University of Buffalo
Michael D. Beach, DNP, University of Pittsburgh
Catherine M. Bender, PhD, University of Pittsburgh
Alice M. Blazeck, DNSc, University of Pennsylvania
Betty J. Braxter, PhD, University of Pittsburgh
Lora E. Burke, PhD, University of Pittsburgh
Marnie L. Burkett, DNP, Chatham University
Judith A. Callan, PhD, University of Pittsburgh
Grace B. Campbell, PhD, University of Pittsburgh
Mark A. Cantrell, DNP, University of Pittsburgh
Brenda L. Cassidy, DNP, University of Pittsburgh
Denise Charron-Prochownik, PhD, University of Michigan
Eileen R. Chasens, PhD, University of Alabama at Birmingham
Ji Yeon Choi, PhD, University of Pittsburgh
Susan M. Cohen, PhD, University of Alabama at Birmingham
Tim M. Coleman, DNP, Carlow University
Yvette P. Conley, PhD, University of Pittsburgh
Rose E. Constantino, PhD, University of Pittsburgh
Elizabeth A. Crago, PhD, University of Pittsburgh
Cynthia A. Danford, PhD, University of California, San Francisco
Marilyn A. Davies, PhD, University of Pittsburgh
Jason J. Dechant, PhD, University of Pittsburgh
Jill R. Demirci, PhD, University of Pittsburgh
Annette J. DeVito Dabbs, PhD, University of Pittsburgh
Heidi A. Donovan, PhD, University of Wisconsin-Madison
Janice S. Dorman, PhD, University of Pittsburgh
Willa M. Doswell, PhD, New York University
Jacqueline M. Dunbar-Jacob, PhD, Stanford University
Sandra J. Engberg, PhD, University of Pittsburgh
Judith A. Erlen, PhD, Texas Woman's University
Becky L. Faett, PhD, University of Pittsburgh
Christine A. Feeley, PhD, University of Alabama at Birmingham
Laura A. Fennimore, DNP, University of Pittsburgh
Marie A. Fioravanti, DNP, University of Pittsburgh
Lisa Y. Foertsch, DNP, University of Pittsburgh
Sandra A. Founds, PhD, University of Massachusetts
Catherine Grant, DNP, Chatham University
Jane Guttendorf, DNP, University of Pittsburgh
Alice J. Haines, DNP, University of Pittsburgh
Richard A. Henker, PhD, University of Washington
Rosemary L. Hoffmann, PhD, University of Pittsburgh
Marilyn T. Hravnak, PhD, University of Pittsburgh

Chris C. Imes, PhD, University of Washington
Jacob K. Kariuki, PhD, University of Massachusetts
Robert R. Kaufman, PharmD, Duquesne University
Linda K. Kelly, JD, Duquesne University
Britney B. Kepler, DNP, University of Pittsburgh
Julius M. Kitutu, PhD, University of Pittsburgh
Lisa M. Kreashko, DNP, University of Pittsburgh
Claudia M. Kregg Byers, PhD, University of Pittsburgh
Heeyoung Lee, PhD, University of Washington
Young Ji Lee, PhD, Columbia University
Dan Li, PhD, University of Miami
Rachel M. Libman, DNP, Chatham University
Jennifer H. Lingler, PhD, University of Pittsburgh
Faith S. Luyster, PhD, Kent State University
Kathy S. Magdic, DNP, University of Pittsburgh
Judith T. Matthews, PhD, University of Pittsburgh
Geraldine M. Maurer, DNP, Waynesburg University
Judith A. Mermigas, DNP, Case Western Reserve University
Susan E. Miller, DNP, University of Pittsburgh
Shareen Milligan, DNP, Chatham University
Ann M. Mitchell, PhD, University of Pittsburgh
Suzanne Morrison, DNP, University of Pittsburgh
Donna G. Nativio, PhD, University of Pittsburgh
Michael W. Neft, DNP, Chatham University
Nancy A. Niemczyk, PhD, University of Pittsburgh
Marci L. Nilsen, PhD, University of Pittsburgh
Lorraine M. Novosel, PhD, University of South Florida
John M. O'Donnell, DrPH, University of Pittsburgh
Leslie E. Pandy, DNP, Robert Morris University
Na-Jin Park, PhD, University of Alabama
Mijung Park, PhD, University of California, San Francisco
Kathryn R. Puskar, DrPH, University of Pittsburgh
Dianxu Ren, MD, Shanxi Medical University
Jeffrey M. Rohay, PhD, University of Pittsburgh
Margaret Q. Rosenzweig, PhD, University of Pittsburgh
Elizabeth A. Schlenk, PhD, University of Michigan
Mandy J. Schmella, PhD, University of Pittsburgh
Susan M. Sereika, PhD, University of Michigan
Paula R. Sherwood, PhD, Michigan State University
Lucille A. Sowko, PhD, University of Pittsburgh
Patricia K. Tuite, PhD, University of Pittsburgh
Barbara M. Usher, PhD, Penn State University
Weiwen Wang, DNP, University of Pittsburgh
Susan W. Wesmiller, PhD, University of Pittsburgh
Cecelia C. Yates-Binder, PhD, Tuskegee University & University of Pittsburgh
Judith F. Zedreck Gonzalez, DNP, University of Pittsburgh

Part-Time Faculty

Donna V. Abriola, MSN, University of Pittsburgh
Virginia L. Allison, DNP, University of Pittsburgh
Vivian J. Boyer, DNP, Chatham University
Barbara W. Brandom, MD, University of Pennsylvania
Sandra R. DeLuca, MSN, University of Pittsburgh
Bryce N. Dickey, DNP, University of Pittsburgh
Bettina A. Dixon, MSN, University of Pittsburgh

Andrea F. Fischl, PhD, University of Pittsburgh
Jason C. Fisher, DNP, University of Pittsburgh
Sharyn A. Gesmond, MSN, University of Pittsburgh
Leah M. Gindin, MSN, Pace University of Nursing
Melissa D. Harlan, MSN, University of Pittsburgh
Karen V. Harrison, MSN, University of Pheonix
Irene Kane, PhD, University of Pittsburgh
Kelly A. Kenny, MSN, Carlow University
Carolyn A. King, MSN, Chatham University
Christina R. Lauderman, MSN, Robert Morris University
Kim L. Lavrinc, MSN, University of Pittsburgh
Joseph G. Mattis, MSN, University of Pittsburgh
Debra S. Peitzman, MSN, University of Pittsburgh
Kathleen S. Perdziola, MSN, Kent State University
Valerie S. Swigart, PhD, University of Pittsburgh
Robin W. Tate, MBA, Waynesburg University
Jessica G. Tillia, MS, University of Pittsburgh

School of Pharmacy

The School of Pharmacy has been developing leaders who have been driving the future of pharmacy for over 135 years. We investigate, discover, and create ways to improve patient health and, through partnerships, change practice and improve efficiency of care. Pitt Pharmacy ranks in the top ten in NIH funded research and in US News and World Report among schools of pharmacy. The School of Pharmacy leads the way in education, personalizing education and getting students to expert faster. Chartered in 1878, the School of Pharmacy is among the oldest pharmacy schools in the country.

Contact Information

University of Pittsburgh
School of Pharmacy
904 Salk Hall
Pittsburgh, PA 15261
Admissions: 412-383-9000
rxschool@pitt.edu
www.pharmacy.pitt.edu

Admissions

The School of Pharmacy admits students to its programs under one of two statuses-guarantee or open. Those two admission statuses are detailed below:

Pharmacy Guarantee Freshman Admission

All students should first submit and application to the University of Pittsburgh, Office of Admissions and Financial Aid. The School of Pharmacy does not admit freshmen directly to the professional program. Candidates who specify prepharmacy on their application, demonstrate academic success in high school, and score 1360 or higher on the SAT I (Math and Critical Reading sections), with a minimum of 690 in the Math section, will be offered a pharmacy guarantee if availabel. Students who receive the guarantee are expected to perform well in their preprofessional courses. In order to secrue a place in the PharmD Program, students must earn:

- a letter grade of a C or better in all preprofessional courses with no repeated courses
- a 3.25 or greater overall GPA in preprofessional courses
- a 3.25 or greater GPA in the required Math and Science courses

NOTE: Math and Science required courses must be taken at the University of Pittsburgh. (AP credits are acceptable)

To exercise the conditional admission, all applicants must:

- submit the Pharmacy College Admissions Test (PCAT) scores
- submit a completed PharmCAS application and fee
- submit a completed Supplemental Application and fee
- participate in a satisfactory interview prior to School of Pharmacy Admission

Students who meet these performance criteria will be admitted into the PharmD Program.

All students interested in applying to the pharmacy program should also consult the Application for Admission of the *Graduate and Professional Catalog*.

Visit the School of Pharmacy Web site at www.pharmacy.pitt.edu.

Program Offerings

Major

Pharmaceutical Sciences, BSPS

The School of Pharmacy offers the opportunity for enrolled PharmD students to obtain a Bachelor of Science in Pharmaceutical Sciences (BSPS) degree after the completion of a minimum of 120 credit hours. Typically, students will have completed the pre-professional component and the first four academic terms (semesters) of the nine term (semester) PharmD program. Students are not enrolled into the BSPS program without admission to the PharmD program.

The school also offers graduate programs leading to an MS and a PhD.

For further information on the professional and graduate programs, see the School of Pharmacy-Graduate and Professional Degrees sections of the Graduate & Professional Studies Catalog.

Contact Information

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www.pharmacy.pitt.edu

School of Social Work

The School of Social Work was founded in September 1938 as successor to the Division of Social Work in the Department of Sociology. The Bachelor of Arts in Social Work (BASW) program was accredited in 1973 and has been continuously reaffirmed since that time.

The mission of the School of Social Work is to advance knowledge and to apply that knowledge for the fulfillment of human potential through the prevention and amelioration of social problems. The school is committed to promoting the values of social and economic justice. Recognizing the complexities of contemporary society, the school dedicates itself through its educational, research, and public service activities to advocating for a society that respects the dignity and achievement of all individuals, families, and communities.

In furtherance of its mission, the School of Social Work strives to

- Educate professional social workers with the knowledge, skills, and values needed to engage in culturally competent practice with diverse populations and communities; to critically analyze personal, familial, and environmental factors affecting practice settings and practice techniques; and to advocate for those who confront barriers to maximizing the achievement of their fullest potential.
- Engage in scholarly activities that contribute to professional knowledge about complex social problems and innovative approaches to ameliorate those problems.
- Provide service to local, national, and international communities through the development of and participation in collaborations with social agencies, community-based organizations, government, and foundations.

The BASW Program prepares its graduates to engage in entry-level generalist social work practice with individuals, families, groups, communities, and/or organizations within a multicultural society. Professional practice settings for entry-level generalist practitioners include child welfare, family preservation, mental retardation and mental health, drug and alcohol, juvenile justice, aging, shelters for battered women, homeless shelters, community food banks, neighborhood citizen organizations, hospitals, and rehabilitation centers, among many others. Since 2001, the BASW Program has offered the Child Welfare Education for Baccalaureates (CWEB) program as an educational opportunity for undergraduate social work majors to prepare for employment in one of Pennsylvania's 67 public child welfare agencies.

The BASW Program is offered as an upper-division (i.e., junior and senior years only) academic major, underscoring the program's commitment to a strong liberal arts base. Learn more about degree requirements, full- and part-time enrollment options and class schedule, and field education for BASW students.

The Social Work Minor is open to undergraduate students throughout the university (see minor requirements)

The Goals of BASW Program are to prepare students to competently engage in generalist social work practice.

As such, it is our goal that by completion of the program, students will be prepared to:

- Use their liberal arts foundation and their understanding of bio-psycho-social-spiritual-cultural development to engage in evidence-based generalist social work practice with individuals, families, groups, communities and organizations within a multicultural society (EP 2.1.1, EP 2.1.3, EP 2.1.4, EP 2.1.6, EP 2.1.7, EP 2.1.8, EP, 2.1.9, EP 2.1.10).
- Practice according to the principles, values, and ethics that guide the social work profession (EP 2.1.1, E.P.2.1.2).
- Advocate for human rights and social and economic justice. (EP 2.1.3, EP 2.1.4, EP 2.1.5, EP 2.1.8, EP 2.1.9).
- Continue formal education in either graduate social work education or other graduate disciplines (EP 2.1.1).

The BASW Program Faculty have defined "generalist practice" as:

The application of knowledge, values, and skills of the general method of problem-solving, which spans the processes of engagement, data collection, assessment, intervention, evaluation, and termination. Preparation in the general method focuses on the application of the method to client/consumer systems of various sizes (individuals, families, groups, communities, organizations). Key to this problem-solving approach is its applicability to multi-cultural contexts, focusing on the strengths inherent in clients/consumers' and systems. The ethics and values of the social work profession anchor this practice.

The BASW Program has also identified a number of more specific and measurable objectives that allow us to document progress toward attaining our goals. We expect graduates from the BASW Program to practice in a manner consistent with social work traditions, values, and ethics, as expressed in the NASW Code of Ethics.

Contact Information

University of Pittsburgh
School of Social Work Office of Admissions
Room 2110 Cathedral of Learning
Pittsburgh, PA 15260
412-624-6348
Fax: 412-624-6323
elhattab@pitt.edu
www.socialwork.pitt.edu

Special Opportunities

The Child Welfare Education for Baccalaureates (CWEB) Program provides an educational opportunity for students interested in public child welfare services. Qualified students who are enrolled as social work majors may receive substantial financial support in return for a contractual obligation to accept employment in a Pennsylvania public child welfare agency following completion of their social work degree. Students interested in the program should contact Dr. Cynthia Bradley-King, CWEB Coordinator, School of Social Work at ckb11@pitt.edu or 412-624-2830.

The Behavioral Health Case Management Program is a certificate available to Social Work and Psychology majors, that leads to possible employment opportunities in a fast paced behavioral health service sector. To read more about the career opportunities available to graduates who hold this certificate please visit the Allegheny County Department of Human Services (DHS) web page.

More information about the program is available on the web and by contacting the Director of the Bachelor of Arts in Social Work Program, Keith J. Caldwell, MSW at kjc45@pitt.edu or 412-648-9441

Admission Requirements

For admission to the Bachelor of Arts in Social Work program (BASW), a student must meet the following requirements:

Completion of 60 transferable credits from an accredited undergraduate institution and/or completion of an accredited associate degree program.
A minimum of 2.00 GPA on a 4.00 scale.

The distribution of liberal arts credits should be as follows:

Humanities-9 credits
Natural Sciences-9 credits
Social Sciences-9 credits
Other courses (preferably a computer skills course and courses in the humanities and behavioral and social sciences)-33 credits

Credits awarded from the College Level Examination Program [CLEP] by the College of General Studies are counted toward the 60 credits. Academic and field education credits are not granted in the BASW program for life, volunteer, or employment experience.

Application Procedures

Students may apply for the fall term or spring term. Students currently enrolled within the University of Pittsburgh system should submit applications and all credentials to the School of Social Work Office of Admissions. Students applying from outside the University of Pittsburgh should send all application materials and credentials directly to the University Office of Admissions and Financial Aid (see Pittsburgh campus Freshman Admissions for address). The Undergraduate program in the School of Social Work has a ROLLING ADMISSIONS POLICY. There is no specific deadline for submitting applications.

The application fee of $45 (only if applying from another institution; current University of Pittsburgh students do not have to pay this fee).
A complete transcript from the registrar of each college attended. If course work is still in progress at the time the application is filed, the student should request a supplemental transcript at the end of each term. Although a decision for acceptance may be made while academic work is still in progress, an up-to-date transcript must be received before the applicant can register for course work. Persons seeking a transfer to the University of Pittsburgh from another college or university must also submit a high school transcript or its equivalent.
A three-part typewritten statement (of no more than eight pages) discussing the following concerns in depth:
the influence in the student's life experience that made him/her select social work as a profession,
what the student believes social work education can contribute to his/her professional competence, and

what the student believes to be one of the most important contemporary social issues and why.

The application supplement sheet, which requests information on the student's employment background, a list of the names and addresses of the people who will be completing reference forms on the applicant's behalf, and academic credit requirement questions.

Three letters of reference. **Required** references include college advisors, an instructor at the college level, and the current (or last) employer/volunteer supervisor. Applicants should send the blank reference forms received with the application materials to each of the reference persons. The School of Social Work admissions office will periodically notify the applicant of the status of the application materials, and the applicant will be expected to follow through with each reference to ensure receipt of the letter. Reference persons should mail the completed form directly to the School of Social Work Office of Admissions.

Other Supporting Application Materials

The School of Social Work does not require the submission of scores from an examination for admission consideration. However, applicants wishing to submit such exam scores or other materials (publications, major papers, etc.) in support of their application may do so. In no instance will an applicant not submitting these be penalized in determining acceptance for the program.

Admission Interviews

Interviews may be initiated by the admissions personnel of the School of Social Work. Applicants who feel they would like to discuss special circumstances surrounding their applications are encouraged to seek admission interviews. The interview, if requested, should be scheduled after all application materials have been received. Usually, decisions on applications for admission are made without an interview.

Grading Standards Policy for the BASW Program

This policy covers the following areas in regard to grading:

Good Academic Standing

In order to remain in good academic standing and to graduate from the BASW program, all students must

Obtain a grade of C- or better in all courses required for the major (including Practicum 1 and 2),
Maintain a minimum 2.50 on a 4.00 scale in their social work major
Conform to the standards of professional conduct as specified in the NASW Code of Ethics (see below), and
Maintain a minimum cumulative GPA of 2.00 on a 4.00 scale.

Honors

The program honors those students whose academic performance (cumulative GPA) places them in the upper two percent of their graduating class. These students are considered for honors recognition at the annual Honors Convocation conducted by the University in the spring of each year. BASW majors are also eligible for membership in *Phi Alpha*, the National Social Work Honor Society, if they have completed their social work major with a social work GPA of 3.85 or higher.

Bachelor of Philosophy Degree

In the spirit of intellectual curiosity envisioned by the Board of Trustees and the University Honors College when the Bachelor of Philosophy degree (BPhil) was created, the BPhil creates the opportunity for undergraduate students to engage in research and scholarly work toward a more rigorous baccalaureate degree traditionally reserved for the graduate level. In combination with the University Honors College requirements it, "preserves an element of intellectual scope, ever the distinctive feature of American undergraduate education (A. Stewart)." This degree is offered jointly between the University Honors College and the School of Social Work.

BASW majors who meet the University Honors College (UHC) eligibility requirements and who are interested in pursuing a Bachelor of Philosophy degree in social work should make an appointment with the BASW Program Director to review criteria and process for the degree.

The BASW student will be referred to the University Honors College Web site to review the Bachelor of Philosophy degree requirements.

The requirements to participate in the UHC are as follows:

- Maintain a 3.25 GPA or higher in BASW major in the School of Social Work and a 3.25 GPA or higher overall at the University of Pittsburgh.
- Transfer students must have an incoming GPA of 3.25 or higher and maintain a 3.25 GPA in BASW major course work offered through the School of Social Work as well as a 3.25 GPA or higher overall at the University of Pittsburgh.
- In unusual circumstances, a student who shows exceptional promise but does not meet the above requirements may be accepted to BPhil candidacy as recommended by the BASW Program Director to the School of Social Work Associate Dean for Academic Affairs and determined by the UHC advising staff.

Based upon a BASW student's area of interest, a thesis advisor will be assigned by the Associate Dean for Academic Affairs. The BASW Program Director and the student's advisor will meet with the student to draft a program of study/curriculum plan. Assignment of an advisor is contingent upon faculty availability and willingness to serve.

General degree requirements are:

- Fulfill the BASW degree requirements with a minimum 3.25 GPA.
- Complete the social work general education requirements with a minimum 3.25 GPA. This includes 24 credits in the social and behavioral sciences; minimum of 3 credits in Africana studies; minimum of 3 credits in English composition; minimum 3 credits in human biology and a minimum of 3 credits in statistics.
- Enroll in one course in each of the following areas, selecting one as an area of specialization, with a minimum of 12 credits and grades corresponding to a 3.25 GPA or higher: Africana studies; anthropology; economics; global studies; political science; psychology; sociology; urban studies; women's studies.
- In all of the above coursework, a prospective BPhil student is encouraged to enroll in an UHC section of the course, if available. Overall GPA requirements remain the same for these courses.

The prospective BPhil student will make an appointment with the UHC advising staff regarding Honors College qualifications for degree candidacy.

The prospective BPhil student will complete the BASW degree requirements listed above as well as complete independent research culminating in the production of an original undergraduate thesis.

If all of the degree requirements are met, a single degree, the Bachelor of Philosophy degree with a major in social work, will be conferred jointly by the School of Social Work and the University Honors College.

For additional details on this degree program, please contact the School of Social Work or the Honors College.

National Association of Social Workers (NASW) Code of Ethics

Professional ethics are at the core of social work. The profession has an obligation to articulate its basic values, ethical principles, and ethical standards. The NASW Code of Ethics sets forth these values, principles, and standards to guide social workers' conduct. The code is relevant to all social workers and social work students, regardless of their professional functions, the settings in which they work, or the populations they serve. The NASW Code of Ethics serves six purposes:

- The code identifies core values on which social work's mission is based.
- The code summarizes broad ethical principles that reflect the profession's core values and establishes a set of specific ethical standards that should be used to guide social work practice.
- The code is designed to help social workers identify relevant considerations when conflicting professional obligations or ethical uncertainties arise.
- The code provides ethical standards to which the general public can hold the social work profession accountable.
- The code socializes practitioners new to the field to social work's mission, values, ethical principles, and ethical standards.
- The code articulates standards that the social work profession itself can use to assess whether social workers have engaged in unethical conduct. NASW has formal procedures to adjudicate ethics complaints filed against its members. In subscribing to this code, social workers are required to cooperate in its implementation, participate in NASW adjudication proceedings, and abide by any NASW disciplinary rulings or sanctions based on it.

The code offers a set of values, principles, and standards to guide decision making and conduct when ethical issues arise. It does not provide a set of rules that prescribe how social workers should act in all situations. Specific applications of the code must take into account the context in which it is being considered and the possibility of conflicts among the code's values, principles, and standards. Ethical responsibilities flow from all human relationships, from the personal and familial to the social and professional. Social work students are required to comply with the NASW Code of Ethics. Copies can be obtained from the NASW Web page at www.socialworkers.org.

Statute of Limitations

There is a seven-year limitation on the earning of the BASW degree with the seven-year period beginning from the date of entry into the program. Under the following extenuating circumstances, the advisor may recommend an extension of time to the program director and the associate dean:

Extended illness of the student,
Involuntary mobilization into a U.S. military unit,
Death of a close family member,
Extended personal emergency, or
Academic probation in the last term of the student's program.

Undergraduate Advising

When admitted, new BASW majors are assigned an advisor by the BASW program director (students completing the social work minor maintain the academic advisor in their current college or school). Incoming BASW majors meet their assigned faculty advisor at the school's orientation, which is held prior to the start of fall semester. Incoming students are then encouraged to make an appointment with their faculty advisor during the first three to four weeks of the term. Each advisor will work with his or her advisee to clarify educational options, answer questions about the BASW Program, and discuss career opportunities. When students enroll for Practicum Seminar I and the concurrent Practicum Seminar and Lab I, the seminar and lab instructor in the section the student chooses becomes his or her faculty advisor for the remainder of their enrollment in the program. Faculty advisors should be the first point of contact for any or all of the following:

Registration including add/drop, leaves of absence, and withdrawals; Clarification of all academic policies and procedures (i.e., grading policies, graduation requirements, directed study);
Discussions regarding academic expectations and performance;
Information about other departments and/or programs in the School of Social Work or the University of Pittsburgh;
Planning of the student's educational program in accordance with his or her career interests.

Phi Alpha National Honor Society

Mu Omicron Chapter

Phi Alpha Honor Society was created to provide a closer bond between social work students and the profession in order to promote humanitarian goals and ideals. With the motto, "Through knowledge-the challenge to serve," Phi Alpha fosters high standards of education for social workers and invites into membership those who have attained excellence in scholarship and achievement in social work. Founded in 1960, Phi Alpha Honor Society currently has more than 110 chapters nationwide.

School of Social Work Faculty

Ralph L. Bangs, Associate Director, Center on Race and Social Problems, PhD, University of Pittsburgh

Cynthia K. Bradley-King, Field Assistant Professor and Academic Coordinator, Child Welfare Education For Baccalaureates Program, PhD, Indiana University of Pennsylvania

Helen Cahalane, *Academic Coordinator, Child Welfare Education for Leadership (CWEL); Clinical Assistant Professor*, PhD, University of Pittsburgh

Keith Caldwell, Assistant Professor, Basw Program Director, MSW, University of Pittsburgh

Lynn Coghill, Assistant Professor, MSW Program Director, MSW, University of Pittsburgh

James A. Cox, Jr.

Valire Carr Copeland, *Associate Professor, Director, PhD Program, School of Social Work, Graduate School of Public Health*, PhD, University of Pittsburgh

Larry Davis, *Dean, School of Social Work; Donald M. Henderson Professor*, PhD, University of Michigan

Caroline Donohue, *Agency Coordinator, Child Welfare Education for Leadership (CWEL); Clinical Assistant Professor*, MSW, University of Pittsburgh

Shawn M. Eack

Stephanie Eckstrom, Program Coordinator, Pitt-Bradford MSW Program, MSW, University of Maryland At Baltimore

Rafael J. Engel, *Associate Professor, Associate Dean of Academic Affairs*, PhD, University of Wisconsin

Rachel A. Fusco, Assistant Professor, PhD, University of Pennsylvania

Sara Goodkind, Assistant Professor, PhD, University of Michigan

Catherine Greeno, *Associate Professor, Associate Dean of Research, Social Work, Department of Psychiatry*, PhD, Stanford University

Lovie J. Jackson

Gary F. Koeske, *Professor*, PhD, Northwestern University

Lambert Maguire Jr., *Professor*, Associate Dean of Academic Affairs, PhD, University of Michigan

Aaron R. Mann, *Associate Professor*, PhD, University of Pittsburgh

Beth Mulvaney

Christina Newhill, *Professor*, PhD, University of California at Berkeley

Marlo Perry

Laura Perry-Thompson, MSW Program Director, Upj, MSW and MEd, University of Pittsburgh

Helen Petracchi, *Associate Professor; Director*, PhD, University of Wisconsin at Madison

Mary Elizabeth Rautkis, Research Assistant Professor, PhD, University of Pittsburgh

Daniel Rosen, *Associate Professor*, PhD, University of Michigan

Jeffrey Shook, Associate Professor, PhD, University of Michigan

Tracy Soska, *Director, Continuing Education and Cosa Director*, MSW, University of Pittsburgh

Fengyan Tang, Associate Professor, PhD, Washington University in St. Louis

John Wallace, Associate Professor, PhD, University of Michigan

Liz Winter, Clinical Assistant Professor and Academic Coordinator, Child Welfare Education for Leadership, PhD, University of Pittsburgh

Hidenori Yamatani, *Professor*, PhD, University of Pittsburgh

Program and Course Offerings

Department of Social Work

Major

Social Work, BASW

Degree Requirements

The School of Social Work requires a minimum of 120 credits for graduation. The courses listed below are required of all students working toward the Bachelor of Arts in Social Work:

Social work courses:

A total of 48 credits in the social work major:

SOCWRK 1000 - INTRODUCTION TO SOCIAL WORK
SOCWRK 1005 - FOUNDATIONS OF WELFARE STATE
SOCWRK 1006 - POLICY ANALYSIS
SOCWRK 1008 - ETHNICITY AND SOCIAL WELFARE
SOCWRK 1010 - PRA MODL:HELP PEPL HELP SELVES
SOCWRK 1011 - SOCIAL WORK W/INDIVS & FMLYS
SOCWRK 1012 - SOCIAL WORK W/COMNYS & ORGNS
SOCWRK 1013 - SOCIAL WORK WITH GROUPS
SOCWRK 1015 - HUMAN BEHAVR & SOCL ENVIRONMNT
SOCWRK 1020 - INTRO TO SOCIAL WORK RESEARCH
SOCWRK 1024 - PRACTICUM SEMINAR AND LAB 1
SOCWRK 1025 - PRACTICUM 1
SOCWRK 1026 - PRACTICUM SEMINAR AND LAB 2
SOCWRK 1027 - PRACTICUM 2

Social and behavioral sciences requirements: 24 credits **

Anthropology (3)
Economics (3)
Political Science (3)
Psychology (3)
Sociology (3)
Additional credits in one of the following areas will fulfill the area of specialization requirement: Africana Studies, Anthropology, Economics, Global Studies, Political Science, Psychology, Sociology, Urban Studies or Women's Studies. (9-12 *)

Note:

* If Global Studies, Urban Studies, or Women's Studies is chosen as the area of specialization, students will need to complete a total of 12 credits in these areas.

Other course requirements: 12 credits **

Africana Studies (3)
English Composition (3)
Human Biology (or equivalent course emphasizing the biological determinants of human behavior) (3)

Statistics (3)

Note:

* Course of equivalent content may have been taken at another institution.

** These courses/credits (in part or in whole) may have been taken as part of the 60 credits required for admission. Any of these courses/credits not taken prior to admission must be completed prior to graduation.

Minor requirements:

The minor includes successful completion (with a grade of C- or better) of four of the following seven 3- credit courses:

SOCWRK 1000 - INTRODUCTION TO SOCIAL WORK *
Foundations of the Welfare State

Note:

* SOCWRK 1000 - INTRODUCTION TO SOCIAL WORK is required for all subsequent courses, with the exception of SOCWRK 1005

Social Work, BPHIL

University Center for International Studies

The University Center for International Studies (UCIS) is the primary resource for initiating and managing international programs, studies and support services while promoting the University's reputation as a leader in global education. A key goal of UCIS is to cultivate globally capable and engaged students toward lives of impact in their community and beyond. In short, to prepare undergraduate students who are global ready. This is achieved by certificate programs, study abroad, curriculum development, and seminars. UCIS offers 9 certificates and 3 related concentrations, which are academic credentials that attest to acquisition of international knowledge about a particular world region or global issue, cross-cultural understanding, and language proficiency relevant for international careers or for advanced degrees. Certificates are available in:

- African Studies
- Asian Studies
- East European Studies
- European Union Studies
- Global Studies
- Latin American Studies
- Russian Studies
- Transatlantic Studies
- West European Studies

The certificates are administered through the African Studies Program, Asian Studies Center, European Studies Center, Global Studies Center, Center for Latin American Studies, and the Center for Russian and East European Studies. Four centers--European Studies Center, Global Studies, Latin American Studies, and Russian and East European Studies--are designated by the federal government as National Resource Centers.

UCIS certificates evidence language proficiency, regional knowledge and cultural competency that students find useful for international careers or for advanced degrees with a concentration in a particular world area or global theme.

Contact Information

University of Pittsburgh
University Center for International Studies
Dr. Belkys Torres, Associate DIrector for International Programs
4413 Wesley W. Posvar Hall
Pittsburgh, PA 15260
412-624-6651
btorres@pitt.edu
www.ucis.pitt.edu

Admission to Certificate Programs

Formal admission to the UCIS certificate programs is accomplished by completing a simple application form. Interested students are encouraged to apply in their freshman or sophomore year. There are no special requirements for admission. All undergraduate certificate programs in UCIS (with the exception of the certificate programs in Global Studies, European Union Studies and Latin American Studies described below) require 15 credits/five courses in the applicable area, with three or more courses in at least two departments other than the major. Language requirements vary from four to six terms.

Certificate courses can be used simultaneously to fulfill the student's general education and international/foreign culture requirements. Grades generally must be C or better to be accepted for the certificate program. Upon graduation, both the academic degree and the certificate are posted on the student's transcript.

Advising

All UCIS certificate programs provide personalized advising services to students interested or registered in its programs in addition to those routinely offered by the students' major advisors. Center advisors assist in selecting courses, language training, and arranging internships or study abroad to fit the students' academic and personal interests. See the program descriptions below for contact information.

Special Academic Opportunities

In addition to the regular certificate programs, UCIS offers the following special academic opportunities:

Asian Studies Scholarships and Fellowships

Students enrolled in the Asian Studies certificate program are eligible for a variety of fellowships and scholarships, including the Chinese Summer Language Study Abroad Scholarships, the Japanese Studies Undergraduate Scholarship, the Study-in-Japan Scholarship, and the Japanese Summer Language Study Scholarship. In addition, a new undergraduate scholarship program for students studying Chinese and Japanese languages is available for study abroad in an approved program. For more information on these funding opportunities, please click here.

Latin American Studies Undergraduate Seminar/Field Trip Program

The Undergraduate Seminar/Field Program is a unique component of the Latin American studies undergraduate certificate program. The Center for Latin American Studies (CLAS) firmly believes that all undergraduates should have the opportunity to experience Latin American culture firsthand. This objective is met through an annual field trip to a selected Latin American country for which about 10 - 14 students are chosen each year. CLAS subsidizes the majority of the cost of this program via scholarships to place it within the means of most students. Student participants register for a seminar in the spring term (January-April) that prepares them for the field experience through study of the culture, economics, geography, history, and politics of the area to be visited. Students also are introduced to research methodology and are guided through the development of a project which forms the basis for research they conduct while in the field. In the summer session (early May-late June), the students travel to Latin America, where they reside with host families and undertake their field projects under the direction of a CLAS faculty member. (In past years, groups have gone to Argentina, Bolivia, Brazil, Colombia, Costa Rica, the Dominican Republic, Ecuador, Guatemala, Mexico, Uruguay, and Venezuela.)

Russian and East European Studies Summer Study Abroad and Internship Awards

The Center for Russian and East European Studies (REES) believes that study or work abroad is a key component of its certificate program. In an effort to encourage students to travel to the region, REES offers several scholarships each summer to students enrolled in the certificate program. In addition, REES offers several awards to its students annually to fund paid internships in Pittsburgh during the academic year in the field of Russian and East European studies.

West European Studies Friedl E. Kessler Memorial Fellowship

To help defray the costs of studying abroad, the European Studies Center offers the Kessler Fellowship for study or research in Germany. This competitive award is offered every year in the amount of $1,000. Any student pursuing the Certificate in West European Studies who studies German and has at least a 3.0 GPA is eligible to apply.

Program Offerings

African Studies Certificate
Asian Studies Certificate
European Union Studies Certificate
Global Studies Certificate
International and Area Studies, BPHIL
Latin American Studies Certificate and Related Concentration
Russian and East European Studies Certificate
Transatlantic Studies Certificate
West European Studies Certificate

Department of International Studies

African Studies Certificate

University of Pittsburgh
University Center for International Studies
African Studies Program
Anna-Maria Karnes, Undergraduate & Graduate Advisor and Outreach Coordinator
4137 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-648-8143
Awk19@pitt.edu
www.ucis.pitt.edu/africa

Asian Studies Certificate

University of Pittsburgh
University Center for International Studies
Asian Studies Center
Emily Rook-Koepsel, Undergraduate & Graduate Advisor and Assistant Director for Academic Affairs
4109 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-648-7370
rookkoepsel@pitt.edu
http://www.ucis.pitt.edu/asc/academics/certificate-program/undergraduate-certificate-program

European Union Studies Certificate & Related Concentration

University of Pittsburgh
University Center for International Studies
European Studies Center
Zachary Kimes, Undergraduate Academic Advisor
4215 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-648-7406
z.kimes@pitt.edu
http://www.ucis.pitt.edu/esc/

Global Studies Certificate

University of Pittsburgh
University Center for International Studies
Global Studies Center
Elaine Linn, Undergraduate & Graduate Advisor and Assistant Director
4102 Wesley W. Posvar Hall
Pittsburgh, PA 15260
412-624-2113
global@pitt.edu
www.ucis.pitt.edu/global

Latin American Studies Certificate And Related Concentration

University of Pittsburgh
University Center for International Studies
Center for Latin American Studies
Luis G. Van Fossen Bravo, Undergraduate Advisor
4202 Wesley W. Posvar Hall
Pittsburgh, PA 15260
412-648-7393
bravo@pitt.edu
www.ucis.pitt.edu/clas

Russian And East European Studies Certificate & Related Concentration

University of Pittsburgh
University Center for International Studies
Center for Russian and Wast European Studies
Andrew Behrendt, Undergradaute Academic Advisor
4417 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-648-7407
aeb72@pitt.edu
http://www.ucis.pitt.edu/crees/

West European Studies Certificate

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University Center for International Studies
European Studies Center
Zachary Kimes, Undergraduate Academic Advisor
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Certificate

African Studies Certificate

University of Pittsburgh
University Center for International Studies
African Studies Program
Anna-Maria Karnes, Undergraduate & Graduate Advisor
4136 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-648-8143
awk19@pitt.edu
www.ucis.pitt.edu/africa

The overarching goal of the African Studies certificate is to deepen students' knowledge and understanding of Africa through a wide range of courses on diverse topics such as African culture, business development, economics, education, environment, history, health, languages, politics, law, and religion. A benefit to any Pitt student, the certificate bolsters the breadth of any degree program without requiring a minor or major in African Studies. Since our required classes count for general education requirements, students work African Studies classes into their schedules organically. The Certificate in African Studies sets students apart in the job marketplace by demonstrating knowledge and interest in Africa to future employers.

Other Opportunities
The program also offers language and cultural immersion opportunities to study abroad in Africa, and it brings students together with faculty and visiting scholars in a variety of different academic and cultural settings. Students from **all academic areas** are welcome to participate in these activities, which are intended to deepen one's knowledge and understanding of Africa and promote awareness of African realities in a wider context. Those who enroll in the program and successfully complete the requirements will be awarded the undergraduate Certificate in African Studies.

Certificate Requirements

One required core course (3 credits) from AFRCNA 0127 - INTRODUCTION TO AFRICA, AFRCNA 0586 - EARLY AFRICAN CIVILIZATIONS, ANTH 1778 - CULTURES OF AFRICA, HIST 0795 - HISTORY OF AFRICA BEFORE 1800 , or HIST 1796 - HISTORY OF AFRICA SINCE 1800

Four elective courses (12 credits) selected from those on the course list that contain at least 25% African content

Language proficiency: a minimum of two years of study (four terms) of either an indigenous African language (Swahili or Arabic) or a European language (other than English) relevant to African studies as a consequence of Africa's historical experience (French, Portuguese, German or Spanish)

Capstone paper: This is the culmination of the student's learning experience and clearly demonstrates in-depth knowledge of African studies issues in at least one academic discipline. The capstone must be an assignment submitted as part of coursework, such as a final term paper and the student must have received a B or higher grade on the paper. It must be submitted to the African Studies Program no later than the last semester before graduation.

Special Academic Opportunities

African Studies Internships and Study Abroad Opportunities

The African Studies Program offers **two student internships every semester** where students are given full exposure to the field of African Studies and can earn 3 credits for their academic internship. Students work on skills such as networking, public speaking, communications, media relations, critical thinking, and knowledge of Africa. An African Studies internship is a great way for students to build their resume and get real life experience working for a university.

The African Studies Program also has **two Pitt study abroad programs that run during the summer** to Tanzania and South Africa. These programs allow students to get an on-the-ground appreciation for African studies and gain cultural understanding while working on their Arts and Science requirements.

Asian Studies Certificate

University of Pittsburgh
University Center for International Studies
Asian Studies Center
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Phone: 412-648-7370
rookkoepsel@pitt.edu
http://www.ucis.pitt.edu/asc/academics/certificate-program/undergraduate-certificate-program

The Asian Studies Center's mandate is to promote an enhanced understanding of East Asia, South Asia, Southeast Asia, and the Pacific Islands through exceptional undergraduate and graduate academic programs, strong interdisciplinary faculty development, and energetic community

outreach. The center has nationally recognized programs in Chinese and Japanese language and culture studies, with growing strengths in Indian and Korean studies. Its affiliated faculty spans the disciplines. More than 3,500 students enroll each year in Asia-related courses. Undergraduate students from any field or school interested in Asia can supplement and strengthen their major field of study by enrolling in the Asian Studies certificate program.

Certificate Requirements

- **Asian Area Studies Courses**: A minimum of five courses (15 credits) on Asia are required. Four courses (12 credits) must be taken in at least two departments outside the major and one course (3 credits) must be taken in the major department. If the major department does not have options for an Asian focus, the student must take an additional Asia-related course in a third department.
- **Language proficiency**: a minimum of two years (four terms) of Asian language study at the college level or equivalent proficiency. Pitt offers Mandarin Chinese, Japanese, Korean, Hindi, and Vietnamese. Heritage and native speakers are exempt from this requirement if they can demonstrate at least intermediate-level proficiency.
- **Digital Portfolio:** Students will produce a digital portfolio by the end of their Senior year. The portfolio may include reflections on academics, work/internship experiences, study abroad observations, and extra curricullar activities to highlight thier expertise in Asian studies.

Financial Assistance

Asian Studies certificate students may be eligible for a variety of scholarships and study abroad awards. For information, visit http://www.ucis.pitt.edu/asc/funding/undergraduate

European Union Studies Certificate

University of Pittsburgh
University Center for International Studies
European Studies Center
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http://www.ucis.pitt.edu/esc/

The European Union (EU) Studies Certificate provides an introduction to the history of European integration, working knowledge of the EU's laws and administrative bodies, economics and the Euro Area, and (depending on the classes chosen) an overview of specific policy areas (defense and security, immigration, economic, international relations, etc.). The certificate provides a multidisciplinary and cross-regional (east-west) perspective, and it is perfect preparation for students who want to pursue careers in both public and private international organizations and to continue the study of Europe and the EU at the graduate level.

The University of Pittsburgh is an internationally recognized center for European Union studies. Selected in 1998, the university is one of 10 European Union Centers of Excellence in the United States (as chosen by the EU itself). The EU certificate has a high visibility that will assist students as they apply to competitive graduate programs in a number of disciplines and to corporations and organizations that interact with the European Union.

Certificate Requirements

- **Six EU studies courses** (18 credits) from at least three different departments are required. These courses will include PS 1317 - POLITICS OF THE EUROPEAN UNION, (a prerequisite for PS 1330), PS 1330 - EUROPEAN UNION SEMINAR, one course on the historical foundation of the EU, and three courses on the EU or with significant EU content

Approved courses are posted online at http://www.ucis.pitt.edu/euce/node/142.

- **Language proficiency:** two years of college-level study of an official European Union foreign language (excluding English). Languages currently available include: Spanish, German, French, Italian, Swedish, Modern Greek, Portuguese, Hungarian, Polish and Slovak. Students may request placement tests through the language department

Related Concentration in European & Eurasian Studies

The Related Concentration in European & Eurasian Studies is crafted to offer comparative study opportunities for students in a pre-professional field - pre-medicine, pre-law, business, engineering, and health and rehab sciences - will while capitalizing on existing European language credits. This individualized, interdisciplinary credential provides a context for studying abroad and complements most academic plans and majors. For the Related Concentration, we define Eurasia as the Russian Federation, Turkey, Mongolia, and the former Soviet republics.

Requirements

A **minimum of four** (12 credits) **content courses** is required. The courses must come from at least two different departments and none of the courses can overlap with a student's other credentials. These courses are allowed to overlap, however, with general education requirements. Students must earn a C or better in classes counting towards the certificate.

Language proficiency: one year (two semesters) of college-level study of an official European (excluding English) or Eurasian language, or demonstration of equivalent proficiency. The same language classes (or AP credits) used to fulfill the general education requirement may be used here as well.

Special Academic Opportunities

In addition to the certificate itself, the European Studies Center also offers its students a number of valuable resources, including scholarships for study abroad, directed research opportunities, research assistance, and a full calendar of events and visits from politicians and practitioners from across Europe.

Global Studies Certificate

University of Pittsburgh
University Center for International Studies
Global Studies Center
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Phone: 412-648-2113
eel58@pitt.edu
http://www.ucis.pitt.edu/global/

Global Studies focuses on the interconnectedness of today's world. Students pursuing an undergraduate degree in any school within the University may seek an undergraduate certificate in global studies.

Certificate Requirements

Global Concentrations: To complete the certificate, student are able to develop expertise by taking five courses in one of six global themes:
Changing Identities in a Global World
Communication, Technology and Society
Conflict and Conflict Resolution
Global Economy and Global Governance
Global Health
Sustainable Development

Six global studies courses (18 credits) are required. In addition to five thematic courses, students are required to take PS 0550 or ARTSC 0150 - INTRODUCTION TO GLOBAL STUDIES

Language proficiency: a minimum of two years of college-level study (four semesters) in a foreign language spoken in the chosen region of study, or fulfill the requirement by passing a proficiency exam. Intermediate low-mid proficiency is expected. Pitt offers instruction in over 30 languages

Global Studies Capstone research paper: This research paper is the culmination of the student's learning experience of an issue related to the global concentration. It demonstrates analytical skills within a trans-regional context. The capstone must be written as part of a course and graded by a faculty member

Special Academic Opportunities

Students enrolled in Global Studies are the first to be informed about funding for research, travel, language study, and study abroad; internships and career development; networking opportunities with dignitaries, academics, and professionals; and interesting events on campus and in the city of Pittsburgh.

Latin American Studies Certificate and Related Concentration

University of Pittsburgh
University Center for International Studies
Center for Latin American Studies
Luis G. Van Fossen Bravo, Undergraduate Advisor
4202 Wesley W. Posvar Hall
Pittsburgh, PA 15260
412-648-7393
bravo@pitt.edu
www.ucis.pitt.edu/clas

Any undergraduate student at the University of Pittsburgh may enroll in the **Certificate or Related Concentration** of the Center for Latin American Studies (CLAS). The earlier you enter the program, the easier it is to incorporate Latin American courses into your plan of study. As a CLAS student, you will become eligible for grants and fellowships awarded by the Center. You also receive information about the many events sponsored by the Center.

Certificate Requirements

Seven Latin American courses (21 credits): two courses in the major department and five courses from at least two departments outside the major. If majoring in a department in which no Latin American courses are offered, the requirement is seven Latin American area courses in at least three different departments.

Language proficiency: three years (six terms) of college-level Spanish or Portuguese, or have equivalent competency

Study abroad in Latin America is required. The study abroad program must be for academic credit and last at least six weeks. *The requirement may be fulfilled by participation in the CLAS Undergraduate Seminar and Field Program.*

Related Concentration Requirements

Similar to a minor, the related concentration is designed for students who want to learn about the cultures and societies of our neighbors to the south. It is suitable for students considering a career specializing in the Latin American region, and has two academic requirements: area studies courses and language proficiency.

One course in the major department, and **four courses** from at least two departments outside the major (15 credits). If majoring in a department in which no Latin American courses are offered, the requirement is five Latin American area courses in at least three different departments.

Language proficiency: two years of study (four terms) of college-level Spanish or Portuguese, or have equivalent proficiency.

Special Academic Opportunities

The Center for Latin American Studies (CLAS) offers a variety of funding opportunities for undergraduate students entering or currently enrolled in one of its undergraduate programs. Please visit: www.ucis.pitt.edu/clas/ugrad_funding.

Russian and East European Studies Certificate

University of Pittsburgh
University Center for International Studies
Center for Russian and Wast European Studies
Andrew Behrendt, Undergradaute Academic Advisor
4417 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone: 412-648-7407
aeb72@pitt.edu
http://www.ucis.pitt.edu/crees/

The Russian and East Eurpoean Studies Certificate is an interdisciplinary credential that combines foreign language training and multidisciplinary area studies courses. Through this stimulating program, students develop a broad understanding of the historical and cultural processes shaping states and societies in Eastern Europe, Russia, and Eurasia.

Certificate Requirements

Coursework: Five Russian & East European area studies (non-language) courses (15 credits). Courses must be taken in at least three departments, and up to two courses may be taken in the major department.

Language proficiency: a minimum of two years (four terms) of college-level study of a language of the former Soviet Union or East/Central Europe. Pitt offers Russian, Polish, Slovak, Ukrainian, Modern Greek, Turkish, and Bosnian/Croatian/Serbian. Additionally, Pitt's Summer Language Institute offers Estonian, Latvian, Lithuanian, Bulgarian, Czech and Hungarian. Heritage speakers must demonstrate intermediate-level proficiency.

Capstone Paper: this is the culmination of the student's learning experience and demonstrates in-depth, interdisciplinary knowledge of Russian & East European studies. This 10 to15-page paper must be written in junior or senior year, and be submitted to the certificate advisor with grade documentation prior to graduation.

Students are strongly encouraged to take the 3-credit REES capstone course, which fulfills this requirement and counts as an area studies course.

Related Concentration in European & Eurasian Studies

The Related Concentration in European & Eurasian Studies is crafted to offer comparative study opportunities for students in a pre-professional field - pre-medicine, pre-law, business, engineering, and health and rehab sciences - will while capitalizing on existing European language credits. This individualized, interdisciplinary credential provides a context for studying abroad and complements most academic plans and majors. For the Related Concentration, we define Eurasia as the Russian Federation, Turkey, Mongolia, and the former Soviet republics.

Requirements

A **minimum of four** (12 credits) **content courses** is required. The courses must come from at least two different departments and none of the courses can overlap with a student's other credentials. These courses are allowed to overlap, however, with general education requirements. Students must earn a C or better in classes counting towards the certificate.

Language proficiency: one year (two semesters) of college-level study of an official European (excluding English) or Eurasian language, or demonstration of equivalent proficiency. The same language classes (or AP credits) used to fulfill the general education requirement may be used here as well.

Special Academic Opportunities

Pitt offers a range of study abriad course that can be used to fulfill certificate requirements. Short-term summer study abroad courses, taught in English and offering 3 to 6 Pitt credits, include:

Czech Republic and Poland: Economy and Policy (ECON 0905) in Prague and Krakow, May

Romani (Gypsy) Music, Culture, and Human Rights (MUSIC 1362 , URBNST 1901) in Prague and Budapest, 6 credits, May-June
Architecture and the City in Central Europe (HAA 1907) in Vienna, Zagreb, Ljubljana, and Prague, May.

The intensive Summer Language Institute (SLI) is a great option to study languages of our region. Study abroad options are available for Russian, Bosnian/Croatian/Serbian (BCS), Bulgarian, Czech, Hungarian, Polish, and Slovak (www.sli.pitt.edu).

**For those students interested in pursuing graduate or other advanced regional studies, a Bachelor of Philosophy degree in International and Area Studies/Russian and East European Studies Track is also available.*

Transatlantic Studies Certificate

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University Center for International Studies
European Studies Center
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4215 Wesley W. Posvar Hall
Pittsburgh, PA 15260
Phone:412-648-7406
z.kimes@pitt.edu
http://www.ucis.pitt.edu/esc/

The Certificate in Transatlantic Studies lets students pursue a comparative study of Europe and the United States, as well as countries that touch the Atlantic. Primary areas of study include governance, policy and security issues in the context of the transatlantic relationship, the history of colonialism, humanities and culture, and the comparative study of various professional fields such as business and medicine.

Certificate Requirements

A **minimum of five** (15 credits) **Transatlantic Studies content courses** is required. Two of the courses may overlap with the student's major or other credentials. The remaining courses must be from at least two departments outside the student's major. Two of the courses must be at the 1000 level and students must earn a C or better in classes counting towards the certificate. Courses must be thematically relevant to each other.

Language proficiency: two years (four semesters) of college-level study of an official European language (excluding English). Languages currently available include: Spanish, German, French, Italian, Swedish, Modern Greek, Irish Gaelic, Portuguese, Hungarian, Polish and Slovak. Students may request placement tests through the language department.

Special Academic Opportunities

In addition to the certificate itself, the European Studies Center also offers its students a number of valuable resources, including scholarships for study abroad, directed research opportunities, research assistance, and a full calendar of events and visits from politicians and practitioners from across Europe.

West European Studies Certificate

University of Pittsburgh
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European Studies Center
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http://www.ucis.pitt.edu/esc/

The Certificate in Western European Studies provides students with strong interests in predominantly Western European history, culture, politics, and languages to complement their major with a regional specialization.

Certificate Requirements

A minimum of **five West European studies courses** (15 credits). Courses must be chosen according to a theme to ensure intellectual cohesion. Possible themes include: European humanities, cultural and social development, continental European politics, Spanish studies, German studies, or self-designed theme after consultation with the international advisor

Two courses from the major may overlap with the certificate. Remaining courses must be from at least two departments outside the major. One of the five courses must be on 20th/21st century Western Europe, if applicable to the theme.

Language proficiency: two years of college-level study (four terms) in French, German, Spanish, Portuguese, Italian, Irish Gaelic, Swedish or Modern Greek

Digital Portfolio: this is the culmination of the student's learning experience and demonstrates in-depth knowledge of West European studies issues. Details will be discussed with the advisor.

Special Academic Opportunities

In addition to the certificate itself, the European Studies Center also offers its students a number of valuable resources, including scholarships for study abroad, directed research opportunities, research assistance, and a full calendar of events and visits from politicians and practitioners from across Europe.

University Honors College

The University Honors College (UHC) seeks to create opportunities for dedicated and engaged students to explore their interests in great depth and with great rigor. The UHC offers a variety of carefully designed courses from the humanities, social sciences, and natural sciences, along with supplemental advising opportunities, academic activities, and a distinctive baccalaureate degree in any undergraduate school of the University.

Contact Information

University of Pittsburgh
University Honors College
3600 Cathedral of Learning
Pittsburgh, PA 15260
412-624-6880
www.honorscollege.pitt.edu

Admission Requirements

A distinctive feature of the University Honors College (UHC) is that unlike honors programs and colleges at virtually all other universities, students do not apply for membership, students are not accepted into the UHC, and students are not rejected for membership. Rather, all undergraduate students who seek an enriched education are invited to pursue the rigorous academic opportunities provided by the UHC.

Advising

The UHC offers multiple forms of advising that are intended to complement the advising students receive from their primary advisor. These include supplemental academic advising, Health Professions Advising, national scholarships advising, community engagement advising, and Politics and Philosophy major advising.

Please note that all students are welcome to meet with UHC advisors and are encouraged to either make an appointment online or simply email the relevant advisor.

Supplemental Academic Advising

UHC supplemental academic advisors help students explore interests and goals, assist in matching them to relevant opportunities in research, student groups, and academics within the UHC and at Pitt; assist in planning double majors and/or an interdisciplinary approach to their education; provide general academic advice on courses, majors, and research; and aid in the preparation of personal statements for scholarships and graduate study. For more information: http://www.honorscollege.pitt.edu/advising

Health Professions Advising

Health professions advising assists students as they explore major choices, course selection, long range planning, and successful application to both the health professions committee and to medical, dental, optometry, podiatry, and veterinary schools. Advisors assess student goals and then recommend academic and experiential opportunities that mesh with student interests. For more information: http://www.honorscollege.pitt.edu/health-professions-advising

National Scholarships

The office of National Scholarships works closely with students to identify scholarships relevant to their academic and personal goals, and explore the steps to become competitive applicants for these awards. National scholarship advising can help students attain a broader perspective and refined

understanding of their personal, academic, and professional goals; strengthen their writing skills through the creation and revision of personal statements and grant proposals; and develop the resourcefulness to identify opportunities to conduct meaningful research and/or incorporate service and international experiences into their educational plan. For more information: http://www.honorscollege.pitt.edu/nationalscholarships-advising

Community Engagement

Community Engagement Advising and programming provides students with opportunities to use their academic interests and skills to positively impact their communities. Community Engagement Advising introduces students to pertinent social issues in the city of Pittsburgh as well as key organizations, leaders, and advocates who are involved with those issues; connects students to research, fellowships, experiential learning opportunities, and other scholarly projects that relate to public service and social change; supports students in designing independent experiences and research projects that integrate academic skills and interests with investigating and addressing community issues. For more information: http://www.honorscollege.pitt.edu/community-engagement-advising

Politics and Philosophy Major

This interdisciplinary major in the Kenneth P. Dietrich School of Arts and Sciences is advised through the UHC and provides students with training in the conceptual, empirical, and normative foundations of various fields of public policy. It enhances understanding of the moral and political complexities of public life and offers preparation in both theory and practice to students interested in pursuing careers in social and public affairs. For more information: http://www.honorscollege.pitt.edu/politics-philosophy

The Bachelor of Philosophy Degree

The Bachelor of Philosophy (BPhil) degree is jointly awarded by the UHC and any undergraduate school/college at Pitt. The BPhil degree signifies the highest level of research/scholarship attainable by an undergraduate student. To receive the BPhil degree, students must fulfill the degree requirements (major, general education, and/or other curricular requirements) of their "home school" (e.g., Kenneth P. Dietrich School of Arts and Sciences, Swanson School of Engineering, College of Business Administration, School of Nursing, etc.) and maintain a 3.50 cumulative GPA. The UHC adds two requirements: a more demanding program of study which should have breadth, depth, and focus and independent research/scholarship under the guidance of a faculty member culminating in a written thesis that is defended before a faculty examination committee that includes a visiting external examiner from another college or university. For more information: http://www.honorscollege.pitt.edu/bphil-degree

Special Academic Opportunities

Student Publications

The UHC advises and directs the publishing of four undergraduate publications: Collision (prose and poetry), Pittsburgh Undergraduate Review (analytical and scholarly essays), Three Rivers Review (literary magazine), Pitt Political Review (political writing). All publications are student run and always interested in new members. Consult the UHC publications page for more information: http://www.honorscollege.pitt.edu/activities/student-publications

Research Opportunities

The UHC provides research opportunities in the fall and spring semesters as well as the summer. These include the Brackenridge Research Fellowships, Health Sciences Summer Research Fellowships, and Chancellor's Undergraduate Research Fellowships just to name a few. For more in depth information about these programs and their application deadlines, please visit: http://www.honorscollege.pitt.edu/fall-and-spring-research-opportunities and http://www.honorscollege.pitt.edu/summer-research-opportunities

Housing

The UHC offers First-Year Honors Housing, located in Sutherland West, and Upper-Class Honors Housing in Pennsylvania Hall and Forbes Craig Apartments. Honors Housing is unique in that it connects highly motivated students from across schools and majors in communities that are shaped by their shared academic, cultural, and personal interests. To learn more about Honors Housing, visit: http://www.honorscollege.pitt.edu/housing

Major and Minor Descriptions

Major

Politics and Philosophy, BA

The politics and philosophy major, a major in the Kenneth P. Dietrich School of Arts and Sciences, advised through the University Honors College, provides students with interdisciplinary training in the conceptual, empirical, and normative foundations of various fields of public policy. It enhances students' understanding of the moral and political complexities of public life and it offers preparation in both theory and practice to students interested in pursuing careers in social and public affairs.

By combining course work from different disciplines -- political science, philosophy, and economics -- the program's scope is broad, yet the structure of the curriculum also requires depth. The thematic nature of the major allows for flexibility in course selection. In collaboration with the major advisor, students design a cohesive program of study tailored to meet their individual post-graduate/career interests and needs.

The politics and philosophy major is a rigorous, but rewarding, program. Upon graduation, an academic career is certainly a possible pursuit; the major also provides excellent preparation for careers in law, government, community organizations, and social action groups.

The major is comprised of elements from the political science, philosophy, and economics departments and involves a minimum of 51 credits distributed as follows: political science - 21 credits; philosophy - 21 credits; economics - 9 credits. A capstone, which may have associated credits, is also required.

Required Courses

Political Science Courses

Students must complete seven courses in political science. At least four of those courses must be upper level (numbered 1000 or above). One of the courses must be a W-course; the W-course may be either upper- or lower-level.

Philosophy Courses

Students must complete seven courses in philosophy. At least four of those courses must be upper level (numbered 1000 or above). One of the courses must be a W-course; the W-course may be either upper- or lower-level.

Economics Courses

ECON 0100 - INTRO MICROECONOMIC THEORY
ECON 0110 - INTRO MACROECONOMIC THEORY
ECON XXXX any course (no course in the 0800 series may count toward this requirement)

Capstone Requirement

In consultation with the major advisor, students may opt for one of the following.

completion of the Bachelor of Philosophy thesis through the University Honors College (UHC);
participation in a graduate-level seminar (with permission from the instructor); or
completion of a Directed Research Project, an Independent Study, or an Internship.

Grade requirements: A minimum GPA of 2.0 is required in those courses that count toward the major.

Satisfactory/No Credit option: There is no limit on the number of courses in the major that can be taken on an S/NC basis, but it is suggested that these courses be taken for a letter grade.

Writing (W) requirement: The W courses listed under the political science and philosophy requirements satisfy the W requirement for the major.

Related area: A related area is not required due to the interdisciplinary nature of the major.

Special Academic Opportunities

The University of Pittsburgh makes many special academic opportunities available to all of the University's undergraduate students. These opportunities provide students with ways to augment their education and experience with expanded study programs both on campus and off campus, in both University and professional settings.

Area of Concentration (Sub-Plan)

An area of concentration is an approved educational experience that results in concentrated training in or knowledge of a particular area within the discipline of a degree program. For more information about specific areas of concentration, see individual school sections.

Certificate Programs

Students may broaden their educational experience by electing to take an academic interdisciplinary certificate program in the areas listed below. The certificate may partially fulfill the degree requirements of the student's school. The requirements for each certificate vary, and students should contact the certificate program director. For more information about these certificate programs, see their individual listings in the school or center section identified in parentheses.

- Accounting (CGS)
- African Studies (UCIS)
- American Sign Language (A&S)
- Asian Studies (UCIS)
- Assistive Technology in Rehabilitation (SHRS)
- Children's Literature (A&S)
- Civil Engineering and Architectural Studies (ENGR)
- Communications (CGS)
- Community Health Assessment (CGS)
- Conceptual Foundations of Medicine (A&S)
- Corporate/Community Relations (CGS)
- Dental Hygiene (DEN)
- Digital Media (CGS)
- Emergency Medicine in Rehabilitation (SHRS)
- Energy Resource Utilization (ENGR)
- English Writing (CGS)
- European Union Studies (UCIS)
- Fessenden Honors Engineering (ENGR)
- Gender, Sexuality, and Women's Studies (A&S) (CGS)
- Geographic Information Systems (A&S)
- German Language (A&S)
- Global Studies (UCIS)
- Historic Preservation (A&S)
- History and Philosophy of Science (A&S)
- Information System Design (CGS)
- International Business (CBA)
- International Engineering Studies (ENGR)
- Jewish Studies (A&S)
- Latin American Studies (UCIS)
- Leadership (A&S)
- Leadership and Ethics (CBA)
- Managing Health Services Programs and Projects (CGS)
- Medieval and Renaissance Studies (A&S)
- National Preparedness and Homeland Security (CGS)
- Nonprofit Management (CGS)
- Nuclear Engineering (ENGR)

Pathokinesiology in Rehabilitation (SHRS)
Photonics (A&S)
Product Realization (ENGR)
Psycho-Social Issues in Rehabilitation (SHRS)
Public and Professional Writing (A&S)
Russian and East European Studies (UCIS)
Sustainable Engineering (ENGR)
West European Studies (UCIS)
Writing for the Professions (CGS)

Abbreviations are as follows:

A&S = Arts and Sciences
CBA = College of Business Administration
DEN = School of Dental Medicine
CGS = College of General Studies
ENGR = Swanson School of Engineering
UCIS = University Center for International Studies

Cooperative Programs

The University has established some arrangements with industry that permit students to rotate four-month terms between the workplace and the classroom. These programs are administered by the Swanson School of Engineering and available to engineering, computer science, and engineering technology students. The experience normally starts in the sophomore or junior year. Call 412-624-9826 for more information or see www.engineering.pitt.edu/coop.

Cross Registration

Cross-college and cross-university registration is a program designed to provide enriched educational opportunities for undergraduates in any of the following participating Pittsburgh-area institutions: Carlow University, Carnegie Mellon University, Chatham University, Community College of Allegheny County, Duquesne University, La Roche College, Pittsburgh Theological Seminary, Point Park University, Robert Morris University, and the University of Pittsburgh. For requirements and limitations, see the Cross-Registration section of this catalog or visit www.pchepa.org.

Double And Joint Degrees

Students may simultaneously pursue more than one undergraduate degree (e.g., a BA and a BS within Arts and Sciences, or an undergraduate degree in the Swanson School of Engineering and in Arts and Sciences). Students must be admitted to both schools offering the degrees and fulfill the degree requirements of both schools. For the double degree (whether within or between schools), the student must complete not only the requirements for both degrees, but also a minimum of 30 credits beyond what is normally required for the primary degree (e.g., a student earning two A&S degrees would need at least 150 credits, rather than the usual 120; a student earning an A&S degree as the primary degree and a degree from another University of Pittsburgh school as the secondary degree would need at least 150 credits). Students must maintain a 2.00 GPA in all courses. Check with the individual school for other specific requirements that apply.

Graduate And Professional School Opportunities

Graduate school provides students with the opportunity to enhance their knowledge and qualifications in areas of academic and professional interest. All students can take advantage of being at a major research and graduate institution by exploring the many possibilities for graduate study that exist at the University. For information about specific programs, see the Graduate and Professional Studies Catalog.

University of Pittsburgh undergraduate students with sufficient preparation are permitted to enroll in certain graduate courses at the University following procedures determined by each school. The graduate credits earned may be counted toward the undergraduate degree if approved by the student's school. These may not be counted as credits toward a graduate degree except as noted below.

Undergraduate students who need fewer than 15 credits to complete requirements for the baccalaureate degree and who intend to continue study toward an advanced degree may be permitted during their final term to register for graduate courses that will later apply toward a graduate degree. See the *Graduate Catalog - Academic Regulations* section "Enrollment in Graduate Courses as an Undergraduate".

Some schools offer accelerated admission into certain graduate and professional schools through a combined program leading to both a bachelor's and graduate or professional degree. The participating undergraduate schools and their early admissions graduate school partners are listed below:

Arts and Sciences (A&S)-Communication Science Program (speech, pathology, and audiology) within the School of Health and Rehabilitation Sciences (SHRS)
A&S-Physical Therapy Program within SHRS
A&S-School of Dental Medicine
BS in Computer Science and MA or MS in Computer Science, both from Arts and Sciences
BS in Statistics and MA or MS in Statistics, both from Arts and Sciences
BA from Arts and Sciences and JD from Law
BA or BS (unspecified major, but prerequisites required) from Pitt and MS or MPH in Environmental and Occupational Health, MS or MPH in Infectious Diseases and Microbiology, MS in Human Genetics, MS or MPH in Biostatistics, or BCHS or MHPE in Health services Administration from Graduate School of Public Health
School of Nursing-RN-Option Program (RN-MSN option)
SHRS-Health Information Management Program
BA in Legal Studies from the College of General Studies and Masters of Law from Law
BSBA from College of Business Administration and JD from Law

Honors College And Honors Courses

The University Honors College (UHC) seeks to meet the special academic and cocurricular needs of the University's most able and motivated undergraduate students. The University Honors College offers a variety of carefully designed courses from the humanities, social sciences, and natural sciences, along with special advising opportunities for an academic community of motivated students, and a special baccalaureate degree in any undergraduate school of the University. See the University Honors College section of this catalog for more information. In addition, some schools and departments offer an honors major. Students should see their school for more information on this opportunity.

Internships

Some schools provide internship experiences appropriate to the student's academic discipline. An internship is a supervised, work-related experience, either on a volunteer or compensated basis. It is intended to be a new experience, not an existing position in which the student is already working. Students will only get internship credit for a current employment situation that has been pre-approved as an internship by the relevant school or department.

Minors (Plans)

A minor provides an option for a student obtaining a degree in a particular discipline to attain knowledge of another discipline. Students may earn minors in schools other than the school in which they are enrolled. After the student lists the official minor on his or her graduation application, the minor appears on the student's academic record and official transcript when the degree is awarded. (See the Academic Programs section of this catalog for available minors.)

Reserve Officer Training Corps (ROTC)

ROTC is an educational program designed to provide full-time students an opportunity to become military officers while completing a Bachelor's or a graduate degree. Students may elect to participate in either the Air Force or Army ROTC program at the University of Pittsburgh or the Naval ROTC program at Carnegie Mellon University. Students in the Air Force program have the option of completing a two or a four-year program. Students in the Army ROTC Program and Naval ROTC programs have the option of completing a two, three, or four-year program. Completion of the Air Force ROTC program leads to a commission as a Second Lieutenant in the U.S. Air Force. Completion of the Army ROTC program leads to a commission as a Second Lieutenant in the U.S. Army, the Army National Guard, or the U.S. Army Reserve. Completion of the Navy ROTC

program leads to a commission as an Officer in the Navy or Marine Corps. All three programs offer monthly stipends, a book allance and tuition scholarships. Call 412-624-6396 or see http://www.afrotc.pitt.edu/ for more information on the Air Force ROTC program, 412-624-6197 or see www.rotc.pitt.edu for more information on the Army ROTC program, and 412-268-5109 or http://www.cmu.edu/nrotc for more information on the Navy ROTC program.

Study Abroad

Students are encouraged to add an international dimension to their undergraduate education through study abroad. Programs of study exist in almost every corner of the world and will fulfill requirements for almost any field of study. Second language proficiency is not a requirement, as most programs offer courses taught in English. Financial aid and scholarships are available. Interested students should come to the Study Abroad Office in 802 William Pitt Union to discover their many options. Call 412-648-7413 to schedule an Essentials of Study Abroad Session or explore www.abroad.pitt.edu. The Engineering Study Abroad Office is in B-80G Benedum, and the College of Business Administration Study Abroad Office is in 2514 Sennott Square.

Summer Sessions

The University offers a large selection of courses in a variety of compressed sessions throughout the summer. Current students can register through their school. Several summer sessions are offered, see the Academic Calendar.

During the summer term and summer sessions, most students are charged tuition on a per-credit basis regardless of the number of credits taken. See Financial Information. Additional information is available through the Office of University Summer Sessions at 412-383-8600 or www.summer.pitt.edu.

Summer Edge

The University offers intensive summer programs that provide academic and experiential studies delivered in a small cohort. In summer 2017, these programs are the Edge in Public and Global Health and the Edge in Wyoming. All University of Pittsburgh undergraduate students are eligible to apply. A transcript notation stating completion of the specific program will appear on the student's transcript. For more information including program costs, see http://www.summeredge.pitt.edu/.

In the Edge in Public and Global Health (11-12 credits), students learn to analyze and tackle critical world health problems through the integrated application of biological, social, and quantitative sciences. Working individually or in pairs with Public Health faculty, students will have opportunities to experience laboratory, quantitative, policy, or social science research, or field work with community organizations or health agencies. The program is administered through the School of Public Health and is offered over the 12-week summer session.

In the Edge in Wyoming (6 credits), students explore the history and politics of the American West, including issues related to environmental policy. While at the University of Wyoming, students will experience the West and its culture by interacting with local guest speakers and visiting relevant, regional sites. The program is administered through the Dietrich School of Arts and Sciences and is offered during 4-week-2 summer session at the University of Wyoming.

Course Information

Please note, when searching courses by Catalog Number, an asterisk (*) can be used to return mass results. For instance a Catalog Number search of " 1 " can be entered, returning all 1000-level courses.*

Admin and Policy Studies

ADMPS 1001 - SOCIAL FOUNDATIONS OF EDUCATN

Minimum Credits: 3
Maximum Credits: 3
Students in the course have the opportunity to develop a foundational understanding of the dynamics of schooling in society by addressing the cultural aspects that underlie society's educational ideas and practices. Through an interdisciplinary approach, readings and activities are designed for school practitioners, or those contemplating careers in education, to engage in the study of those cultural aspects and consequences. The general intent of foundational study is to introduce students to interpretive uses of knowledge Germane to education and to establish a basis for lifelong learning through normative and critical reflection on education within its historical philosophical, cultural and social contexts. Special emphasis is focused on the role of schooling in cultivating the habits necessary for democratic citizenship which include ongoing efforts to secure equitable and just social relations, and to advance the common good.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ADMPS 1086 - RESIDENCE LIFE:THEORY & PRACTC

Minimum Credits: 1
Maximum Credits: 1
This course reviews the historical and theoretical foundations of the student affairs field with an emphasis on residential living. The course will focus on the developmental impact of living in the residence halls, and the impact staff members have on the evolution of community, student leadership skills, and student psychosocial growth. Special attention will be given to the role of the resident assist ant in the areas of leadership, conflict mediation, academic support and intentional intervention.
Academic Career: UGRD
Course Component: Lecture
Grade Component: H/S/U Basis

ADMPS 1089 - SPECIAL TOPICS

Minimum Credits: 1
Maximum Credits: 3
This course is for administrative and policy studies newly instituted and experimental courses.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

ADMPS 1360 - PEACE MOVEMENTS & PEACE EDCTN

Minimum Credits: 3
Maximum Credits: 3
This course focuses on two major components in the field of peace studies; peace movements and peace education. Key concepts (e.., Peace, war, violence, conflict, justice, equality, democracy, and citizenship) and theories are discussed. Movements for (inter-personal, inter-group, and international) peace initiated by people in the United States and other countries historically and today will be analyzed. School-, university-, and community-based peace education programs developed in various countries will also be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Administration of Justice

ADMJ 0100 - SOCIETY AND THE LAW

Minimum Credits: 3
Maximum Credits: 3
Every society regulates behavior and the means, i.e., either informal or formal, with which this is done varies according to level of social development. This course examines the regulation of behavior in primitive, transitional, and modern societies and traces the development of law and legal systems and their relationship to different characteristics of social development. We will examine legal jurisprudence and the application of the principles of these philosophies and explore how they have shaped legal action.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 0500 - INTRO TO ADMIN OF JUSTICE

Minimum Credits: 3
Maximum Credits: 3
Introductory course designed to provide the student with basic information on the criminal justice system. Views the criminal justice system as consisting of six sub-systems; police, prosecution, courts, corrections, probation and parole. Explores law and society in general, the history, structure, function and contemporary problems in each major sub-system. Also explores the trend of the criminal justice system and the directions and implications involved.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 0600 - INTRODUCTION TO CRIMINOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course provides an overview of the study of the causes and social responses to crime. It examines legal definitions and elements of crime; surveys major categories of crime, i.e., Predatory and non-predatory acts; reviews major measures of crime; identifies major correlates and theories of crime; differentiates types of offenders and evaluates the working of the criminal justice system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1100 - CRIME SCENE INVESTIGATION

Minimum Credits: 3
Maximum Credits: 3
This course provides students with an overview of crime scene investigative issues and problems, as well as techniques used in the collection, preservation, analysis, and utilization of physical and testimonial evidence in criminal prosecutions. Topics include forensic photography, crime scene collection equipment, canvassing, and interrogation techniques in investigations of robbery, burglary, assault, and homicide crimes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1115 - CRIMINALISTICS

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the scientific tools of analysis of crime scene evidence. Topics include toxicology, hair, fiber, blood, DNA, fingerprint, and firearms analysis, as well as cause of death issues such as sexual homicides, suicides, and assisted suicides, drug and carbon monoxide poisoning, accidental deaths, and blunt force trauma deaths. The class consists of integrated lecture and lab each week. The laboratory activities require only basic calculations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1118 - CRIMINALISTICS LAB

Minimum Credits: 1
Maximum Credits: 1
This is an optional lab for students enrolled in administration of justice 1115. Designed for non-science majors, the lab will introduce students to the basic principles of chemistry, biology, and physics as they are used on a daily basis in criminal investigations. Topics include: identification of hair and fibers, DNA, and chromatography. These and other techniques are then applied to a simulated drug bust, a kidnapping case, and a suicide/homicide investigation.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: ADMJ 1115

ADMJ 1200 - INTRO TO LAW ENFORCEMENT

Minimum Credits: 3
Maximum Credits: 3
Introduces various historical and philosophical approaches to law enforcement. Course explores origins of policing; philosophical positions on nature of law enforcement and its justification; comparisons of various types of policing in different historical epoch; and emergence of bureaucratized urban force. Topics include development of law enforcement from ancient times with emphasis on philosophical approaches to policing in U.S.; Introduction to constitutional issues and problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1205 - INTRODUCTION POLICE MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the management of police organizations. Topics include the evolving community expectations, alternative organizational models, recruitment, training and education, performance evaluations, technology and communications, research and planning, internal and external police accountability, and police culture and ethics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ADMJ 1210 - JUVENILE DELINQUENCY

Minimum Credits: 3
Maximum Credits: 3
Provides an overview of the field of juvenile delinquency. Topics covered include theories and research on causes of juvenile delinquency; law enforcement practices encountered in attempts to control delinquency; juvenile treatment under law; correctional philosophy and practices in juvenile justice; and impacts of juvenile criminality upon the rest of society. Students emerge from the course with knowledge of causes, prevention, treatment, and control of juvenile delinquency and should be prepared to move into more detailed study of this subject.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1220 - DEVIANCE AND THE LAW

Minimum Credits: 3
Maximum Credits: 3
This course will examine the concept of deviant behavior and how departing from socially acceptable norms in legal, social and institutional settings sparks certain emotional reactions from those who encounter or experience it. The course will also, identify what is deviancy, types of deviant behavior, who engages in it, what causes it and how in certain circumstances it violates the law by considering the characteristics of the deviant person from both a socio-cultural and historical perspective. In addition, it will outline various theories to deviant behavior.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1225 - THE JUVENILE JUSTICE PROCESS

Minimum Credits: 3
Maximum Credits: 3
Presentation, discussion and analysis of the nature of the juvenile justice process, legal steps required in processing juveniles, nature and operation of juvenile justice institutions, interrelationships between parts of the system, and problems and prospects for their solution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1230 - WHITE COLLAR CRIME

Minimum Credits: 3
Maximum Credits: 3
This course examines the meaning, varieties, and extent of white collar crime" in America. It investigates the developmental history of this concept, theories of white collar crime causation, specific types of white collar crime, empirical and theoretical controversies surrounding white collar crime, and the probable future directions for this type of criminal behavior."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1234 - INTRODUCTION TO CYBERCRIME

Minimum Credits: 3
Maximum Credits: 3
Traditionally, crime has taken place in the physical world. Since the dawn of the internet, criminal activities on the web have been continually increasing. Crime is no longer restricted to a town, city, state or even country as the internet crime transcends all different types of jurisdictions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1235 - ORGANIZED CRIME

Minimum Credits: 3
Maximum Credits: 3
This course is designed to examine the history of organized crime not only within the United States, but from an international perspective as well. The emergence of non-traditional" groups which are competing for power and profits will be examined, as well as the alliances between various criminal groups that have evolved, resulting in the phenomenon of "transnational" organized crime. Those "non-traditional" groups include, but are not necessarily limited to, domestic and international terrorist organizations, the reasons for their development as well as the perceived risk to

American citizens both in a domestic environment and abroad. Neither organized crime nor a terrorist organization can be effectively discussed without integrating the evolution of US drug policy, which will be included. Finally, the various government tactics implemented to counter the threats mentioned herein as well as the impact on the private sector will be integrated into lectures throughout the program."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1236 - INTERNATIONAL ORGANIZED CRIME

Minimum Credits: 3
Maximum Credits: 3
Organized crime is no longer confined to a few countries such as Italy, the United States, and Japan. During the 1980s and 1990s it has become much more pervasive, and has had a major impact in countries in transition; turkey, Mexico, and South Africa. This course looks at the dynamics of organized crime, explains why it develops in particular countries, the various forms it takes, and the responses of law enforcement agencies and international institutions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ADMJ 1238 - CYBER SECURTY/LAW/MONY LAUNDER

Minimum Credits: 3
Maximum Credits: 3
This course will examine the scope of cyber-crime and its impact on today's system of criminal justice. Similarly, the vulnerabilities to cyber-assault will be examined. Topics include the use of computer technology to commit crimes such as "hacking" and other computer based criminology, as well as means of committing more traditional violations of law. Also included will be an analysis of the legal considerations facing law enforcement and other cyber-security professionals who are tasked with meeting the challenges of discovering, investigating and prosecuting cyber-crimes. Since our economy and security enterprises are so dependent on the electronic dissemination of information, effective measures to secure this vital resource will be explored. Given the fact that funds are transferred electronically, the electronic transmission of finances will be examined as well as the more basic methods of raising funds and laundering same to advance terrorist activities throughout the world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1240 - FEMALE OFFENDER IN SOCIETY

Minimum Credits: 3
Maximum Credits: 3
Women are disproportionately uninvolved in crime in American society. While females account for half of the population, they account for less than 25% of those arrested for all crime. This pattern is stable across cultures and persistent over time. This course examines the reasons for these male/female differences and how they might be explained. The course examines the empirical evidence on gender differences and the major theories accounting for them.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1242 - GENDER, RACE, CLASS, AND CRIME

Minimum Credits: 3
Maximum Credits: 3
Gender, race and class are overlapping categories of experience that affect all aspects of life. There is perhaps no other context in which the effects of gender, race and class are as acutely evident as in the criminal justice system. That is, the people who are processed through the criminal justice system are disproportionately male, nonwhite, and from the lower classes. This class is designed to examine the cumulative and interlocking effects of gender, race, and class on crime.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1245 - TERRORISM

Minimum Credits: 3
Maximum Credits: 3
This course focuses upon the social, political, economic and philosophical reasons for the development and spread of terrorism throughout the world, and examines potential dangers inherent in these practices and possible means of solutions to them. Special attention will be given each term to domestic and international acts of terror that affect American citizens, interests, and policies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1246 - FINANCING TERRORISM

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to provide the student with an understanding of how terrorists and insurgents fund their activities and finance their operations. The course analyzes the relationship between states and non-state actors, U.S. And international responses to terrorist financing, and anti-terror strategies. Selected topics include the political economy of terrorism financing, the 'HAWALA' system, various mechanisms and policy dilemmas associated with terrorism financing, warning indicators, and terrorist organizations' vulnerabilities and inefficiencies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1250 - PRINCIPLES OF INTELLIGENCE

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide the student with the skills to distinguish between intelligence and information, what distinguishes intelligence from policy and how intelligence is utilized to form public policy. Students will study the intelligence cycle, methods of gathering and collecting intelligence data, and approaches to synthesize and analyze intelligence materials. Students will be exposed to the strengths and weaknesses of intelligence from a policy maker's perspective, as well as the advantages and disadvantages of competitive intelligence and how decisions are made based on intelligence. Evaluations of scenario-based models and predicting outcomes of events based on available intelligence will cause the student to have a full exposure to and understanding of the various aspects of the intelligence communities. From an investigative and practical perspective, students will be exposed to "investigative resources" utilized to gather intelligence on a basic level such as credit history and credit reports, courthouse searches including Prothonotary's Office, Voter's Registration, Register of Wills, Family Court Division, Clerk of Courts, Recorder of Deeds and Jury Commission. Instruction will also include information on municipality searches, asset searches and every component necessary to conduct a "due diligence" background search.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1252 - CRITICAL INCIDENT MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
This course will enable students to build on the preventive nature of thorough resources protection planning and develop policies, programs, and procedures to minimize the impacts of severely detrimental events or activities. Acts of terror, the flu pandemic, natural disasters, and major crime incidents are some of the critical incidents facing public safety and private sector security personnel today. This course will provide students with an overview and understanding into the importance of preparation, planning, training, and response to critical incident when protective and preventive measures fail. It will also cover public and media issues and coordination between not only government agencies, but between public and private sectors as well. The course is highlighted by an off-site mock scenario utilizing a model city and a "hands on" response to a critical incident. Completion of the course will include a certification by FEMA'S emergency management institute in an on-line course available for state and local officials and responders.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1260 - RESOURCE PROTECTION PLANNING

Minimum Credits: 3
Maximum Credits: 3
This course will enable students to build on the preventive nature of thorough resources protection planning and develop policies, programs, and procedures to minimize the impacts of severely detrimental events or activities. Acts of terror, the flu pandemic, natural disasters, and major crime incidents are some of the critical incidents facing public safety and private sector security personnel today. This course will provide students with an overview and understanding into the importance of preparation, planning, training, and response to critical incident when protective and preventive measures fail. It will also cover public and media issues and coordination between not only government agencies, but between public and private sectors as well. The course is highlighted by an off-site mock scenario utilizing a model city and a "hands on" response to a critical incident. Completion of the course will include a certification by FEMA'S emergency management institute in an on-line course available for state and local officials and responders.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1265 - ADVANCED TOPICS IN CRIMINOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is an advanced course that examines specific and controversial issues related to crime and the criminal justice system. While the exact topics change from year to year, those that have been studied include: the death penalty, mandatory sentencing, jail and prison overcrowding, victims' rights, and white collar crime.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1300 - INTRODUCTION TO CORRECTIONS

Minimum Credits: 3
Maximum Credits: 3
Introduces various historical and philosophical approaches to corrections. Course explores origins of correctional institutions and evolution of correctional practices in contemporary society. Emphasis on modifications of institutional practices in contemporary society and development of new strategies as alternatives to incarceration. Various methodologies applicable to homogeneous and heterogeneous population groupings of offenders are examined taking into account individual characteristics and differences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1350 - PROBATION AND PAROLE

Minimum Credits: 3
Maximum Credits: 3
Presents and evaluates the nature and impact of probation and parole, research on effects of both, and strategies for their most effective use. The course examines the nature of parole; factors affecting grant of denial or probation; structure and operation of probation services; differences between juvenile and adult probation services; and impacts of probation and parole upon both the criminal justice system and larger society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1400 - INTRODUCTION TO CRIMINAL LAW

Minimum Credits: 3
Maximum Credits: 3
Acquaints the student with basic principles of criminal law derived from our English common law heritage and from more recent statutory penal code revisions in the American states. Course examines the meaning of crime and of criminal complicity and conspiracy; sentencing alternatives; and the decriminalization of some crimes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1410 - INTRO TO CRIMINAL PROCEDURE

Minimum Credits: 3
Maximum Credits: 3
This course examines the procedural effects of criminal law, including constitutional rights, state criminal procedure, and appellate decisions and rules.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1425 - PRINCIPLES HOMELAND SECURITY

Minimum Credits: 3
Maximum Credits: 3
This course examines the new problems facing our domestic public service and justice personnel -- the borderless world of globalization and technology. Attention is paid to problems of terrorism, incident management systems, violence incident response procedures, planning for violence, changing federal, state, and local roles and response planning, weapons of mass effects, mass casualty programs, crime scene operations, technology and emergency responses, the evolving role of the intelligence community, and government, private, and non-government security issues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1450 - CRITICAL ISS IN CRIMNL JUSTICE

Minimum Credits: 3
Maximum Credits: 3
Analyzes contemporary issues relating to policies, goals, and procedures of all criminal justice agencies. Topics covered include trends and controversies regarding law enforcement activities, the changing role of police, police court controversies, standards and goals, future trends in criminal justice, manpower utilization, organizational changes, long-range planning, and projections for future of police agencies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ADMJ 1452 - CAPSTONE SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This seminar will simulate an event of the student's choosing, possibly including, but not limited to, a terrorist event affecting a major local industry

of national importance and impact. Students will develop a response to the event from the perspective of resources protection and critical incident management planning, to include:-continuity of business planning -initial response action-crisis mitigation-involvement of federal, state and local authorities-coordination/communications between all agencies-recovery actions.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ADMJ 1900 - PRESERVICE INTERNSHIP
Minimum Credits: 1
Maximum Credits: 6
This course is a supervised placement with specific agencies in the criminal justice system.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

ADMJ 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
Allows advanced students to pursue topics and research of special interest which are not otherwise available.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

Aero-Space Studies

AFROTC 0001 - FOUNDATIONS OF US AIR FORCE
Minimum Credits: 1
Maximum Credits: 1
As 100 is a survey course designed to introduce cadets to the United States air force and air force reserve officer training corps. Featured topics include: mission and organization of the air force, officer ship and professionalism, military customs and courtesies, air force officer opportunities, and an introduction to communication skills. Leadership laboratory is mandatory for AFROTC Cadets and complements this course by providing cadets with follower ship experiences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

AFROTC 0002 - FOUNDATIONS OF US AIR FORCE
Minimum Credits: 1
Maximum Credits: 1
This course is the second of a two semester sequence dealing with the U.S. Air force in the contemporary world. The sequence focuses on the basic characteristics of air doctrine; strategic offensive and defense, general purpose, and aerospace support forces; and officer ship.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: LVL: Fr or So

AFROTC 0003 - EVOLUTION OF AIR & SPACE POWER
Minimum Credits: 1
Maximum Credits: 1
As200 course designed to examine general aspects of air & space power, through historical perspective. Course covers time period from the first balloons & dirigibles to space age global positioning systems of the Persian Gulf War. Historical examples provided to extrapolate development of a capabilities & missions to demonstrate evolution of what has become today's USAF Air & Space Power. Course provides cadets with knowledge level understanding of air & space power from an institutional doctrinal & historical perspective. LLAB mandatory for AFROTC Cadets & complements course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

AFROTC 0004 - EVOLUTION OF AIR & SPACE POWER
Minimum Credits: 1
Maximum Credits: 1
This course is the second of a two semester sequence which surveys the history of air power from balloons and dirigibles through the jet age. It focuses on factors contributing to change in the nature of military conflict; the development of air power and the evolution of air power doctrine and concepts; and the role of technology in the growth of air power.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: LVL: So

AFROTC 0005 - FRESHMAN LEADERSHIP LAB

Minimum Credits: 0
Maximum Credits: 0
The as100 and as200 leadership laboratory courses (LLABS) include a study of air force customs and courtesies, drills and ceremonies, and military commands. The LLAB also includes studying the environment of an air force officer and learning about areas of opportunity available to commissioned officers.
Academic Career: UGRD
Course Component: Practicum
Grade Component: H/S/U Basis
Course Requirements: LVL: Fr

AFROTC 0006 - SOPHOMORE LEADERSHIP LAB

Minimum Credits: 0
Maximum Credits: 0
The as100 and as200 leadership laboratory courses (LLAB) include a study of air force customs and courtesies, drill and ceremonies, and military commands. The LLAB also includes studying the environment of an air force officer and learning about areas of opportunity available to commissioned officers.
Academic Career: UGRD
Course Component: Practicum
Grade Component: H/S/U Basis
Course Requirements: LVL: So

AFROTC 1005 - JUNIOR LEADERSHIP LAB

Minimum Credits: 0
Maximum Credits: 0
The as300 and as400 LLABS consist of activities classified as leadership and management experiences. They involve the planning and controlling of military activities of the cadet corps, and the preparation of briefings and other oral and written communications. LLABS also include interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets.
Academic Career: UGRD
Course Component: Practicum
Grade Component: H/S/U Basis
Course Requirements: LVL: Jr

AFROTC 1006 - SENIOR LEADERSHIP LAB

Minimum Credits: 0
Maximum Credits: 0
The as300 and as400 LLABS consist of activities classified as leadership and management experiences. They involve the planning and controlling of military activities of the cadet corps, and the preparation of briefings and other oral and written communications. LLABS also include interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets.
Academic Career: UGRD
Course Component: Practicum
Grade Component: H/S/U Basis
Course Requirements: LVL: Sr

AFROTC 1013 - AIR FORCE LEADERSHIP STUDIES

Minimum Credits: 3
Maximum Credits: 3
As 300 is a study of leadership, mgmt. Fundamentals, professional knowledge, air force personnel & evaluation systems, leadership ethics, & the communication skills required of an Air Force Junior Officer. Case studies are used to examine Air Force Leadership & Mgmt. Situations as a means of demonstrating & exercising practical application of the concepts being studied. A mandatory leadership laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply the leadership & mgmt. Principles of this course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

AFROTC 1014 - AIR FORCE LEADERSHIP STUDIES

Minimum Credits: 3
Maximum Credits: 3
This is the second of a two-semester integrated management course emphasizing the concepts and skills required by the successful manager and leader. It also includes instruction on communication skills and military ethics. The curriculum encompasses individual motivational and behavioral processes, leadership, communication, and group dynamics within the context of a military organization.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: LVL: Jr

AFROTC 1015 - NATIONAL SECURITY AFFAIRS
Minimum Credits: 3
Maximum Credits: 3
As 400 examines the national security process, regional studies, advanced leadership ethics, and air force doctrine. Special interest topics focus on the military as profession, officer ship, military justice, civilian control of the military, preparation for active duty, & current issues affecting military professionalism. Within this structure, continued emphasis is given to refining communication skills. A mandatory leadership lab complements this course by providing advance leadership experiences, giving students the opportunity to apply the leadership and management principles of this course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFROTC 1016 - NATIONAL SECURITY FORCES
Minimum Credits: 3
Maximum Credits: 3
This course is the second of two semester sequence surveying key issues of U.S. National security. The second semester focuses on the soviet union and major regional issues of importance to U.S. National interests. It also includes instruction on the military as a profession, Officership, and the military justice system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Africana Studies

AFRCNA 0025 - YORUBA 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0026 - YORUBA 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language. To recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0031 - INTRODUCTION TO AFRCNA STUDIES
Minimum Credits: 3
Maximum Credits: 3
This is a survey course for Africana studies. An Afrocentric approach will be used to review the eight basic subject areas of the multidisciplinary focus; black history, black religion, black creative productions, black politics, black economics, black social organizations, black psychology and black education. Two alternative views will be pursued; a theoretical review of the literature and a summation of the practical experiences of black life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0032 - YORUBA 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0033 - YORUBA 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0045 - SOCL HISTORY AFRCN AMER IN PGH

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to document the social history of the black community in Pittsburgh. The primary concern is to understand and to analyze the development of the black community in relation to Pittsburgh and the United States.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0120 - AFRICAN AMER EXPERIENCE SPORTS

Minimum Credits: 3
Maximum Credits: 3
This course examines blacks in sports. It focuses on sport as a microcosm of the larger society and also addresses sport's relationship to politics, economics, race relations, and South African apartheid. It looks at the history of blacks in sports as well as three aspects of sports that appear to be racially biased; position allocation, performance differentials, and rewards and authority structure.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0127 - INTRODUCTION TO AFRICA

Minimum Credits: 3
Maximum Credits: 3
Multidisciplinary introduction to Africa emphasizing the richness, diversity and dynamism of the African experience and presented through lecture discussions of culture, social structure, history, economy, politics and other aspects of Africa's development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0150 - AFRICAN AMERICAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Introduction to black American literature from its oral traditions to the written form from the 18th to 20th century interrelated to historical social and political movements. Special emphasis will be placed upon the Harlem Renaissance period, the literature of the 1960's, and a work by the Pulitzer Prize winners (Gwendolyn brooks, James Alan McPherson, Alice Walker, or Toni Morrison).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0212 - WEST AFRICAN DANCE

Minimum Credits: 3
Maximum Credits: 3
To pursue at an introductory level specific ethnic dance forms of West Africa.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0242 - AFRICANA URBAN WOMAN

Minimum Credits: 3
Maximum Credits: 3
Writings by African and Afro-American women writers reveal similar problems inherent in a move from a rural to an urban setting. A look at how the women characters adjust to loneliness, economic, educational, and cultural changes, and the quest for self-fulfillment is to be discussed within the context of the literary works.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0311 - INTRO TO AFRCN AMERICAN FAMILY

Minimum Credits: 3
Maximum Credits: 3
This course has 2 objectives: (1) it seeks to describe and analyze the organization of black families in American society and changes in them over time, and (2) it brings together the scholarly sources available to students of black families to assess the contribution each makes to a more theoretically and conceptually sophisticated description of the structure and interaction in black families.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0313 - THE BLACK CHURCH

Minimum Credits: 3
Maximum Credits: 3
An introduction to the course and historical development of the black church in America, its contribution to the social and religious progress of black people, black leadership, and struggles including the civil rights movement, black theology and other social movements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0316 - INTRO AFRICAN AMERICAN THEATER

Minimum Credits: 3
Maximum Credits: 3
This course leads the student thru the social and historical development of black theater in North America from pre-Civil War to the present. It traces this development thru the writers, performers, companies, institutions and social movements which helped to shape the theater movements. The ultimate goal is to arrive at the understanding and appreciation that black theater is a testament to the life and vitality of a people.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0318 - HISTORY OF AFRICA BEFORE 1800

Minimum Credits: 3
Maximum Credits: 3
Surveys history of Africa from earliest times to eve of European colonization. Looks at Africa from the inside out and aims at promoting an appreciation of Africa's contribution to world civilization and an understanding of the historical processes that have shaped modern Africa. Major themes and topics include the ancient kingdoms, Islam, the slave trade and the European contact.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0352 - AFRICAN AMERICAN DANCE

Minimum Credits: 3
Maximum Credits: 3
An introduction to African-American dance influence of West Africa and the Caribbean upon the black American experience in a comparative and historical perspective. These two perspectives are based upon those devised by African-American dance artists, such as Katherine Dunham, Alvin Ailey and Bob Johnson. The physical component of African-American dance emphasizes body placement and the relationship of movement to its music.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0385 - CARIBBEAN HISTORY

Minimum Credits: 3
Maximum Credits: 3
Examines historical roots of modern Caribbean. Examines major historical developments from period of subjugation of indigenous population through era of slavery to rise of modern nationalism and impact of American intervention. Also analyzes related socioeconomic systems and institutions. Selected country case studies included.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0434 - PSYCHLGCL EXPRN AFRN AMER FEML

Minimum Credits: 3
Maximum Credits: 3

The course examines black female behavior from both psych historical and contemporary perspectives. The model for classroom interaction consists of lecture and group discussions by presenting relevant information and/or conducting specific exercises.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0454 - MAN/WOMAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Through prose and poetic works one will note how black men are viewed and characterized by female writers as well as how black women are treated by male writers. The basis for the difference lies in racial and sexual stereotyping in Afro-American literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0508 - SWAHILI LANG & CULT IMMERSION

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0515 - AFRICAN AMERICAN POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course concerns the African American participation in American politics. Politics is defined as the management of the conflict which occurs when groups war over scarce resources, status and power in the struggle for survival and freedom. Power is its central concept with study also of group interests. Discussions will pursue an understanding of the impact of racism, sexism and poverty, the ideas of class race and gender, relationship of politics and economics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0517 - INTRO TO AFRCN AMERICAN POETRY

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to an overview of the poetry by focusing on both male and female writers and their works that illuminate the Afro-American poetic tradition and those pivotal moments or transitions within the development of the tradition. The instructor recognizes that black female poetry especially, is a complex whole that can be analyzed in terms of style, structure and that it has a coherent history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0520 - INTRO TO KISWAHILI LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

AFRCNA 0522 - INTRODUCTION AFRCN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course will use a comparative approach to modern African creative writing in three major European languages; English, French, and Portuguese; bringing together writers from east, West, South and North Africa.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0523 - SWAHILI 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language. Its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0524 - SWAHILI 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0501 or AFRCNA 0523 or SWAHIL 0101; MIN GRADE: 'C' FOR LISTED COURSES

AFRCNA 0525 - SWAHILI 3

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0526 - SWAHILI 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0535 - ANTEBELLUM BLCK WOMEN'S HISTRY

Minimum Credits: 3
Maximum Credits: 3
This course examines the history of black women in the United States. It will explore the contradictions and boundaries they confronted living in a limited democracy that supported slavery. The role of ideologies of gender and race will be a major component of this course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0536 - 20THC AFRICAN AMER WOMAN HIST

Minimum Credits: 3
Maximum Credits: 3
Using both a chronological and topical format, this course will investigate the history, culture, and activism of African American women in the twentieth century through readings of historical texts and articles, autobiography, and oral testimony. The content of the course includes an exploration of the responses of African American women to racism, sexism, and class and color consciousness within different historical periods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0543 - CONTEM AFRCN AMERICAN DRAMA 1

Minimum Credits: 3
Maximum Credits: 3
Contemporary African drama is a studio performance course in which black filmmakers, folklorists, novelists, orators, playwrights and poets are presented in both acted and readers theatre. It is the study of dramatic literature, structure and conventions of their relationships to theoretical techniques and styles, to literary and social analyses, to acting, reading, speaking and audiences. It is an experimental approach to the study of dramatic literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0586 - EARLY AFRICAN CIVILIZATIONS

Minimum Credits: 3
Maximum Credits: 3
The course surveys the emergence and growth of early African civilization from the beginnings of the evolution of the human race to the eve of the European colonization of the continent. It introduces students to the multiple disciplines contributing to knowledge about early Africa, and shows the

centrality of Africa and Africans for humanity in general. Among the principal themes that the readings and discussions focus on are: pre-history of Africa and the genesis of humankind; the complexity of migration, and state formation; and African and European earlier contact. A fundamental approach will be to look at Africa from the inside out and to analyze African societies from the perspective of their internal development and reaction to external influences. Its basic goal is to promote, first, an appreciation of Africa's contributions to world civilization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

AFRCNA 0601 - XHOSA 1
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0602 - XHOSA 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: AFRCNA 0601 or LING 0601; MIN GRADE: 'C' FOR LISTED COURSES

AFRCNA 0603 - XHOSA 3
Minimum Credits: 4
Maximum Credits: 4
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: AFRCNA 0602 or LING 0602; MIN GRADE: 'C' FOR LISTED COURSES

AFRCNA 0604 - XHOSA 4
Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: AFRCNA 0602 or LING 0602; MIN GRADE: 'C' FOR LISTED COURSES

AFRCNA 0615 - BLACK LITERATURE
Minimum Credits: 3
Maximum Credits: 3
This course focuses on writers from three major periods in black literature; pre-Civil War (the slave narratives), Harlem Renaissance (when writers such as Langston Hughes were changing the nature of black writing), and the contemporary period. We will consider the relationship of social history and literature; the insights these writers furnish us about black consciousness, the black self, black perception and the black vision; and the distinctive qualities of black literary and cultural traditions.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

AFRCNA 0628 - AFRO-LATIN AMERICA
Minimum Credits: 3
Maximum Credits: 3
A survey of black history in the countries of Latin America, from the period of European conquest (c. 1500) To the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0629 - AFRO-AMERICAN HISTORY 1
Minimum Credits: 3
Maximum Credits: 3
This course surveys the history of Afro-Americans from their African origins to their emancipation during the Civil War.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0630 - AFRO-AMERICAN HISTORY 2
Minimum Credits: 3
Maximum Credits: 3
This course surveys the development of black Americans from the time of the Civil War to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0639 - HISTORY OF JAZZ
Minimum Credits: 3
Maximum Credits: 3
The course focuses on the chronological development of jazz from its beginnings on the plantation to its present state as a world concert music. Various styles such as ragtime, blues, gospel, spirituals, rhythm and blues, rock, soul, etc., Are examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0684 - RACE,CLSS,ETHNY:CARIB EXPRN
Minimum Credits: 3
Maximum Credits: 3
This course sets out to introduce students to developments: historical, political, cultural, social and economical in the area from the arrival of the Spaniards in 1492 to the mordant bay revolt in 1865.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0787 - BLACK CONSCIOUSNESS
Minimum Credits: 3
Maximum Credits: 3
Introduction to the growing body of coherent cultural ideas and beliefs which provide a positive framework for study and interpretation of the black experience in North America. The course is pan-African in scope and context. One of the goals is to enable the student to view the African and the African-American struggles as part of the world struggle of human rights.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 0788 - CONTEMPORARY AFRICANA FILMS
Minimum Credits: 3
Maximum Credits: 3
James Murray presents the concept that two significant questions must be explored in any investigation of cinema: is the medium important enough to warrant serious discussion (study) and is black cinema needed, desired, or practical?" The themes, the characters, the cinematics styles or patterns and a critical evaluation of both independent and commercial black films. Attention will be given to the history of black films (1905-present)."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1011 - THE RISE MOD PAN-AFRCN MOVEMNT
Minimum Credits: 3
Maximum Credits: 3
This course will survey the current of pan-Africanist thought from the partitioning of Africa to the independence movements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1012 - EARLY 20THC BLK SOCL MOVMNT

Minimum Credits: 3
Maximum Credits: 3
This course provides an understanding of the social, political cultural and economic context out of which black social movements developed. The main themes of the course concern migration, class differences, racism, and gender relations. The social movements the course examines includes, the Marcus Garvey movement, father divine, labor organization and the black women's club movement.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1021 - HISTORY OF THE AFRCN DIASPORA

Minimum Credits: 3
Maximum Credits: 3
History of the African diaspora focuses on the historical processes that have shaped, & continue to shape the peoples cultures of the African diaspora. It examines the triangle relationships between the African homeland & its American & European diaspora. Attention will be given to an understanding of the manifold circuits in the trans-Atlantic circulation of peoples, ideas & culture. The dynamism, complexity & global ramifications of the African diaspora will be revealed through discussions of important themes, including race, economic systems & construction of diaspora ID's.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1025 - HIST/MUSIC AFRC & THE DIASPORA

Minimum Credits: 3
Maximum Credits: 3
This interdisciplinary course focuses on the interrelation ship of history and music in the orally-based cultures of Africa; its diaspora. Using oral traditions and recorded music, the course will demonstrate first, how history can be used to interpret music and how music in turn is a medium for disseminating historical information, and second, how the interrelationship between history and music informs politics, religion, theater and other areas of black life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1026 - AFRCN PRSEN LAT AMERN LIT/CULT

Minimum Credits: 3
Maximum Credits: 3
This course is a chronological and topical introduction to afro-Latin American culture, making use of literary texts, historical documents, feature films, etc. It aims at providing students with a concrete frame of reference for the African presence in Latin America.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1030 - AFRICAN POLITICS

Minimum Credits: 3
Maximum Credits: 3
A general introduction to African politics at macro level for freshmen and sophomores with special focus on traditional African political system, European imperialism in Africa, African nationalism, independence and post-independence problems of nation-building and economic development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1033 - AFRCN AMERICANS AND MASS MEDIA

Minimum Credits: 3
Maximum Credits: 3
This course is a critical analysis of mass media content as it pertains to black Americans. The primary media are newspapers, radio, and television. For comparative purposes, media content related to children, other minorities, and women are used.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1039 - HISTORY OF CARIBBEAN SLAVERY

Minimum Credits: 3
Maximum Credits: 3
Today's sounds and tastes of the Caribbean from reggae and salsa music to dishes like mofongo and jerk chicken have deep historical roots in slavery. The Atlantic slave trade transported over four million Africans to the Caribbean ' eight times the number that arrived in the United States. How did Africans and their descendants persevere under the colonial slave system? How does the legacy of slavery present itself in the 21st century? This course explores these questions by examining the Caribbean from the perspectives of enslaved women and men from the 17th through the 19th centuries, particularly in Cuba, Haiti, and Jamaica, and their contemporary manifestations in films, policies, and national identities

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1043 - CONTEM AFRCN AMERICAN DRAMA 2

Minimum Credits: 3
Maximum Credits: 3
This course is a continuation of black contemporary drama 1. This is an advanced level experimental studio performance course, with emphasis placed on textual analysis of scripts for both directing and acting, with movement toward street theatre performances. Some attention will be given to radio and television acting. Major focus is placed upon the review of the current literature on film acting and directing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1046 - AFRICAN POETRY

Minimum Credits: 3
Maximum Credits: 3
Examination of the important streams that make up African poetry in several languages. Emphasis on the oral tradition, the negritude poets, and nineteenth century British Influences. Several critical texts and anthologies will be used including those by Chipasula, Chinweizu, Okpewho and Soyinka.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1071 - SPECIAL TOPICS IN CULTRL ANTH

Minimum Credits: 1
Maximum Credits: 4
This course will be on a topic in the area of specialization description of a visiting scholar yet to be determined.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

AFRCNA 1083 - SPEC TOPICS AFRICANA STUDIES

Minimum Credits: 3
Maximum Credits: 3
The study of a special topic in Africa studies. Content will vary from term to term, depending on instructor.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

AFRCNA 1103 - FEMALE PLAYWRIGHTS BEFORE 1959

Minimum Credits: 3
Maximum Credits: 3
This course will discuss the plays written by black female playwrights prior to Lorraine Hansberry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1108 - AFRICAN AMERICAN FOLK CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course will explore several aspects of African American folk culture being defined as non-elite expressions of art, music, dance, theatre, literature, humor, material culture, and religious beliefs. Particular attention will be given to the role of folklore in the perpetuation and transmission of shared cultural knowledge among blacks in the United States.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1137 - 19TH CENTURY AFRICAN AMER HIST

Minimum Credits: 3
Maximum Credits: 3
An examination of the intellectual and social history of black people in the United States between 1817 and 1861. It discusses the life and contributions of the major black political milieu out of which these leaders emerged. This approach will require an examination of the demographic and socio-economic characteristics of black population concentrations throughout the USA during the ante-bellum years in the 19th century.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1145 - AFRICAN AMERICAN RHETORIC

Minimum Credits: 3
Maximum Credits: 3
The purposes of this course are a historical-critical review of scholarship in black American rhetoric; and a theoretical-conceptual framework for the study of black American rhetoric. This course places considerable emphasis on the African roots of black American rhetoric, but the ultimate concern is with black Americans' behavior. The course covers consequences of African and European inter actions in America, factors that forged the distinctive aspects of black American rhetoric, the effects of culture, racism, colonialism, and social class on communication.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1150 - CONTEM AFRCN AMERICAN WRITING

Minimum Credits: 3
Maximum Credits: 3
Writers in the period spanning the civil rights and black nationalist-humanist movements became a vanguard voice for black people. This course explores the written language of the period as an aid to the creation of student writings. As such, this course is a workshop and continuation of black creative writing on a higher level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1201 - GLOBAL DIASPORAS

Minimum Credits: 3
Maximum Credits: 3
What do Akon and Rihanna have in common? They are both part of recent diasporas from Africa and the Caribbean. This course focuses on the issues and experiences of people of African descent in contemporary (20th and 21st centuries) migratory diasporas from both Africa and the Caribbean. The course draws on extensive literature on migration, transnationalism, racial and ethnic identity formation, health, and other topics to illuminate the causes for migration and the experiences that migrants have in different host countries. What experiences do migrants from Africa and the Caribbean share? How do their experiences differ? How do migrants define themselves in new host countries? How do they stay connected to their homelands?
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

AFRCNA 1223 - PERSNL GROWTH THRGH PSYCHODRAM

Minimum Credits: 3
Maximum Credits: 3
This course includes the 5 philosophical concepts, the six operational elements, the format, the procedure and processes, and the basic techniques and strategies of psychodrama as developed by J.L. Moreno. Another aspect of the course is the examination of theories and of current research on the use of psychodrama sociodrama and as a teaching strategy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1240 - AFRICAN LITERATURE AND SOCIETY

Minimum Credits: 3
Maximum Credits: 3
Inquiry into significant aspects of contemporary African social, political, cultural and human problems approached through the detailed study of representative African novels, plays and poetry written by African authors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1306 - WORLD LITERATURE IN ENGLISH

Minimum Credits: 3
Maximum Credits: 3
This course examines contemporary literature, primarily in English, written in eastern Europe, Africa, Latin America, etc. It pays particular attention to its depiction of social, political and moral concerns.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

AFRCNA 1309 - WOMN OF AFRC & AFRCN DIASPORA

Minimum Credits: 3
Maximum Credits: 3
A cross-cultural study of women of African descent in West and southern Africa, the United States, brazil, and the Caribbean.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1310 - CULTURES OF AFRICA

Minimum Credits: 3
Maximum Credits: 3
This course explores the traditional cultures and societies of Africa from prehistoric to modern times. Emphasis is on the conditions prior to contemporary changes but some attention is given to modern developments. Concern is with the variety of cultures on the continent. How people make a living. What family life is like? How disputes are settled, and religion. Through lectures, films, and readings, the student gets a feeling for life in this fascinating part of the world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1331 - AFRICAN LIBERATION MOVEMENTS

Minimum Credits: 3
Maximum Credits: 3
A course on the theories of revolution and national liberation struggles, decolonization and guerrilla warfare, and their special application to continental African experience since the end of World War II.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1334 - MUSIC IN AFRICA

Minimum Credits: 3
Maximum Credits: 3
The historical, social, and cultural background of music in Africa with particular reference to music in community life, performing groups, the training of musicians, instrumental, resources, structures in African music and the interrelations of music and dance. (Slides, films and recordings will be used to illustrate lectures.)
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1335 - AFRICAN-AMERICAN MUSIC IN U.S.

Minimum Credits: 3
Maximum Credits: 3
This course is designed to familiarize the student with various phases of African-American music existing in North America; blues, gospel-spirituals, work songs, children's games songs, and classical compositions of ragtime composers Scott Joplin, J.P. Johnson, etc. Students will conduct field projects centered around street recordings, locations, interviews of local and visiting artists, etc." A detailed study of great Pittsburgh performers present and past will constitute a major portion of this course."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1347 - FRANCOPHONE AFRCNA LITERATURE

Minimum Credits: 3
Maximum Credits: 3
An examination of the cultural, social, and political relationships of French-speaking African and the Caribbean as reflected through different genres from the 1900's. Reading poetry, folklore, and novels produced by African writers sheds light on the issues confronting them such as polygamy, urbanization, assimilation, rituals, and the marginal man and woman.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1349 - CONTEM CARIBBEAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Study the fiction, poetry, and drama of the English Caribbean in chronological order. Exile, liberation, autonomy, the female voice, cultural, and political identity will be examined in writing from Jamaica, Trinidad, Grenada, Antigua, and Guyana with recordings and films.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1353 - COMPARATIVE DANCE EXPRESSION

Minimum Credits: 3
Maximum Credits: 3
This course will examine the cultural patterns of black dance styles and the similarities and differences in the motor behaviors among blacks in dance from South America, the Caribbean islands, Africa, and North America. Contents of the course will be introduced through films, lecture and videotapes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1383 - CONCEPTS IN AFRCN AMER THEATER

Minimum Credits: 3
Maximum Credits: 3
A review of the literature and ideas on and about black theater in North America. A study of the implementation of those concepts thru the works of playwrights, theater historians and scholars, directors, actors, and institutions which have sought to house the concepts. One of the goals is to show the vigor, vitality and vigilance of black theater.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1402 - LRNG PARDGMS AFRC-AM CHLD DVLP

Minimum Credits: 3
Maximum Credits: 3
To examine systemic factors which affect the cultural, social, emotional, and cognitive development of black children.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1415 - RACE AND RELIGION IN AMERICA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

AFRCNA 1420 - POWER & PERFORMANCE IN AFRICA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

AFRCNA 1454 - AFRICNA DANCE WRKSHP CHRGRPHY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to acquaint non-dancers and dancers with dance techniques and styles developed by choreographers such as Alvin Ailey, Eleo Pomare, Rod Rogers, Pearl Primus, Arthur Mitchell and Katherine Dunham. The theoretical and practical aspects of choreography will be introduced through lecture, audio visuals and demonstration.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

AFRCNA 1522 - SEX AND RACISM

Minimum Credits: 3
Maximum Credits: 3
Sex and racism affords an opportunity to explore sex, sexism, and racism, to examine the historical development and economic impact of racism in America, to analyze the conceptual framework, the research methods, and approaches from which past and current studies on sex, sexism racism, have been and are being developed. The course will also explore sex and racism as a multi-dimensional continuum, and solutions to sex and racism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1538 - HISTORY OF BLACK PITTSBURGH

Minimum Credits: 3
Maximum Credits: 3
This course will explore the role and experiences of black Pittsburghers over the past 200 years of the city's history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1555 - AFRO CARIBBEAN DANCE

Minimum Credits: 3
Maximum Credits: 3
This course will focus on Katherine Dunham as an ethnologist and choreographer politically, socially, and aesthetically. The course discussion will clearly define the contents of Dunham's dance research and life experiences of Haiti.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

AFRCNA 1605 - AUGUST WILSON DRAMAS

Minimum Credits: 3
Maximum Credits: 3
This course is intended to critique the plays of August Wilson and his source of inspiration - the blues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1616 - AFRICAN AMERICAN WOMEN WRITERS

Minimum Credits: 3
Maximum Credits: 3
An inter-or-cross genre study of the African North American experience thru selected readings in novels, poetry, drama, short stories, and the essay (religious, secular and philosophical).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1620 - AFRICAN AMERICAN LIT CRITICISM

Minimum Credits: 3
Maximum Credits: 3
This course affords the study of content and African American literary research and criticism from web. Dubois, Alain Locke, Sterling Brown to Nick Arron Ford, Deborah McDowell, Barbara Smith and Hazel Carboy. Some attention will be paid to the history of ideas, to bibliographical and textual criticism to the historical development of black literary criticism and to the commonly employed approaches of literary historians and critics of black writers in America.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1644 - THE AFRICAN NOVEL

Minimum Credits: 3
Maximum Credits: 3
The novels studied will be drawn from several parts of the African continent and will all be available in English or translation. The emphasis will be on recurring themes in the works and on the influence of traditional African narrative forms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1655 - AFRICAN CINEMAS/SCREEN GRIOTS

Minimum Credits: 3
Maximum Credits: 3
Ousmane Sembene, known as the father of African cinema, popularized the notion of the African director as the modern day griot (oral historian) and traditional storyteller. Therefore, this course is an introduction to a cross-section of post-independence films (1963-2004) as an art form and as a visual space on socio-political, economic and cultural topics by screen griots from Burkina Faso, Cameroon, and chad, the democratic republic of the Congo, Ethiopia, Niger, Nigeria, Senegal, South Africa and Zimbabwe.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

AFRCNA 1656 - HISTORY OF AFRICA SINCE 1800

Minimum Credits: 3
Maximum Credits: 3
Surveys history of Africa from 1800 to the present day. Major themes include African statecraft, European colonization, African nationalism and post-independence problems. Processes of African institutional growth within the perspectives of resiliency, change and adaptation will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1661 - POLITICAL ECONOMY OF AFRICA

Minimum Credits: 3
Maximum Credits: 3
An inquiry into the process of political and economic development in Africa from colonial domination to the present. Problems of economic dependence and integration into the global capitalist economic system are examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1704 - AFRICANA WORLD LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Despite their geographical and cultural differences, writers from Africa, the Caribbean, and the United States undergo similar experiences of oppression. Problems of self-identity, and the quest for self-respect. These similarities will be discussed in class along with a comparative approach to the texts with supplementary films, slides, and recordings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1710 - AFRICAN AMERICAN HEALTH ISSUES

Minimum Credits: 3
Maximum Credits: 3
Course will focus on black health issues from analytical, theoretical and practical perspectives. These perspectives will be introduced through cross examination of health topics which are critical to the black population, the developing of health policies and conceptual models for health promotion and disease prevention.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1711 - THE CITY IN AFRICA

Minimum Credits: 3
Maximum Credits: 3
Course examines the urban experience in Africa, beginning with ancient Nile Valley civilizations. In spite of this antiquity, colonial discourse and administrative practices created the notion of rural tribesmen whose presence in cities was unnatural and corrupting. We investigate this moral contrast between town and country as it persists today in the popular imagination, serving as a potent critique of possibilities and perversities of African modernity. We consider prospects and contributions of a distinctly African solution to problems of globalization, the informal city"."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1715 - HISTORY OF SOUTHERN AFRICA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

AFRCNA 1720 - WEST AFRICA/ERA OF SLAVE TRADE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

AFRCNA 1725 - EAST AFRICA ISSUES

Minimum Credits: 3
Maximum Credits: 3

Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

AFRCNA 1760 - AFRICANA THEORY & METHODOLOGY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

AFRCNA 1768 - AFRCNA SENIOR RESEARCH SEMINAR
Minimum Credits: 3
Maximum Credits: 3
This course will assist the student in conducting a research project of her choice. The student will select a topic, write a proposal including the statement of a question or hypothesis, a list of the goals and objectives. A design of the methodology and a review of the relevant literature.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

AFRCNA 1900 - INTERNSHIP
Minimum Credits: 1
Maximum Credits: 6
This course offers the student an opportunity to extend his/ her academic training to a practical work experience in the city of Pittsburgh.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

AFRCNA 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
Students desiring to take an independent study should develop a typed proposal on a specific topic outlining the substance of the work, the objectives, the methodology, and the evaluation by which to determine when the objectives are met.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

AFRCNA 1902 - DIRECTED READING
Minimum Credits: 1
Maximum Credits: 6
This course introduces the students to a specific topic which is not normally taught in an Africana studies core course. It is an individual project administered under faculty supervision.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

AFRCNA 1903 - DIRECTED RESEARCH
Minimum Credits: 1
Maximum Credits: 6
This is an individual research project/course under the supervision of a faculty member. Theoretical and conceptual interest in the emerging discipline of Africana studies and the black experience offer students dynamic, creative and intellectual avenues into new areas for discovery.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

Anthropology

ANTH 0501 - ARCHEOLOGY: AN OVERVIEW
Minimum Credits: 3
Maximum Credits: 3
Designed for non-majors, this course presents a broad introduction to the goals and techniques of today's archeology through readings, videos, and short exercises. The course reviews global human prehistory from the earliest appearances of human ancestors some 4 million years ago through the development of the Ancient Egyptian, Mayan, Chinese, and Inca Civilizations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0534 - PREHSTRC FDS OF EURPN CIVILZTN

Minimum Credits: 3
Maximum Credits: 3
Neanderthals, ice-age art, Indo-European languages, Stonehenge, megaliths, Celts, and more; the major archeological discoveries, from the first traces of human occupation of European soil up to the early middle ages, will be covered through illustrated lectures, films, and perhaps museum visits. Course also offers a basic introduction to the discipline of archeology, thus serving as preparation for other courses in the subject; it also serves as a useful foundation for studies in history, ethnic history, art history, and classics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0536 - MESOAMERICA BEFORE CORTEZ

Minimum Credits: 3
Maximum Credits: 3
When Cortez and his Spanish soldiers arrived in Mexico, they found Indians living in large cities with impressive temples raised on tall pyramids, lavish palaces for rulers, elaborate markets, and skilled craftsmen working in gold, copper, feathers, stone, pottery, and other materials. They were astonished at a civilization so like their own and yet so different (so barbaric" to European eyes). This course explores the development of this civilization back to its roots several thousand years ago, by reconstructing earlier cultures known only from archeological evidence."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0538 - THE ARCHELOGST LOOKS AT DEATH

Minimum Credits: 3
Maximum Credits: 3
Pyramids, tombs, burial mounds, graves, skeletons, mummies; the stuff of gothic romance. But the way people disposed of their dead also tells us an amazing amount about life in the past. We will look at the wide range of burial practices in the world, including the American way of death", and then concentrate on the physical remains themselves. What do burial practices indicate as to beliefs, rituals, religion and society?"
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0582 - INTRODUCTION TO ARCHEOLOGY

Minimum Credits: 3
Maximum Credits: 3
Examines the nature of modern archaeological research. Lectures look at how archaeologists work in the field, their analytic techniques, and some of the principal methodological and theoretical problems facing the field. Specific examples are used to illustrate these topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0601 - PHYSICAL ANTHROPLGY: OVERVIEW

Minimum Credits: 3
Maximum Credits: 3
Designed for undergraduate non-majors, this course will provide a basic introduction to the issues, theories, and methods of physical anthropology. Beginning with a consideration of evolutionary, genetic and geologic principles, the course goes on to consider the diversity of fossil and extant primates, including humans. Issues in anatomy, paleontology and behavior will all be addressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0611 - INTRODUCTION TO NEO-DARWINISM

Minimum Credits: 3
Maximum Credits: 3
This natural science course explores why organisms are the way they are, in terms of the most powerful available theory, Darwin's evolution by natural selection. Mendelian and molecular genetics are discussed, as in gene action. Against this background, we build up a detailed argument for evolution starting with Darwin's original principles. Emphasis is placed on current debates such as: levels of selection, neutralism, punctuationism, cladistic taxonomy, and the origin of life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0620 - BIOCULTURAL ANTHROPOLOGY

Minimum Credits: 3
Maximum Credits: 3

This course is an introduction to general anthropology emphasizing the interaction of human biology and behavior. The course considers what it means to be human by examining the biocultural interface of both present and past human populations. Topics of discussion will include human adaptation to extreme environments, cross-cultural variations in infant sensorimotor development and biological and cultural diversity in general. An understanding and appreciation of the how's and why's of human biological and cultural variation will be stressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0630 - FORENSIC ANTHROPOLOGY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0645 - INTRODUCTION TO HUMAN BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
Human biology deals with the nature and growth of human populations, human growth and development, human ecology and physiology, and the adaptation to various hostile environments that humans have made. This is an introductory course which places these topics in the framework of the study of human origins and the environments that our ancestors may have encountered in their evolutionary history. The emphasis is on morphologic variability.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0646 - INTRO TO EVOLUTIONARY THEORY

Minimum Credits: 3
Maximum Credits: 3
This is a survey course on the history and development of evolutionary thought, culminating in the present-day models of evolutionary processes. We will emphasize past and present developments, debates, and controversies in, e.g. Genetics, geology, paleontology, and systematics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0655 - SOCIOBIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course analyzes behavior, and social behavior in particular, from a Darwinian perspective. It is intended for students with no college training in biology, and begins by developing the basics of modern evolutionary and genetic theory. The implications of these theories for our explanations of animal and human behavior are then explored.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0669 - SEX AND EVOLUTION

Minimum Credits: 3
Maximum Credits: 3
This course analyzes sexual phenomena from a Darwinian perspective. It is intended for students with no college training in biology, and begins by developing the basics of modern evolutionary and genetic theory. These theories are then applied in analyzing a series of problems relating to sex; why did sexual reproduction evolve; how does evolution maintain the sex ratio; what are female" and "male", and to what extent will evolution foster differences between the two; what kinds of mating and parental strategies have evolved?"
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0680 - INTRO PHYSICAL ANTHROPOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce the undergraduate to the issues, theories and methods of physical anthropology. Beginning with a consideration of evolutionary, genetic and geologic principles, the course goes on to consider, the diversity of fossil and extant primates, including humans. Issues in anatomy, paleontology and behavior will all be addressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0681 - INTRODUCTION TO HUMAN EVOLUTN

Minimum Credits: 3
Maximum Credits: 3
This is an introduction to human evolution and, in general, the evolution of the larger group to which we belong, the order primates. We will survey first the development of evolutionary ideas and modern developments in biology and geology and then review the diversity of living and fossil primates, dwelling especially on the discoveries and controversies surrounding our own evolutionary past.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0701 - CULTURAL ANTHROPLGY: OVERVIEW

Minimum Credits: 3
Maximum Credits: 3
Designed for undergraduate non-majors, this course will provide a broad introduction to cultural anthropology. This course examines the behavior and customs of peoples throughout the world and considers what it means to be human. We will consider patterns of marriage, family organization, gender, political behavior, economic systems, rituals, etc., Of other peoples and compare these with American social patterns.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0710 - SPEC TOPICS IN CULTRL ANTHRO

Minimum Credits: 3
Maximum Credits: 3
This course will be on a topic in the area of specialization of a visiting scholar yet to be determined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0712 - INTRO TO CULTURAL GEOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
A systematic study of the spatial dimension in human cultures. In succession we examine human populations through the millennia, agricultural systems, political systems, languages, religions, folk and popular cultures, urban systems, industry, and transportation networks. Geography" is conceived as the study of human impact on the earth and of the ecological relationships between humans and the natural world."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0715 - ANTHROPOLOGY OF LATIN AMERICA

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to offer students a basic yet comprehensive survey of the anthropology (including history, archeology and geography) of Latin America. This survey course will emphasize the development of Latin American societies and cultures since the European conquest, and focus on key issues/themes that have consistently surfaced in Latin American cultural anthropology and that have continuing priority, relevance and interest up to the present. This course is especially tailored to freshmen students with little or no knowledge of Latin America.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0716 - ANTH OF LATIN AMERC PRACTICUM

Minimum Credits: 1
Maximum Credits: 1
Special recitation attached to anthropology of Latin America (ANTH 0715) taught in Spanish for 1 credit. This recitation is taken in addition to the other recitation attached to the course. This course is offered in conjunction with ANTH 0715, Anthropology of Latin America. It is a supplementary, one-credit Spanish-language recitation, where issues raised each week in ANTH 0715 will be discussed in greater detail in a Spanish-immersion format. This practicum offers an opportunity for students to utilize, reinforce, and deepen the skills they have acquired in foreign language courses. We will listen to Latin American music, read primary sources from political manifestoes to poetry, and generally enrich our understanding of Latin America's diverse past even as we improve our Spanish-language conversational fluency. This practicum is a great option for students hoping to study abroad in the future.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

ANTH 0717 - MAGC, WTCHCRAF & SUPRNATRL BDY

Minimum Credits: 3
Maximum Credits: 3

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ANTH 0720 - FOLKLORE & CULTURAL DIVERSITY

Minimum Credits: 3
Maximum Credits: 3
The main objectives of this course are threefold: 1) to introduce students to the subject matter, methods and theories of folklore as they relate to sociocultural anthropology; 2) to create greater awareness and appreciation of folklore and its connection to cultural diversity in our everyday lives; 3) to promote deeper understanding of the ways in which folklore is embedded within wider social and cultural contexts of power and resistance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0730 - HIMALAYAN GEOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
The Himalayan region is characterized by a tremendous range of social and cultural diversity that corresponds to climatic, ecological and geographical variation, as well as local and regional geopolitical factors. Historical change from the emergence of early forms of social complexity centered on chiefs and their forts ' from which the regional designation of 'Garhwali' takes its name ' through the development of kingdoms and larger polities shows the intimate link between geography, environment and socio-political transformation. Similarly, local language patterns, regional religious practices, musical styles, mythology, food culture, sartorial fashion, architectural design, agricultural and transportation technologies and engineering and trade networks have all been shaped by the structure of Muntain barriers, bounded valley communities and bracketed lines of communication that follow river systems. Whereas the political economy of the Himalayas has been structured around agricultural production, and the development of elaborate field terrace systems, there have also been subsidiary economies centered on trans-Himalayan trade and pilgrimage as well as pastoral nomadism and transhumance. Since the colonial period, the Himalayas have increasingly become a place for rest, relaxation, tourism and adventure, and this ' along with further political transformations since Indian independence `has led to the rapid development of urban areas. This course will provide a survey of Himalayan history, society and culture with a focus on the relationship among nature, the environment and geography.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0768 - HUMAN SEXUALITY IN CROS CULTUR

Minimum Credits: 3
Maximum Credits: 3
This course explores the expression of human sexuality across a diversity of cultural and social settings using a cross-cultural framework that is based on comparing information on sexuality in other cultures with data from us. It includes how human groups manage sexuality and reproduction; theories of the development of marriage, family, and household systems; differences in values and expectations related to sexuality; the development as sexual expression across the life span; understanding heterosexual and homosexual relationships; and understanding sexual violence.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 0780 - INTRO TO CULTURAL ANTHROPOLOGY

Minimum Credits: 3
Maximum Credits: 3
By examining the behavior and customs of peoples throughout the world, the course considers what it means to be human. We will describe the patterns of marriage, family organization, warfare and political behavior, economic systems, rituals, etc., Of other peoples, especially those of tribal societies, and compare these with American social patterns. Anthropological films and slide presentations will supplement lectures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 0785 - MATHEMATICS AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to the role of mathematical ideas in various cultural settings. It focuses on the use of math in everyday life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1083 - JAPANESE CULTURE

Minimum Credits: 1
Maximum Credits: 1
This one credit course on Japanese society, culture and history accompanies a course on basic Japanese language, though either the language or

culture course can be taken independently of one another. A series of lectures by distinguished experts on such topics as the Japanese economy, history, family, politics, business, theatre, religion, literature, education and fine arts is given.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1440 - LANG AND PREHIST IN MESOAMERC

Minimum Credits: 3
Maximum Credits: 3
Mesoamerica is well-known linguistically, and its linguistic prehistory is rather well understood. Archeological research has achieved knowledge in great detail for many key areas. Ethnohistorical sources in native languages abound. The integration of linguistic, archeological, and ethnohistorical knowledge can yield a detailed picture of the area's culture history. We will survey the ethnolinguistic history of MesoAmerica from 5000 BC to 1500 ad. Attention will be given to the ethnic associations of archeological cultures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1441 - FIELD METHODS IN LINGUISTICS

Minimum Credits: 3
Maximum Credits: 4
This course is meant to simulate the experience of linguistic field work, and raise awareness about the effectiveness of specific interview techniques for acquiring linguistic data. The course will give instruction and experience in eliciting data from a speaker of non (indo) European language. Students will undertake the investigation of the phonology, some aspect of grammar, and the ethnosemantic study of a taxonomically structured semantic field such as plants or animals. Students will make detailed elicitation plans in advance of their administration.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: LING 1578 and 1773 and 1777; LVL: Sr

ANTH 1442 - MAYAN LANGUAGES AND CULTURES

Minimum Credits: 3
Maximum Credits: 3
The 30 Mayan languages of southern Mexico, Guatemala, and Belize are among the best documented languages of MesoAmerica; they are ergative, and have both passives and antipassives. The results of comparative study of Mayan languages surpass those for any other MesoAmerican family. Some Mayans had pre-Columbian writing, and this writing system is currently being deciphered. Mayan society has been well studied by ethnographers, and ethno historical sources are numerous and valuable. Beside these topics, ethnographically meaningful texts in two Mayan languages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1443 - AMERICAN INDIAN LANGUAGES

Minimum Credits: 3
Maximum Credits: 3
Of over 1000 different languages spoken by native Americans in 1492, about 600 survive, most spoken by small numbers, although many populous Amer-Indian ethnic groups are found in MesoAmerica and the Andes. This course will survey the language families of the new world, and study the grammar and ethnographic texts of two languages. The results of historical and comparative research on Amer-Indian languages will be studied, particularly as they relate to the culture history of their region. We will also study pre-Columbian writing, literature and efforts at cultural maintenance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1444 - GYPSY LANGUAGE AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
Romani is spoken by more than 10,000,000 gypsies living in Europe and the Americas. They left their homeland in India over 2000 years ago, entering Europe around 1200 ad. Their unfriendly reception has made them shy and hard to know. Misunderstanding and misinformation on gypsies are abundant. This course will focus on reliable ethnographic descriptions from Europe and North America, and the language and folklore of one or more branches of the Romani nation. The history of the gypsies as discernible in their language and written records will also be studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1447 - LANGUAGE, CULTURE, AND SOCIETY

Minimum Credits: 3
Maximum Credits: 3
Certain cultural concerns are well-labelled linguistically: kinship, plant-names, diseases, colors, etc. The study of how such semantic fields are labelled and organized is ethnosemantics. Much of the way language is used depends on the context of speaking. Different ways of talking to different people is the subject matter of sociolinguistics. Some thoughts that we habitually think seem illogical on reflection, but it seems as if our language predisposes us to think this way. Such phenomena are addressed by the Sapir-Whorf hypothesis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1448 - AZTEC LANGUAGE AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
The Aztecs spoke Nahuas, as did the Toltec's before them. One million present-day Nahuas still speak the language and practice an Amer-Indian culture. The Nahuas language is the best-documented of all native American languages, from the 16th century to the present. The ethnohistorical sources in Nahuas and on late pre-Columbian culture are unsurpassed in scope. All the writings in Nahuas make up a small library. In this course we will study the grammar of Nahuas, read ethnographic texts from the 20th and 16th centuries, and trace the culture history of the Nahuas-speaking peoples.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1450 - GENDER AND SUSTAINABILITY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

ANTH 1466 - TOPICS IN ANTHROPOLOGICAL LING

Minimum Credits: 3
Maximum Credits: 3
This is a seminar for the investigation of anthropological linguistic topics of interest to the professor and students. Topics covered might include ethnobotany, ethnozoology, ethnomedicine, ethnopsychology, kinship terminology, diffusion of artifacts/cultigens and their names, and many others. Methodology will vary with topic.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1520 - SEDIMENTOLOGY AND STRATIGRAPHY

Minimum Credits: 4
Maximum Credits: 4
The first part of this course involves the description of sedimentary particles and deposits using the fundamental properties (composition, size, shape, orientation and packing) and derived properties (porosity, permeability and sedimentary structures). Included is a discussion of the processes related to these properties. The second part reviews modern sedimentary environments and their rock products. Finally, principles of stratigraphy are introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GEOL 0055

ANTH 1521 - GEOARCHEOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is an examination of geological methods applied to the study of archeology. The first part of the course examines locations of sites by familiarization with the physical environment, maps, and air photos. Second, characteristics of site sediments and artifacts are examined with emphasis on stratigraphic principles. Finally, specific sites selected from different environmental settings are discussed. Field and laboratory methods applicable to study of archeological materials and sites are introduced wherever Germane.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1522 - EUROPE IN LATER PREHISTORY

Minimum Credits: 3
Maximum Credits: 3
From the end of the ice age to the early middle ages: the establishment and development of agriculture, metallurgy, and the first cities.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1523 - EUROPEAN ARCHELGY: THE ICE AGE

Minimum Credits: 3
Maximum Credits: 3
Course includes the following topics: (1) history of discoveries and of the discipline of archeology; (2) the role played by archeology in the development of the concepts of prehistory and of human evolution; (3) introduction to pleistocene geology, and the effects of the changing environment of human life; (4) the first human traces to the late pleistocene cave sites (France, Spain) and open-air encampments (especially on the Russian Plain); (5) the beginnings of artistic and symbolic behavior, and their significance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1524 - CHINESE ARCHAEOLOGY

Minimum Credits: 3
Maximum Credits: 3
An introduction to Chinese Archeology from the earliest known beginnings through the Han Civilization of the second century A.D. Attention will be given to innovations of people in this part of the world -- the agricultural beginnings, the first cities and states, the formation of an empire. Emphasis will be placed on such topics as the role of archeology in the study of history and art as well as in understanding china today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1525 - EASTRN NORTH AMERCN ARCHEOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course deals with cultural development in the eastern United States from approximately 20,000 years ago to the period of European contact. Particular attention will be paid to man's adaptation to late pleistocene and holocene environments, the initial occupation of the region East of the Mississippi, the origins of agricultural systems and the rise of complex societies, including the Adena, Hopewell, and Mississippian manifestations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1526 - WESTERN NORTH AMERCN ARCHELGY

Minimum Credits: 3
Maximum Credits: 3
The prehistory of Western North America is examined in detail from the initial peopling of the area to the period of historic contact. Special emphasis is given to the Paleo-Indian and archaic techno/subsistence stages in the arid portions of the West.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1527 - ARCLGY OF NORTH AMER INDIANS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1528 - SOUTH AMERICAN ARCHAEOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course deals with cultural development in South America from 20,000 B.C. To Spanish contact. Emphasis will be placed on the earliest evidence for man, maritime adaptations, and origins of agriculture, rise of the state in the Central Andes and the rise of complex societies in the tropical forest. Stress will be placed on the evolution of Andean states including the origins and spread of the Chavin, Moche, Nasca, Tiahuanco, Chimu and Inca Empires.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1530 - ORIGINS OF CITIES

Minimum Credits: 3
Maximum Credits: 3
A broad introduction to the process of urbanism and the rise of early pre-industrial cities in both the new and old worlds. Specific cases from

MesoAmerica, the Andes, North America, Egypt, and the near East are examined in order to elucidate the varying roles cities played in ancient civilizations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1531 - MUSEUM PRACTICUM

Minimum Credits: 1
Maximum Credits: 3
Students will work in the archaeology laboratories and collection (ethnographic and archaeological) areas of the division of anthropology, the Carnegie Museum of Natural History research facility under the supervision of the anthropology staff.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

ANTH 1532 - PREHISTORIC ART AND SYMBOL

Minimum Credits: 3
Maximum Credits: 3
Course will focus on the animal art of the ice-age cave painters and on later rock art, on images of the human female throughout prehistory, and on questions of method and theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1534 - ARCHEOLOGICAL DATA ANALYSIS 1

Minimum Credits: 4
Maximum Credits: 4
An introduction to quantitative data analysis in archeology, this course covers basic principles of statistics, including exploratory analysis of batches, sampling, significance, t tests, analysis of variance, regression, chi-square, and estimating universe means and proportions from samples. The approach is practical, concentrating on understanding these principles so as to put them to work effectively in analyzing archeological data. Much of the statistical work is done by computer.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1535 - BASIC ARCHELOGCL FIELD TRAING

Minimum Credits: 6
Maximum Credits: 6
The university of Pittsburgh field training program in archaeology is conducted at various locations. Features of the excavations include basic training in mapping, archaeological survey, excavation methods, soil analysis, data recording, and preliminary artifact analysis.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

ANTH 1535IS - ARCHELOGCL FIELD SCHOOL - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ANTH 1535OS - ARCHELOGCL FIELD SCHOOL - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ANTH 1536 - PALEO-KITCHEN

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1537 - BASIC LABORATORY ANALYSIS
Minimum Credits: 3
Maximum Credits: 3
This is a follow-up course for anthropology 1534 basic field methods in archaeology. In anthropology 1537, students who have participated in the summer field training program will be instructed in the Methodology of Artefactual and Non-Artifactual analysis. All data recovered during the summer field training program will be processed by the students under the supervision and direction of the instructor. Special emphasis will be placed on lithic and perishable analysis as well as paleo-climatic reconstruction and quantitative methods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1538 - ADVANCED LABORATORY ANALYSIS
Minimum Credits: 3
Maximum Credits: 9
This course is a continuation of anthropology 1537-basic laboratory analysis.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

ANTH 1539 - ANCIENT MAYA
Minimum Credits: 3
Maximum Credits: 3
Examines the growth of ancient Maya civilization over two thousand years from the first millennium B.C. To the Spanish conquest in the sixteenth century A.D.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1540 - SPECIAL TOPICS IN ARCHEOLOGY
Minimum Credits: 3
Maximum Credits: 3
Topics covered vary greatly with instructor and term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1541 - CULTURAL RESOURCE MANAGEMENT
Minimum Credits: 3
Maximum Credits: 3
This course will cover in an introductory way all aspects of cultural resource management and historic preservation. Major topics include federal historic preservation legislation, cultural resources (historic and prehistoric archaeology, historic structures), the national register of historic places, section 106 and 110 of the NHPA, historic preservation planning, and state historic preservation plans. Course will utilize historic architectural examples as well as prehistoric and historic archaeological sites. Greater emphasis placed on how to evaluate historic properties for national register.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1542 - ARCHAEOLOGY OF THE OHIO VALLEY
Minimum Credits: 3
Maximum Credits: 3
This course examines from an archaeological perspective, the prehistory and early colonial history of the region surrounding Pittsburgh, the Upper Ohio Valley. Students will gain an appreciation of the rich and diverse array of human occupation of the region which encompasses parts of Pennsylvania, New York, Ohio, West Virginia, and Maryland. This course will be worthwhile to students with an interest in the local past as well as those interested in pursuing careers in archaeology in the Northeastern United States.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1543 - ANCNT STATES IN THE NEW WORLD
Minimum Credits: 3
Maximum Credits: 3
Drawing on the fact that the ancient new world was a dazzling treasure house of non-Western political thought and organization, this course uses archaeology and ethnohistory to document and make comparative sense of the rich variety of political arrangements which existed among prehispanic states in MesoAmerica and Andean South America. A special aim is to understand how Amer-Indian concepts about state craft and rulership mesh with anthropological and other theories about ancient states.

Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1544 - ANCIENT CIVILIZATIONS

Minimum Credits: 3
Maximum Credits: 3
This course examines the rise and fall of several ancient civilizations. It covers the archaeology and earliest history of regions recognized as significant independent centers for the development of early civilization: Mesopotamia, Egypt, Indus Valley, China, South East Asia, MesoAmerica, and Andean South America. Central themes concern: why and how civilizations first emerge and then collapse; relationships among economic, political, social, and ideological factors in early civilizations; generic versus unique qualities of different early civilizations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1546 - CAVEMAN

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1547 - POTS AND PEOPLE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1548 - AMAZONIAN ARTS: MAKING MEANING

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the arts of the Amazonian region in the context of their function and meaning. The course will be taught as a combination of lecture and hands-on experience working with native potters from the Bobonaza river. Students will learn to make pottery in the Kichwa (Quichua) tradition, and to understand the role of pottery and material culture in the daily lives of people in this region. On a number of occasions, students will accompany the native potters on journeys into the adjacent forest to gather materials and to study the patterns in nature that inspire them. Here students will observe related arts such as face paint patterns, beaded ornaments, ritual singing and storytelling. Carefully selected readings and lectures will use these arts as a window for exploring Amazonian thinking about the natural world behind the designs, and the ways in which the designs can be used to understand patterns of social interaction. Interviews with potters will aid in understanding these arts in the context of daily and ceremonial life. In the process, the arts become a doorway allowing the student to explore Amazonian culture and environment first hand. Comparative material from several other world regions will also be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ANTH 1591 - HISTORICAL ARCHEOLOGY

Minimum Credits: 3
Maximum Credits: 3
Historical archaeology examines the material culture of societies that are literate. It therefore combines archaeological data with historical information such as tax, deeds, will, probate and other sources to derive a fuller picture of past lifeways. This course exposes students to the archaeology of North America from Viking contacts of ca. 1000 A.D. Through the industrial period. Emphasis is placed on delineating changes in cultural adaptations during this period as a result of culture contact, the development of international trade, and technological innovation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1600 - HUMAN EVOLUTION AND VARIATION

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1601 - STRUCTURE AND FUNCTION

Minimum Credits: 3
Maximum Credits: 3

Students will explore the literature of human biology and develop questions and hypotheses regarding undocumented concepts. Each student's goal will be to design a laboratory study which tests the hypothesis he/she has formulated. Areas which might be investigated include locomotion, feeding adaptations, and adaption to various environmental conditions. Students will learn techniques of experimental surgery used to investigate the relationships between structure and function.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1602 - HUMAN SKELETAL ANALYSIS

Minimum Credits: 4
Maximum Credits: 4
This is an introduction to the study and analysis of the human skeleton, which will be based on lectures and lab. Topics include: development of teeth and bone, identification of whole bones and fragments and determination of sex, age, and stature (and other metric analyses), disease, and populational features. Real bony materials will be used in lab.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

ANTH 1603 - HUMAN ORIGINS

Minimum Credits: 3
Maximum Credits: 3
This will be an in-depth look at the history of study of human evolution and the current theories and controversies surrounding the interpretation of our relatedness to the various apes as well as of the fossils representing our evolutionary past.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1605 - PRIMATE ANATOMY

Minimum Credits: 4
Maximum Credits: 4
This course offers a detailed consideration of the anatomy of the primates. It will follow an integrated regional approach (i.e., The back, the upper extremities, the hand, etc.), However, the major focus will be on the musculoskeletal system. Students will dissect human material (cadavers) but emphasis will be on the comparative aspects within the order whenever possible. Other non-human primate skeletal material will also be used.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1606 - FOSSIL AND LIVING PRIMATES

Minimum Credits: 3
Maximum Credits: 3
This is an in-depth survey of all non-human/ape primates, from the potential beginning of the group of mammals to which we belong, primates. We will review all relevant living and fossil primates and deal with issues of their evolutionary relationships, the very origin of primates, and the origin of higher" primate groups."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1607 - PRIMATE BEHAVIOR

Minimum Credits: 3
Maximum Credits: 3
This course takes a Darwinian approach to explaining the diversity in contemporary primate behavior and ecology. We stress the comparative method, and seek to develop general principles of adaptation that will explain the taxonomic distribution of particular behavioral and ecological traits.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1608 - COMPAR OSTEOLOGY & ODONTOLOGY

Minimum Credits: 3
Maximum Credits: 4
This will be a survey of the differences among the major groups of mammals (humans included) in structure and shape of their teeth and bones from an evolutionary and systematic as well as practical (i.e. In identification) perspective.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1609 - ADVANCED SKELETAL ANALYSIS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ANTH 0630 or ANTH 1602

ANTH 1611 - EVOLUTIONARY THEORY
Minimum Credits: 3
Maximum Credits: 3
Intended as a sequel to ANTH 0011, this course explores modern evolutionary theory in detail. Some coverage is given to the history of debates, but more emphasis is placed on their current status. Both phylogentic and adaptive components of the evolutionary process are discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1613 - PRIMATE BIOLOGY
Minimum Credits: 3
Maximum Credits: 3
This course is a survey of the major groups of living primates (including humans) and of the various hard and soft tissue, as well as physiological and biochemical, systems that distinguish the group as primates and further distinguish the diverse lot of primate subgroups.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1615 - EVOLUTION OF THE VERTEBRATES
Minimum Credits: 3
Maximum Credits: 3
This course is a survey of the various groups of living and fossil vertebrates (animals with backbones) and the various theories on the evolution and diversification (and extinction!) Of the group.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1618 - SPECIAL TOPICS IN SOCIOBIOLOGY
Minimum Credits: 3
Maximum Credits: 3
Each semester a single topic such as sexual selection, human sociobiology or the evolution of sociality will be explored in detail.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1619 - SPECIAL TOPICS IN PHYSCL ANTH
Minimum Credits: 3
Maximum Credits: 3
Topics covered vary greatly with instructor and term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1708 - SOCIETY, CULTURE, AND POWER IN
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ANTH 1710 - PHILOSOPHY OF ANTHROPOLOGY
Minimum Credits: 3
Maximum Credits: 3
This course studies the nature of anthropological knowledge. Topics covered include: the possibility of a human science; classification, description, and the nature of anthropological evidence; laws and explanation in anthropology; and various forms of relativism.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1711 - ETNBIO AMZNIN RELIGION NATURE

Minimum Credits: 3
Maximum Credits: 3
The course explores Amazonian cultural knowledge of plant and animal species, comparing it to scientific knowledge, to uncover underlying assumptions that constitute a systematic, if implicit, Amazonian philosophy of nature. It also teaches students how to ask key questions and to carry out qualitative research on ethnobiology. Over generations of hunting and gathering Amazonian cultures gained an intimate knowledge of their rainforest environment, the most bio-diverse on earth. Now, more than ever, preservation of that environment depends on improving understanding and cooperation between environmentalists and the native peoples who live there; and upon integrating traditional Amazonian and scientific knowledge of the natural world. The course addresses key ethnobiological questions such as: how do native Amazonian people classify plant and animal species? How do they understand the extinction or the emergence of new species? How do they understand plant and animal behavior? How is plant and animal ecology believed to serve as a model for understanding human society and vice versa? How should human emotions be regulated so as to better work with nature? What aesthetic, emotional or religious practices were developed to create bonds of empathy or communication between human beings and other species? What are the practical implications of the answers to these questions for collaborative environmental work with indigenous communities?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1712 - AMAZONIAN ETHNOBOTONY

Minimum Credits: 3
Maximum Credits: 3
This course examines the cultural understanding and uses of plants in the Ecuadorian amazon. How do Amazonian people understand what plants are? How did they originate? How are they classified? How are they similar or different from humans? How are plant foods and medicines believed to work on the human body? How should they be harvested and prepared? What sorts of human moods or attitudes are necessary to work with plants? What ritual techniques are used to achieve empathy required to work successfully with plants?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1713 - HLTH, NUTRITION & POPULATION 1

Minimum Credits: 3
Maximum Credits: 3
This course will provide an introduction to the study of the health, population and nutrition concerns of indigenous peoples; provide an understanding of the health concerns of the Kichwa speaking people of the Ecuadorian amazon and provide a grounding for research on the health of Amazonian peoples. It will be taught as a combination of lectures, discussion of readings, site/field visits, interviewing of key actors and analysis of primary materials derived from interviews and observations of Kichwa people, healers and patients.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1714 - HLTH, NUTRITION & POPULATION 2

Minimum Credits: 3
Maximum Credits: 3
This course will continue the study of the health, nutrition and population of the NAPO Kichwa begun in HPNI. It will specifically address the historical and contemporary food systems of the NAOP Kichwa; the production and management of Chica (manioc beer) as a cultural superfood and dietary staple; the management of pregnancy and childbirth in the Kichwa ethnomedical system; the impact of the intercultural health movement and the millennium development goals for safe motherhood on the provision pregnancy and birth care services in the Ecuadorian national system; and the impact of biomedicine on Kichwa health practice. Hpnii will be taught as a combination of lectures, discussion of readings, site/field visits, interviewing of key actors and analysis of primary materials derived from interviews and observations of Kichwa people, healers and patients. It will have a significant independent research component.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1715 - UNDERSTANDING MODERN ITALY

Minimum Credits: 3
Maximum Credits: 3
This course uses anthropological methods to understand and analyze contemporary culture in Italy through an examination of everyday life in florence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1716 - POLITICS OF GENDER AND FOOD
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1725 - SOCIAL HLTH ISSUES EAST AFRICA
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

ANTH 1729 - BRAZIL
Minimum Credits: 3
Maximum Credits: 3
The course begins with an overview of Brazilian culture and of the country's enormous resource base. Cultural change is traced through the pre-Columbian, colonial, imperial, and republican periods. A major theme throughout is the evolution of a Portuguese heritage into today's distinctive Brazilian national culture. The country is then divided into five regions as a means of understanding its internal diversity. Popular American ideas about subjects like carnival, the amazon rainforest, coffee, Copacabana Beach, and the huge foreign debt are also dealt with.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1731 - WOMEN & GENDER IN THIRD WORLD
Minimum Credits: 3
Maximum Credits: 3
This course will examine the situation of women and the dynamics of gender in third world societies--i.e., Those of contemporary Asia, Africa, and Latin America. With particular attention to the effects of colonialism and capitalist development on women's lives and gender arrangements, we will analyze the impact of recent changes on economic and political roles, family structures and reproductive choices, and ideological orientations and self-images. The course will also explore major social issues and their implication for theories of third world development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1733 - DRUGS, ETHNY, & CLSS IN THE US
Minimum Credits: 3
Maximum Credits: 3
While the study of ethnicity has a long and distinguished tradition in cultural anthropology, the discipline has placed comparatively little emphasis on the study of class. In addition, only recently have cultural anthropologists begun to pay closer attention to the consumption of drugs as a significant phenomenon in contemporary complex societies, such as the United States. Drawing on literature and themes from different disciplines, but especially from political economic and critical approaches within cultural anthropology, we will critically explore the dynamic intersection of drugs/class.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1734 - GENDER IN EAST ASIA
Minimum Credits: 3
Maximum Credits: 3
This course focuses on gender in East Asia, particularly in Chinese, Japanese, and South Korean society. Materials from Hong Kong and Taiwan will be included. The course is broadly comparative, and raises questions about the similarities and differences in gender roles and meanings within this vast and diverse region. Key themes include gender and work, sexuality, religion, and family. The primary focus is on contemporary East Asia, and on recent change.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1735 - SPECIAL TOPICS IN CULTRL ANTH
Minimum Credits: 3
Maximum Credits: 3
This course will be on a topic in the area of specialization of a visiting scholar yet to be determined.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1737 - SPECIAL TOPICS IN CULTRL ANTH

Minimum Credits: 3
Maximum Credits: 3
This course will be on a topic in the area of specialization of a visiting scholar yet to be determined.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1738 - GENDER PERSPECTIVES IN ANTHRO

Minimum Credits: 3
Maximum Credits: 3
This course analyzes gender perspectives in anthropology. Students are asked to consider how gender differences relate to women's and men's roles in productive labor, in property rights, and in family and kin relations. Special attention is given to the way gender and sexual difference are represented in culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1739 - CULTURES OF EAST ASIA

Minimum Credits: 3
Maximum Credits: 3
This course compares the social systems of Japan, Korea and china. Special attention is given to comparisons of family and kinship organization, religious traditions, language, and processes of industrialization. Discussions will concentrate on the post World War II period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1741 - ENRGY & ENERGOPOLITICS EURASIA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1742 - THE CITY IN AFRICA

Minimum Credits: 3
Maximum Credits: 3
Course examines the urban experience in Africa, beginning with ancient Nile Valley civilizations. In spite of this antiquity, colonial discourse and administrative practices created the notion of rural tribesmen whose presence in cities was unnatural and corrupting. We investigate this moral contrast between town and country as it persists today in the popular imagination, serving as a potent critique of possibilities and perversities of African modernity. We consider prospects and contributions of a distinctly African solution to problems of globalization, the informal city"."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1743 - ANTHROPOLOGY OF AGING & DEATH

Minimum Credits: 3
Maximum Credits: 3
This course will offer an anthropological perspective to aging, which is becoming one of the key social issues of the advanced industrial societies. Through evidence of social evolution, this course acquaints the student with the variety of ways in which human aging has been culturally defined and treated. It provides an appreciation of the political economic, national, and ethnic dimensions of aging so that a student may make meaningful choices with both public and personal implications as he/she confronts the life course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1745 - URBAN POVERTY CULTRL IMPLICATN

Minimum Credits: 3
Maximum Credits: 3
This course will survey urban centers in a variety of cultural contexts: United States, Italy, Latin America, Middle East, Caribbean and Australia. It will focus on the poor in these cities. The concept of the culture of poverty will be discussed briefly. The major emphasis will be on how poverty affects the cultural behavior of this population. Social organization, political behavior, and expressive style of the poor will be analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1748 - CULTURES OF SOUTH AMERICA
Minimum Credits: 3
Maximum Credits: 3
This course surveys the societies and cultures of South America. Through films, lectures, readings, and class discussion, the course examines subsistence economies, sex, kinship, and marriage, political organization, warfare, religion, and cultural change.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1749 - COGNITION AND CULTURE
Minimum Credits: 3
Maximum Credits: 3
This course explores how communities of people classify, reason, and make decisions in a cultural context. This exploration contributes to an understanding of how people think and of what culture is. The questions addressed by this course include; does the language people speak affect the way they see the world? How is cultural knowledge organized? How do members of the same society vary in their knowledge and what does this variation tell us about how individuals learn?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1750 - UNDERGRADUATE SEMINAR
Minimum Credits: 3
Maximum Credits: 3
This seminar brings together all undergraduate majors in anthropology for a seminar on the methods by which cultures around the world change over time. Defining such methods occupies much of any anthropologist's time, be he or she an ethnographer, archaeologist, physical anthropologist or linguist. The seminar therefore examines this central problem from many perspectives and affords the student ample opportunity for personal expression as well as rewarding discussion and research in a peer group environment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1751 - PEOPL & ENVIRONMNT IN AMAZONIA
Minimum Credits: 3
Maximum Credits: 3
This course introduces the complexity of relationships among environment, indigenous populations, and Western society in the Amazonian region of South America from historical and ecological perspectives.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1752 - ANTHROPOLOGY OF FOOD
Minimum Credits: 3
Maximum Credits: 3
This course surveys the general subject of culinary anthropology. Topics include food exchanges and the construction of social groups, food and social boundaries, food taboos, symbolism of food, folk conceptions of food, sacrifice and food in religious contexts, world standardization of food preferences. Thus, the focus is on social aspects of food, eating, and exchange.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1753 - NORTH AMERICAN INDIANS
Minimum Credits: 3
Maximum Credits: 3
This course presents a survey of native American cultures North of Mexico, both historical and modern. Case studies from several different regions are used to provide in-depth material on North American Indian cultural patterns.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1754 - CULTURE REGIONS UNITED STATES
Minimum Credits: 3
Maximum Credits: 3
This course examines contemporary American culture from a spatial-geographic perspective. It begins with the concept of region, including conventional and unconventional divisions of the United States. Colonial source areas of the national culture are studied, along with the role of the frontier in culture diffusion. Acquisition of a huge natural resource base and our interaction with it are also explored. The country is divided into

eight major culture regions, each of whose own ecosystems and landscapes make it distinctive. We end by anticipating future regions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1755 - URBAN ANTHROPOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course outlines the origins and evolution of cities and explores their roles within their historical, social, and cultural contexts. It examines the nature of life in cities cross-culturally from the perspective of the inhabitants. Features associated with urban life--such as migration, squatter settlements, family organization, ethnicity, social stratification, social networks, and social pathologies- receive special attention.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1756 - ECONOMIC ANTHROPOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course reviews the development of economic anthropology as a special field of study. Emphasis is placed on economic change and the impact of industrialization on the third world. Ethnographic examples are drawn from Latin America, Africa, Asia, Oceania, and Europe. Topics to be discussed include economic theory in anthropology, exchange and the origin/use of money, the development of wage labor, marketing and commodity production, theories of economic development and underdevelopment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1757 - SOCIAL ORGANIZATION

Minimum Credits: 3
Maximum Credits: 3
This is a course on the social institutions of primitive and folk people throughout the world. It presents a general survey of kinship units and principles of organization that operates at the primitive, tribal, and folk levels. At the end of the course the main theories that anthropologists have employed in analyzing kinship and social organization will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1758 - COMPARATIVE POLITICAL SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
A comparative study of political organization and control in non-Western societies utilizing ethnographic data from several major areas. Such areas as leadership, decision making, sanctions, and political symbols will receive particular attention. A comparative framework will be the basis for the analysis of political change.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1759 - CHINESE SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This course deals with traditional and modern Chinese society, before and after the 1949 communist revolution. Topics covered include: family and kinship, marriage, community organization, agriculture and industry, gender roles, social stratification, religion, land reform and collectivization, and the cultural construction of a new socialist system. Films, slides, and media presentations supplement lectures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1760 - ANTHROPOLOGY OF LAW

Minimum Credits: 3
Maximum Credits: 3
This course examines anthropological analyses of law and law-like phenomena in a number of societies, including the United States. Particular attention is given to the various ways that disputes are resolved in different social and cultural settings, and to the theoretical analyses used to explain these differences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1761 - PATNTS & HEALERS: MEDCL ANTH 1

Minimum Credits: 3
Maximum Credits: 3
This course surveys the field of medical anthropology and its history within the discipline of anthropology as a whole, from the perspective of social-cultural theory. Topics dealt with include ethnomedicine, ethnographic cases, cross-cultural studies of healing practices and connections between medicine and religion. Reference is also made to applied research in contemporary situations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1762 - HUMAN ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course explores the ecology of the human species. We will study how humans adapt to their physical and cultural environment, and the interrelationships between people and the environment. Topics discussed include evolution and adaptation, population growth and regulation, foraging and subsistence strategies and production decisions, population interactions and resource management, and energy and human society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1763 - FIELD METHODS

Minimum Credits: 4
Maximum Credits: 4
This course is designed to acquaint students with basic ethnographic fieldwork techniques. Topics addressed include taking and managing fieldnotes on participant-observation, systematic or structured interviews, behavioral observation, and use of archival materials. There will also be some discussion of the relationship between research design, data collection, and data analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1764 - CULTURES & SOCIETIES OF INDIA

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to the cultural history of India and to the culture and society of the modern country, concentrating on the description and analysis of modern Indian society. Topics to be covered include caste, kinship and marriage, village communities, law and society and politics in modern India.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1765 - LANGUAGE, ETHNICITY & NATNLSM

Minimum Credits: 3
Maximum Credits: 3
This course explores how people use language to construct ethnicity, and the role that language plays in theories and ideologies of nationalism. Using cross-cultural examples from Africa, Asia, Europe, Latin America, and the U.S., We consider issues such as language standardization and planning, the challenges facing multilingual nation-states, ethnolinguistic revitalization movements, the linguistic aspects of colonialism, including pidgins and creoles, and the linguistic and cultural aspects of the spread of English as a global language.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1766 - ENDANGERED LANGUAGES

Minimum Credits: 3
Maximum Credits: 3
This course takes an anthropological approach to language shift and ethnolinguistic revitalization. First, we explore how and why languages "die", how discourses of death and endangerment impact languages and speakers, and the structural effects of processes of obsolescence on languages. Then, we explore the reasons why groups wish to preserve and revitalize languages, the potential benefits of language revitalization, and the factors in successful and unsuccessful language revitalization movements, including ideologies of discrimination and resistance, language policy and planning, education, media, literacy and language standardization.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1768 - CULT & SOCIETIES EASTRN EUROPE

Minimum Credits: 3
Maximum Credits: 3

This course is an introduction to the socialist countries of eastern Europe apart from the soviet union. It is particularly concerned with how the region has developed under socialism and with how the new, socialist societies have affected the different indigenous cultures. Topics include industrialization and transformation of agriculture, kinship and family, among others.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1769 - DYNAMICS OF ETHNICITY

Minimum Credits: 3
Maximum Credits: 3
The course materials and lectures will discuss the older studies of ethnicity in the United States and their differences with the recent revival of interest in ethnicity and ethnic groupings. A second portion of the course will analyze the various reasons for ethnicity in different cultural contexts, and how ethnic groups adapt. The last portion will attempt to describe the ethnic heritage of Western Pennsylvania and how the group strategies for mobility effected their class and ethnic stratification.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1770 - KINSHIP AND THE FAMILY

Minimum Credits: 3
Maximum Credits: 3
In this course Western and Non-western forms of kinship, family, and marriage will be discussed and analyzed. Special attention will be given to the history of European marriage, to family organization and industrialization, and to women's relation to kinship and family order. The differences in European and Non-European reactions to industrialization will be compared in some detail. Europe, China, India, and Japan will receive special attention.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1771 - RELIGION AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
Religion is thought, felt, and acted out in social and cultural contexts. The relationship between religion and culture is the focus of the course. The objectives are to understand religion wherever and whenever found, and to understand the anthropological approach in the cross cultural study of religion. Religious belief, ritual, myth, dogma and religious specialists in industrial and non-industrial societies are compared.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1772 - ANTHROPOLOGY OF WOMEN

Minimum Credits: 3
Maximum Credits: 3
During this course students are asked to consider how gender differences relate to women's and men's roles in productive labor, in the disposition of property, and in the realm of family and kinship. Building on these discussions participants will also examine the way in which gender and sexual differences are represented at the cultural and ideological level. Cultural constructions of masculinity and femininity in southern Europe, china, and new guinea will receive particular attention.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1773 - CULTURES OF MESOAMERICA

Minimum Credits: 3
Maximum Credits: 3
A general survey of problems and cultures of Mexico and Guatemala from the time of the Spanish conquest to the present. The course will be divided into three parts; MesoAmerica at the time of the arrival of the Spaniards; the colonial transformation of the Indian population; and the contemporary position of the Indians within the Pluri-Ethnic societies of which they are part.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1774 - PERSPECTIVES ON RELIGION

Minimum Credits: 3
Maximum Credits: 3
A serious introduction to the study of religion is undertaken by reviewing the efforts and insights of the principal scholars in the field in the modern period.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1775 - APPLIED ANTHROPOLOGY

Minimum Credits: 3
Maximum Credits: 3
Viewing applied anthropology as a possible career choice, this course will define the field, contrast it with basic anthropology, examine the concept of policy analysis, and survey the kinds of applied anthropology conducted within the realm of cultural anthropology (urban, education, community development, etc.). Methods and techniques used in applied anthropology will be reviewed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1776 - MYTH, SYMBOL AND RITUAL

Minimum Credits: 3
Maximum Credits: 3
A comparative examination of the myths, symbols, and rituals of different cultures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1777 - AMERICAN CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course explores American culture as if it were strange and exotic. Topics covered include communication and speech styles, social class, race, and ethnicity, cults and religion, family, socialization, work and play, poverty and deviance, and changing values. Appropriate films and guest lectures are scheduled. A prior exposure to anthropology is not necessary as technical terms will be kept to a minimum and simply explained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Anthropology (BA)

ANTH 1778 - CULTURES OF AFRICA

Minimum Credits: 3
Maximum Credits: 3
This course explores the traditional cultures and societies of Africa from prehistoric to modern times. Emphasis is on the conditions prior to contemporary changes but some attention is given to modern developments. Concern is with the variety of cultures on the continent, how people make a living, what family life is like, how disputes are settled, and religion. Through lectures, films, and readings, the student gets a feeling for life in this fascinating part of the world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1779 - SOCIAL AND CULTURAL CHANGE

Minimum Credits: 3
Maximum Credits: 3
Various theories of social and culture change will be examined from a historical perspective. These theories will be employed to structure materials in their non-Western case studies of social and cultural change.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1780 - INTRODUCTION TO ANTHROPOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course surveys the biological and cultural heritages which distinguish humans from other advanced evolutionary forms. Through physical anthropology and prehistory, it outlines major developments over the past five million years. Through linguistic and sociocultural anthropology, it describes the universal features of social institutions and human behavior, drawing comparative examples from primitive, traditional, and modern societies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1781 - ANTHRO OF CONTEMPORARY CARIBBN

Minimum Credits: 3
Maximum Credits: 3

This course provides an historical background on the Caribbean focusing largely upon the experiences of the Caribbean in the 1990s through an examination of the culture areas of tourism, urbanism, industrialism, migration, cultural practices, and political and social movements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1782 - SOCL STRATFCTN & EXPRESSV CULT

Minimum Credits: 3
Maximum Credits: 3
The main object of the course is to present the view that social stratification has an important expressive component that has been consistently ignored in anthropological and sociological studies of stratification. Concentrating on a number of special cases, spanning the evolutionary spectrum from peasant to modern industrial societies, the expressive component of class is placed in perspective in relationship to power, wealth and other structural and ideological variables.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1783 - JAPANESE CULTURE

Minimum Credits: 1
Maximum Credits: 1
This one credit course on Japanese society, culture and history accompanies a course on basic Japanese language, though either the language or culture course can be taken independently of one another. A series of lectures by distinguished experts on such topics as the Japanese economy, history, family, politics, business, theatre, religion, literature, education and fine arts is given.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1784 - JAPANESE SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to contemporary Japanese culture and social institutions. Using scholarly books, essays, fiction and film, it will give students a range of different exposures to various aspects of Japanese society and everyday life: economic miracle, recession, middle class society, gender relations, sexuality, education, consumerism, and mass culture. The special focus of the course will be popular culture in japan. We will review the postwar history of popular culture and consider the reasons for its recent appeal abroad.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1786 - CULTURES OF THE PACIFIC

Minimum Credits: 3
Maximum Credits: 3
This course examines the traditional and contemporary peoples and cultures of the pacific islands. A geographical and historical review of the region is included.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1787 - SPECIAL TOPICS IN CULTRL ANTH

Minimum Credits: 1
Maximum Credits: 4
This course will be on a topic in the area of specialization of a visiting scholar yet to be determined.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

ANTH 1788 - ANDEAN SOCTY/CULT:PERU BOL

Minimum Credits: 3
Maximum Credits: 3
This course will survey major topics and issues relevant to the anthropology of the South American Andean culture region, with special emphasis on Bolivia and Peru. Examples of topics include: cultural adaptations to the physical landscape; kinship and social organization; gender; religion; economic organization (including land and labor patterns); ethnicity and class; migration; and resistance and rebellion. Also some landmark studies in Andean social history that have had considerable impact on current ethnographic and anthropological research.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1789 - AFRICAN AMERICAN FOLK CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course will explore several aspects of African American folk culture being defined as non-elite expressions of art, music, dance, theatre, literature, humor, material culture, and religious beliefs. Particular attention will be given to the role of folklore in the perpetuation and transmission of shared cultural knowledge among blacks in the United States.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1791 - DIALCTICS OF IDENTTY WEST EURP

Minimum Credits: 3
Maximum Credits: 3
This course examines a number of case studies on historical and emerging identities in local, regional, and national contexts in Western Europe, the major focus is on the relationships between local senses of identity and wider ones and the tensions that arise out of disjunctions between these contexts. For this reason, materials are chosen from peripheral" areas in Western Europe, such as Celtic fringe societies (e.g., Scotland, Brittany, Wales) vis-a-vis England and France; and from Greece in the Mediterranean region."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1792 - POPULATION AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course centers its attention on the complex interplay between demographic process and outcomes (such as fertility and population growth, population decline and mortality, and migration) on the one hand, and social/cultural evolution and social/ cultural forms studied by cultural anthropologists and archaeologists. We will critically review major concepts and theories in demography and demographic anthropology. Course takes the subject matter of population dynamics as the framework for examining important anthropological themes, debates and theories in the context of different societies/cultures.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Anthropology (BA)

ANTH 1793 - ASIAN MEDICAL SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
Using scholarly texts, ethnographic studies and historical documents, this seminar will focus on the medical systems of India, china, Japan, and South East Asia. The primary objective of the course is to understand various Asian medical systems on their own terms, both in theory and in contemporary practice. Primary attention will be given to Ayurveda, Unnani and traditional Chinese medicine. We will look at how so-called traditional medicine in Asia is being modernized in response to political, economic, social, and cultural transformations.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1794 - GENDER AND HEALTH

Minimum Credits: 3
Maximum Credits: 3
There is a great deal of innovative, theoretical work being done in anthropology and related disciplines on issues of gender and health. This seminar will focus attention on this work, much of which has developed in response to questions of power and knowledge in discourses of and about female and male bodies. Although most of the literature on gender and health is about women, we will examine the structures of power and knowledge in the larger domain of culture and health as these structures are revealed and critically analyzed in terms of gender theory.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1795 - SHAMANISM HEALING SPIRIT POSS

Minimum Credits: 3
Maximum Credits: 3
Shamanism is a phenomenon that has been the focus of intensive anthropological investigation since the birth of the discipline. It has also been a topic that has helped to define key theoretical issues in the field. In this course we will use shamanism, broadly defined, as medium through which to study anthropological theory. The course is designed as a reading intensive seminar, and one of the objectives is to teach students how to read and think critically.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1796 - ALTERNATIVE HEALTH AND HEALING

Minimum Credits: 3
Maximum Credits: 3
Using the material culture of medical technology, the purpose of this course is to understand the theoretical, philosophical and methodological links between alternative medicine in the United States and traditional forms of medicine in Asia.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ANTH 1797 - MOUNTAINS AND MEDICAL SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
India is a social, political and economic environment in which a broad range of South Asian medical systems have grown and developed over the course of several years. In the past 150 years these systems have been institutionalized and professionalized within the framework of colonial and national medical and public health policy. Many of these systems are intimately connected to the environment, and to the conceptualization, categorization, production and consumption of natural resources. This course focuses on non-biomedical systems of medicine: Ayurveda, Unani, siddha, Tibetan medicine, yoga and nature cure and homeopathy, as each one of these is supported and regulated by the government of India. The purpose of the course is not to evaluate the effectiveness or medical value of these systems; it is to understand how these medical systems fit into a range of social, political, ecological, botanical and economic contexts. Given that a number of these medical systems are intimately linked to Himalayan botanical and environmental knowledge, the course will focus on the relationship between South Asian medical systems and mountain ecology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1798 - RELIGION AND ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
The Himalayas have inspired more religious thought, given rise to more forms of religious practice and are more distinctively featured in a spectrum of epic religious literature, than almost any other geographic region in the world, with the possible ' but unlikely `exception of a small parcel of relatively dry hilly ground between Jerusalem and mecca. In any case, Siddhartha Gautham was born and taught in the shadow of the lower Himalayas, where Buddhism emerged in the 4th century BCE. Many specific mountains, lakes and rivers, as well as the broader geography of the Himalayas ' most notably sacred rivers ' define the landscape of Hindu mythology, pilgrimage and ritual. The practice of yoga as a metaphysical philosophy is intimately linked to the idea of mystical Himalayan masters. The Western watershed of the Punjab, including the iponymous five rivers ' Indus, Jhelum, Chenab, RAVI and Sutlej ' is the heartland of Sikh cultural and religious identity. In addition to being a center of medieval Hindu literary learning, Kashmir and the Western Himalayas, extending through the Hindu Kush, have defined routes of exchange, communication, conversion and confrontation between Greeks, Persians, Buddhist monks, and Mongol armies. More recently ' in terms of centuries ' Tibetan Buddhism has emerged out of a history of development in Lhasa ' relocated to McLeod Ganj in the early 1960s '- that combines elements of tantra from the southeastern Brahmaputra region with transmutations of Buddhism that have taken shape in greater china. Although not inspired by the Himalayas per se, Islam in South Asia has been shaped by geography and the environment in specific ways, and the development of a particular interpretation of the Koran in a small center of learning in the town of Deobandi ' close to where the epic battle of the Bhargava Gita is said to have been waged in Kurukshetra ' implicates the geography and geopolitics of the Himalayas in the emergence of reform oriented, Orthodox Islam.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1799 - HIMALAYAN POLITICAL ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
The Himalayan region is characterized by dramatic climatic and geological variation, a tremendous range of biodiversity and a complex ecology. Within the region there is also profound cultural variation. This course seeks to provide a critical perspective on the ecology and environment of the Himalayas by examining how different groups at the village, state, national and international level are implicated in the political ecology of the mountains. We will look at the way in which village farming communities use natural resources, what kind of pressure is put on resources as a result of development and population growth, how the mountain environment shapes the politics and resource distribution at the level of the state and, finally, how environmental and energy issues shape national policy and international relations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1801 - HIMALAYAN BIODIVERSITY

Minimum Credits: 3
Maximum Credits: 3
Ranging in altitude from several hundred meters above sea level to over seven thousand, from subtropical forests to high altitude meadows and deserts, and from areas with little or no rainfall to regions that are among the wettest in the world, the Himalayas define a geographical region of enormous geological variation and biodiversity. The goal of this course is to gain an understanding of this diversity, with a focus on ecology. More

specifically we will examine ecology and ecosystems in terms of biosemiotics ' how and why organisms within an ecological niche communicate with one another, and how these patterns and structures of communication define different kinds of interdependence. Within the framework of standard classificatory schemes ' mammals, birds, reptiles, insects ' we will focus on particular species and specific niche systems for more detailed biosemiotic/behavioral analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ANTH 1900 - INTERNSHIP IN ANTHROPOLOGY
Minimum Credits: 1
Maximum Credits: 6
Working in consultation with faculty, advanced students wishing to pursue careers in anthropology have the opportunity to extend academic training to a practical work experience in a particular subfield of Anthropology. Students will be required to submit a preliminary proposal to a faculty sponsor preferably sometime during the prior term, or should respond to faculty listings of specific internship projects that will be posted. Examples of projects are: physical anthropology research at the Pittsburgh Zoo; analysis of archeological artifacts; local ethnographic or folklore research.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

ANTH 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 3
This course allows qualified students to develop highly personalized research projects in conjunction with a faculty sponsor. The student will have to develop a bibliography, outline an approach to the project, and devise a methodology. The project work products are agreed to by the student and the faculty sponsor. Typical products may be a report, paper, or other tangible result of the student's efforts.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ANTH 1902 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 12
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ANTH 1903 - DIRECTED RESEARCH-READINGS
Minimum Credits: 1
Maximum Credits: 3
Not all topics in anthropology can be adequately addressed in formal courses. The reading course allows qualified students to develop a bibliography for a specific topic not covered by other courses in the department. The work is done in conjunction with a faculty sponsor, and the student and faculty sponsor jointly determine the work products for the course, a research paper or annotated bibliography based upon the readings is typical, but other products may be substituted.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

Arts and Sciences

ARTSC 0020 - LATIN AMERICA AND CARIBBEAN
Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to provide students with substantial knowledge concerning the geography, history, and culture of Latin America and the Caribbean and to introduce them to how issues related to the region are studied from a variety of disciplinary perspectives.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ARTSC 0050 - LATIN AMERICA
Minimum Credits: 3
Maximum Credits: 3
This course will stress the contrasts between the different cultures, the contradictions that have characterized the region for centuries, the relations between Latin America and the U.S. And the problems of reform and revolution. It begins with a survey of the conquest of Latin America and the main Indian cultures as well as the nature and goals of Spanish and Portuguese colonization. The differences between 19th century rural and urban society and different aspects of Latin American society in the mid-20th century will also be studied.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ARTSC 0108 - ACADEMIC SKILLS FOCUS COURSE

Minimum Credits: 1
Maximum Credits: 1
The course is designed to prepare students for college experience by helping them to: acquire self-confidence; refining their classroom skills; set and achieve their academc and career goals; accept challenges and rewards openly; find, analyze and solve problems skillfully.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

ARTSC 0109 - ACADEMIC INTERVENTION

Minimum Credits: 0
Maximum Credits: 0
A highly interactive course designed for second term freshmen with a first term GPA between 1.00 And 1.99 Who want to improve their academic performance. The course content focuses on improving study and learning strategies, enhancing motivation, reacquainting students with available services and developing a study oriented peer network.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

ARTSC 0110 - HEALTH FOCUS

Minimum Credits: 1
Maximum Credits: 1
A course designed for second term freshmen to help develop skills, talents and interests relevant to pursuing health science careers. Students will experience self-assessment and self-evaluation activities; explore the requirements necessary for admission; interact with peers who have the same interest and goals, as well as faculty, students and staff in the health science professional schools.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit
Course Requirements: PROG: Undergraduate School of Arts and Sciences; LVL: Fr or So

ARTSC 0111 - RIGHT START 1

Minimum Credits: 1
Maximum Credits: 1
This course is designed to enhance the academic skills of new students participating in the student support services project (SSS). The course will use collaborative learning strategies to address such topics as note-taking, problem-solving, time-management, test-taking, and goal-setting. This course is very interactive and will use multiple methods of communication and technology to apprise students of course activities along with upcoming SSS events.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

ARTSC 0112 - RIGHT START TO COLLEGE 2

Minimum Credits: 1
Maximum Credits: 1
You must be a part of the trio student support services (SSS) program to take this course. This course is designed to enhance the level of career awareness of students in the student support services (SSS) program. The course will focus on the following topics: academic majors, resume-writing, interview techniques, professional communication, and career investigation. This course is interactive and will use multiple methods of communication and technology to apprise students of course activities along with upcoming SSS events.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

ARTSC 0113 - RIGHT START TO COLLEGE 3

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ARTSC 0114 - RIGHT START TO COLLEGE 4

Minimum Credits: 1
Maximum Credits: 1
This course is designed for sophomore, junior or senior level participants in the Student Support Services Project (SSS). It will be a directed study of

the graduate school process, career investigation, world of work, and life skills. This course will meet eight times and is structured to be independent in its nature. Students will be expected to meet once each month with their assigned SSS advisor and once each month according to the course schedule. Attendance at specific SSS workshops will be required. Students will be expected to create either a portfolio and/or a mini presentation to complete the course successfully. This course is limited to only students eligible for the SSS project and who have taken both ARTSC 0111 - RIGHT START 1 and ARTSC 0112 - RIGHT START TO COLLEGE 2.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ARTSC 0120 - FIRST EXPERIENCES IN RESEARCH

Minimum Credits: 1
Maximum Credits: 2
First experiences in research allows an undergraduate student to learn about and to participate in research with a faculty member outside of regular course requirements. The student receives orientation and training for the research project, an introduction to the research hypothesis, and learns about previous research conducted on the topic to date. The student participates in relevant training workshops. The student meets regularly with the faculty mentor and every other week with other undergraduate student researchers.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

ARTSC 0121 - CONTNG EXPERIENCES IN RESEARCH

Minimum Credits: 1
Maximum Credits: 2
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 0125 - SPECIAL TOPICS IN RESEARCH

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

ARTSC 0150 - INTRODUCTION TO GLOBAL STUDIES

Minimum Credits: 3
Maximum Credits: 3
The course provides an introduction to interdisciplinary approaches to global studies. It examines current global trends and issues in ways that encourage students to think critically about how we analyze, interpret, and respond to global phenomena and their consequences for different regions, localities, and groups. It gives particular attention to the concept of globalization, highlighting the controversies surrounding its use and helping students to engage core debates about the impact of global and transnational processes on cultural interactions, economic and social relations, politics and governance, security, and the possibility of sustainable development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ARTSC 0500 - INTRODUCTION TO STUDY ABROAD

Minimum Credits: 1
Maximum Credits: 1
This course explores the study abroad experience. It also addresses the issues of cultural diversity, international understanding and the role of the individual in the global community. The course will inform students of the ways in which study abroad complements and augments their academic program, career goals, and overall personal development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

ARTSC 0908 - SEMINAR IN PEER HELPING - UTA

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to provide students with the knowledge and skills necessary to assist fellow students in the development of methods, attitudes, and behaviors which optimize the potential for learning. Students who successfully complete the course are eligible to become either student academic counselors or mathematics undergraduate teaching assistants at the learning skills center.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

ARTSC 0909 - SEMINAR IN PEER HELPING - SAC

Minimum Credits: 2
Maximum Credits: 2
The purpose of this course is to provide students with the knowledge and skills necessary to assist fellow students in the development of methods, attitudes, and behaviors which optimize the potential for learning. Students who successfully complete the course are eligible to become either student academic counselors or mathematics undergraduate teaching assistants at the learning skills center.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

ARTSC 0911 - SEM PEER HELPNG-MATH UTA/TUTR

Minimum Credits: 2
Maximum Credits: 2
The purpose of this course is to provide students with the knowledge and skills necessary to assist fellow students in the development of methods, attitudes, and behaviors which optimize the potential for learning. Students who successfully complete the course are eligible to become either student academic counselors or mathematics undergraduate teaching assistants at the learning skills center.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

ARTSC 1001 - INTERNATIONAL STUDIES - LONDON

Minimum Credits: 3
Maximum Credits: 3
The course aims to emphasize the interconnections between society, economics, politics and the physical environment. This will involve an analysis of British Society in the 20th century, commencing with a review of post war ideology, politics and economics.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

ARTSC 1002 - INTERNATIONAL STUDIES - CUBA

Minimum Credits: 3
Maximum Credits: 3
This course is offered as part of the Pitt in Cuba study abroad program to give students an introduction to Cuban culture, religion, race, art, literature, music and society and to provide them with context for their experiences in Havana, Cuba. This course will also familiarize students with the history of Cuba and its often difficult relationship with the United States.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

ARTSC 1003IS - GLOBAL JUSTICE- IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1003OS - GLOBAL JUSTICE- OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1250IS - CZECH REPUBLIC & POLAND - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1250OS - CZECH REPUBLIC & POLAND - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1251IS - IFTA: THEATRE - IN-STATE

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1251OS - IFTA: THEATRE - OUT-OF-STATE

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1255IS - CZECH REPUBLIC AND GERMANY-IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1255OS - CZECH REPUBLIC AND GERMANY-OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1260IS - IFTA: ISTANBUL - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1260OS - IFTA: ISTANBUL - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1270IS - IFTA: CENTRAL EUROPE - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1270OS - IFTA: CENTRAL EUROPE - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1280IS - IFTA: INDIA - IN -STATE
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1280OS - IFTA: INDIA - OUT-OF-STATE
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1300 - PROJECT BASED TEC DESIGN
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1300IS - PROJECT BASED TEC DESIGN
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1401 - ELECTIVE VERITAS UNIVERSITY 1
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

ARTSC 1402 - ELECTIVE VERITAS UNIVERSITY 2
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

ARTSC 1500 - STUDY ABROAD: EL SALVADOR
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1501 - SEMINAR: LATIN AMERICA
Minimum Credits: 3
Maximum Credits: 3
In this seminar, students receive background knowledge on Latin America and the Caribbean to prepare them for a field trip to that region in the summer. Specifically, the seminar is designed to: a) provide students with a broad knowledge of the history, politics, society, and geography; b) aid students in defining and preparing for original research to be undertaken during the summer field trip; and c) prepare students for a six-week home stay living experience.

Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

ARTSC 1502 - FIELD TRIP: LATIN AMERICA
Minimum Credits: 3
Maximum Credits: 3
Field trip to Latin America. Participants will conduct field research on topics developed during the spring term seminar.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

ARTSC 1502IS - FIELD TRIP: LATIN AMERICA - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: No Grade Required

ARTSC 1502OS - FIELD TRIP: LATIN AMERICA - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: No Grade Required

ARTSC 1503 - STUDY ABROAD: CAMEROON
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1505 - STUDY ABROAD: ARGENTINA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1506 - STUDY ABROAD: AUSTRALIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1507 - STUDY ABROAD: AUSTRIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1508 - STUDY ABROAD: BRAZIL
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1509 - STUDY ABROAD: BELGIUM

Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1510 - STUDY ABROAD: CANADA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1511 - STUDY ABROAD: BOLIVIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1512 - STUDY ABROAD: CHILE
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1514 - STUDY ABROAD: CYPRUS
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1515 - STUDY ABROAD: CHINA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1517 - STUDY ABROAD: COLOMBIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1518 - STUDY ABROAD: COSTA RICA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1519 - STUDY ABROAD: CZECH REPUBLIC
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1520 - STUDY ABROAD: SLOVAKIA
Minimum Credits: 1
Maximum Credits: 15

Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1521 - STUDY ABROAD: DOMINICAN REPUBL
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1522 - STUDY ABROAD: DENMARK
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1524 - STUDY ABROAD: ECUADOR
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1525 - STUDY ABROAD: ENGLAND
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1527 - STUDY ABROAD: FRANCE
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1529 - STUDY ABROAD: GERMANY
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1530 - STUDY ABROAD: FINLAND
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1531 - STUDY ABROAD: GREECE
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1532 - STUDY ABROAD: GUATEMALA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD

Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1533 - STUDY ABROAD: HUNGARY
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1534 - STUDY ABROAD: HONG KONG
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1535 - STUDY ABROAD: IRELAND
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1537 - STUDY ABROAD: HONDURAS
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1538 - STUDY ABROAD: ISRAEL
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1539 - STUDY ABROAD: NORTHERN IRELAND
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1540 - STUDY ABROAD: ITALY
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1541 - STUDY ABROAD: JAMAICA
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1542 - STUDY ABROAD: JAPAN
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1544 - STUDY ABROAD: JORDAN
Minimum Credits: 1
Maximum Credits: 16
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1545 - STUDY ABROAD: KENYA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1546 - STUDY ABROAD: LEBANON
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1547 - STUDY ABROAD: SOUTH KOREA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1548 - STUDY ABROAD: LITHUANIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1549 - STUDY ABROAD: MALTA
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1550 - STUDY ABROAD: MEXICO
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1551 - STUDY ABROAD: MOROCCO
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1552 - STUDY ABROAD: NETHERLANDS
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1553 - STUDY ABROAD: NEW ZEALAND

Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1554 - STUDY ABROAD: NORWAY
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1555 - STUDY ABROAD: NEPAL
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1556 - STUDY ABROAD: NICARAGUA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1557 - STUDY ABROAD: PANAMA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1558 - STUDY ABROAD: POLAND
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1560 - STUDY ABROAD: BOTSWANA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1561 - STUDY ABROAD: TAJIKISTAN
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1562 - STUDY ABROAD: RUSSIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1563 - STUDY ABROAD PORTUGAL
Minimum Credits: 1
Maximum Credits: 15

Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ARTSC 1564 - STUDY ABROAD: SCOTLAND
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1565 - STUDY ABROAD: SINGAPORE
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1566 - STUDY ABROAD: SPAIN
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1567 - STUDY ABROAD: EUROPE
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ARTSC 1568 - STUDY ABROAD: KAZAKHSTAN
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ARTSC 1569 - STUDY ABR: FRANCE & CZECH REP
Minimum Credits: 6
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1570 - STUDY ABROAD: SWEDEN
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1571 - STUDY ABROAD: SWITZERLAND
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1572 - STUDY ABR: BOL, MRCCO,VIETNM
Minimum Credits: 6
Maximum Credits: 15
Academic Career: UGRD

Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1573 - STUDY ABROAD: BULGARIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1574 - STUDY ABROAD: TONGA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1575 - STUDY ABROAD: TAIWAN
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1576 - STUDY ABROAD: TURKEY
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1577 - STUDY ABROAD: TASMANIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1578 - STUDY ABROAD: UGANDA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1579 - ST ABR: AUSTRALIA &NEW ZEALAND
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1579IS - ST ABR: ASTRLA &NEW ZEALAND IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1579OS - ST ABR: ASTRLA &NEW ZEALAND OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD

Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1580 - STUDY ABROAD: THAILAND
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1581 - STUDY ABROAD: UKRAINE
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1582 - STUDY ABROAD: VENEZUELA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1583 - STUDY ABROAD: WALES
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1584 - STUDY ABROAD: VIETNAM
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1586 - STUDY ABROAD: ZIMBABWE
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1591 - STUDY ABR: FRANCE & SENEGAL
Minimum Credits: 6
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1593 - STUDY ABR: SPAIN & BONAIRE
Minimum Credits: 6
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1594 - STDY ABR: ENGLN & NETHERLANDS
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1595 - STUDY ABROAD: TUNISIA
Minimum Credits: 6
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1596 - STUDY ABROAD: KAZAKHSTAN
Minimum Credits: 12
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1599 - EXCHANGE: UNIVERSITY OF EXETER
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1603 - STUDY ABROAD: LONDON
Minimum Credits: 12
Maximum Credits: 15
Academic Career: UGRD
Course Component: Practicum
Grade Component: No Grade Required

ARTSC 1604IS - STUDY ABROAD: LONDON - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1604OS - STUDY ABROAD: LONDON - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1615 - ARCH STDS FLD TRIP, LONDON NP
Minimum Credits: 6
Maximum Credits: 6
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1618 - STUDY ABROAD: INDIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1619 - STUDY ABROAD: EGYPT
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1620 - STUDY ABROAD: ICELAND
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1621 - STUDY ABROAD: SERBIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1622 - STUDY ABROAD: GEORGIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1623 - STUDY ABROAD: GHANA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1624 - STUDY ABROAD: CROATIA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1627 - STUDY ABROAD: MADAGASCAR
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1628 - STUDY ABROAD: SAMOA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1630 - STUDY ABROAD: SENEGAL
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1631 - STUDY ABROAD: SYRIA
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1632 - STUDY ABROAD: INDONESIA

Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1633 - STUDY ABR: UNTD ARAB EMIRATES
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1635 - STUDY ABROAD: ARMENIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1636 - STUDY ABROAD: PHILIPPINES
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1638 - STUDY ABROAD: TANZANIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1639 - STUDY ABROAD: SOUTH AFRICA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1641 - STUDY ABROAD: PERU
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1642 - STUDY ABROAD: CUBA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1644 - STUDY ABROAD: BELIZE
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1646 - STUDY ABROAD: FIJI
Minimum Credits: 1
Maximum Credits: 15

Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1647 - STUDY ABROAD: CAMBODIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1648IS - PITT IN GREECE - IN-STATE
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1648OS - PITT IN GREECE - OUT-OF-STATE
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1649IS - PITT IN THE AEGEAN -IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1649OS - PITT IN THE AEGEAN -OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1651IS - PITT IN ITALY - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1651OS - PITT IN ITALY - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1652IS - PITT IN ITALY - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD

Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1652OS - PITT IN ITALY - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1653IS - PITT IN ITALY - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1653OS - PITT IN ITALY - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1654IS - PITT CNTRL & ESTRN EURP - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1654OS - PITT CNTRL & ESTRN EURP - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1655IS - PITT IN SPAIN-SUMMER TERM-IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1655OS - PITT IN SPAIN-SUMMER TERM-OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1656IS - PITT IN SPAIN-SUMMER 6W1 - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD

Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1656OS - PITT IN SPAIN-SUMMER 6W1 -OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1657IS - PITT IN SPAIN-SUMMER 6W2 - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1657OS - PITT IN SPAIN-SUMMER 6W2 - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1658IS - PITT IN SYDNEY - IS

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1658OS - PITT IN SYDNEY- OS

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1659IS - PITT SPAIN SPRING BREAK - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1659OS - PITT SPAIN SPRING BREAK - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1660IS - PITT IN LONDON TERM 1

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1660OS - PITT IN LONDON - TERM 1-OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1662IS - PITT IN QUEBEC- IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1662OS - PITT IN QUEBEC- OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1663IS - PITT IN SOUTH AFRICA- IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1663OS - PITT IN SOUTH AFRICA- OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1664IS - PITT IN FLORENCE, EDUCATION-IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1664OS - PITT IN FLORENCE, EDUCATION-OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1665IS - PITT IN PRAGUE, ENGLISH LIT-IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1665OS - PITT IN PRAGUE, ENGLISH LIT-OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1666IS - PITT FLORENCE,HOSPTLY MGT-IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1666OS - PITT FLORENCE,HOSPTLY MGT-OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1667IS - PITT IN SYDNEY, SUMMER-IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1667OS - PITT IN SYDNEY, SUMMER- OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1668IS - INT'L RESEARCH ABROAD- IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1668OS - INT'L RESEARCH ABROAD- OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1669IS - PROJECTGO RUSSIA- IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1669OS - PROJECTGO RUSSIA- OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1670IS - PITT IN LONDON -TERM 2
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1670OS - PITT IN LONDON -SUMM10 WK -OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1672IS - PITT IN SINGAPORE/MALAYSIA -IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1672OS - PITT IN SINGAPORE/MALAYSIA -OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1673IS - PITT IN THE HIMALAYAS - IS
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1673OS - PITT IN THE HIMALAYAS - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1674IS - PITT IN JAPAN - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1674OS - PITT IN JAPAN - OS
Minimum Credits: 0
Maximum Credits: 0

Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1676IS - PITT IN CUBA SPRING BREAK IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1676OS - PITT IN CUBA SPRING BREAK OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1677IS - PITT IN CARIB SPRING BREAK IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1677OS - PITT IN CARIB SPRING BREAK OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1678IS - PITT IN LONDON SPRING BREAK IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1678OS - PITT IN LONDON SPRING BREAK OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ARTSC 1679IS - PITT IN COSTA RICA- IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1679OS - PITT IN COSTA RICA- OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.

Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1680IS - PITT IN BOLIVIA- IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1680OS - PITT IN BOLIVIA- OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1681IS - PITT IN PARIS- IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1681OS - PITT IN PARIS- OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1682IS - RUSSIA ENERGY PROGRAM- IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1682OS - RUSSIA ENERGY PROGRAM- OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1683IS - ARCHAEOLOGY FLD SCH ABROAD- IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1683OS - ARCHAEOLOGY FLD SCH ABROAD- OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD

Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1684IS - COMPARTV HEALTHCARE ABROAD- IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1684OS - COMPARTV HEALTHCARE ABROAD- OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1705 - PITT IN BRAZIL

Minimum Credits: 1
Maximum Credits: 1
Pitt in Brazil
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ARTSC 1705IS - PITT IN BRAZIL - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1705OS - PITT IN BRAZIL - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1706 - PITT IN CHINA AND INDIA

Minimum Credits: 1
Maximum Credits: 1
Pitt in China and India
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ARTSC 1706IS - PITT IN CHINA AND INDIA - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1706OS - PITT IN CHINA AND INDIA - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD

Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1707 - PITT IN IRELAND
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1707IS - PITT IN IRELAND - IS
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1707OS - PITT IN IRELAND - OS
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1708 - PITT IN ITALY
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1708IS - PITT IN ITALY - IS
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1708OS - PITT IN ITALY - OS
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1709 - GLOBAL MNTL HEALTH PROF
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1709IS - GLOBAL MNTL HEALTH PROF - IS
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1709OS - GLOBAL MNTL HEALTH PROF - OS
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1710 - PITT IN SCOTLAND
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1710IS - PITT IN SCOTLAND - IS
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1710OS - PITT IN SCOTLAND - OS
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1711 - PITT IN BELGIUM
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1711IS - PITT IN BELGIUM - IS
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1711OS - PITT IN BELGIUM - OS
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1714 - STUDY ABROAD: AUGSBURG, GERMNY
Minimum Credits: 3
Maximum Credits: 9
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1725IS - STUDY ABROAD: CHINA
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1725OS - STUDY ABROAD: CHENGDU/TIBET-OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1728IS - STUDY ABROAD: INDIA
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1728OS - STUDY ABR: HYDERABAD INDIA -OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1737IS - STDY ABROAD: ITALY
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1737OS - STDY ABROD: SYRACUSE ITALY -OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1739IS - STUDY ABROAD: FRANCE
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1739OS - STUDY ABROAD: NANTES FRANCE-OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1745IS - STUDY ABROAD: CUBA - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1745OS - STUDY ABROAD: CUBA - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1746 - STUDY ABROAD: SLOVAKIA
Minimum Credits: 9
Maximum Credits: 9
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1748 - STUDY ABROAD: MONGOLIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1750IS - STUDY ABROAD: TANZANIA - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1750OS - STUDY ABROAD: TANZANIA - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1751IS - STDY ABR:TANZANIA/SWAHILI - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1751OS - STDY ABR:TANZANIA/SWAHILI - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1756IS - PITT IN GHANA - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1756OS - PITT IN GHANA - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1757IS - PITT IN ECUADOR: TERM 1
Minimum Credits: 0
Maximum Credits: 0

Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1757OS - PITT IN ECUADOR - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1758IS - PITT IN ECUADOR: TERM 2
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1758OS - PITT IN ECUADOR - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1759IS - PITT IN ECUADOR - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1759OS - PITT IN ECUADOR - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1760IS - PITT IN ECUADOR -IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1760OS - PITT IN ECUADOR - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1761IS - PITT ECUAD SPRING BREAK - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.

Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1761OS - PITT ECUAD SPRING BREAK - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1762IS - PITT COSTA RICA SPRING BRK-IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1762OS - PITT COSTA RICA SPRING BRK-OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1770IS - PITT IN ROMA - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1770OS - PITT IN ROMA - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1800IS - PITTMAP - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1800OS - PITTMAP - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1803 - PITTMAP: GLBL POLITICAL ECONMY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ARTSC 1805 - EXCH: INST SCI PO, FRANCE
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1807 - EXCH: I.F.I., FRANCE
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1811 - EXCH: CHINESE UNIV HONG KONG
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1817 - EXCH: U KITAKYUSHU, JAPAN
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1818 - EXCHANGE: KOBE UNIVRSTY JAPAN
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1820 - EXCH: RITSUMEIKAN, JAPAN
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1821 - EXCHANGE: YONSEI UNIVERSITY
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1822 - EXCHANGE: SEOUL NATIONAL UNIV
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1823 - EXCHANGE: KOREA UNIVERSITY
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1825 - EXCH: TEC DE MONTERREY, MEXICO
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1826 - EXCHANGE: KOC UNIVERSITY
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1834 - EXCH: UNIVS OF APLD SCI, GERY
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1835 - EXCH: U SHEFFIELD, UK
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1838 - EXCH: U SUSSEX, UK
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1841 - EXCH: U WALES, ABERYSWYTH, UK
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1842 - EXCH: UNIV OF BIRMINGHAM UK
Minimum Credits: 6
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1845 - EXCH: U DE MONTEVIDEO, URUGUAY
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1846 - EXCH: NATNL UNIV OF SINGAPORE
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1850IS - CAMBRIDGE SCHOLARS- IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1850OS - CAMBRIDGE SCHOLARS-OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ARTSC 1851 - CAMBRIDGE COURSE 1

Minimum Credits: 1
Maximum Credits: 12
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1852 - CAMBRIDGE COURSE 2

Minimum Credits: 1
Maximum Credits: 12
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1853 - CAMBRIDGE COURSE 3

Minimum Credits: 1
Maximum Credits: 12
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1854 - CAMBRIDGE COURSE 4

Minimum Credits: 1
Maximum Credits: 12
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1855 - CAMBRIDGE COURSE 5

Minimum Credits: 1
Maximum Credits: 12
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1856 - CAMBRIDGE COURSE 6

Minimum Credits: 1
Maximum Credits: 12
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

ARTSC 1861 - UNIV COLLEGE LONDON COURSE 1

Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ARTSC 1862 - UNIV COLLEGE LONDON COURSE 2

Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ARTSC 1863 - UNIV COLLEGE LONDON COURSE 3

Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ARTSC 1864 - UNIV COLLEGE LONDON COURSE 4

Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ARTSC 1865 - UNIV COLLEGE LONDON COURSE 5

Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ARTSC 1899 - INTERNSHIP ABROAD

Minimum Credits: 1
Maximum Credits: 12
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

ARTSC 1900 - ARTSC ACADEMIC INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
An academic internship offers students a unique learning opportunity to connect classroom knowledge with real-world settings as they explore careers and gain valuable experience. Students may earn from 1-3 credits for an experience that can be related to an academic field of study. The experience must be pre-professional in nature and must be approved by the Dietrich School Office of Undergraduate Research. Students must seek out and apply for their own internship. Internship can be found through Career Development and Placement Assistance, or students can contact the Office of Undergraduate Research. Students who are earning credit for ARTSC 1900 internships may not receive pay. Students must work at least 120 hours over the course of the term to be eligible for the maximum of 3 credits. In order to earn credit, the student must have a Dietrich School faculty sponsor (full-time only) who will assign related academic work. Internships are graded as S/NC.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

ARTSC 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
Independent study entails an independent program of study, research, or creative activity with some guidance from a sponsoring faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1902 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ARTSC 1903 - INTERNSHIP IN LONDON

Minimum Credits: 3
Maximum Credits: 6
An internship is a special type of independent study in which the student works in a non-academic setting. The internship should be directly related to an academic discipline, and the student's learning is evaluated and graded by a faculty member. Internships under this course listing are conducted in London, England, as part of Pitt's London study abroad program.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1910 - INSTIT OF POLITICS INTERNSHIP
Minimum Credits: 2
Maximum Credits: 2
This course represents the experiential component of the politics institute's undergraduate internship. The purpose of the internship experience is to provide the student with direct exposure to the process of public decision-making. Each student will work with an individual or office directly involved in the policy-making process. Students will be selected through a competitive process.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

ARTSC 1911 - INSTIT OF POLITICS INTSHP SEM
Minimum Credits: 2
Maximum Credits: 2
This course will provide the academic content of the politics institute's undergraduate internship. While students are obtaining first-hand experience working with an official directly involved in policy-making for the region, they will learn to analyze the policy-making process as an example of social problem-solving. They will learn the issues confronting the region; they will study the policy-making processes; finally they will analyze the method of participant observation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ARTSC 1917 - INDEPENDENT STUDY ABROAD
Minimum Credits: 1
Maximum Credits: 12
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ARTSC 1918 - INTERNSHIP IN CHINA
Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

ARTSC 1930 - STUDY ABROAD: ESTONIA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

CAS 1613 - STUDY ABROAD ROME, ITALY NP
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

Athletic Training

ATHLTR 1811 - BASIC ATHLETIC TRAINING
Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide the student with an introduction to the athletic training profession. Topics to include medical terminology, mechanisms of injury, and recognition and treatment of common athletic injuries to major body parts.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade

ATHLTR 1812 - BASIC ATHLETIC TRAINING LAB

Minimum Credits: 1
Maximum Credits: 1
An introduction to basic taping techniques and injury evaluation techniques used in the profession of athletic training. Basic supportive strappings and paddings for immediate care and competition are presented as well as basic joint evaluation procedures, assessment of vital signs, and crutch fitting.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade

ATHLTR 1821 - INJURY EVAL AND TREATMENT 1

Minimum Credits: 3
Maximum Credits: 3
The course includes anatomy, recognition, and commonly accepted techniques and procedures for clinical evaluation of common athletic injuries to the foot, ankle, leg, thigh, hip, pelvis and lumbar spine.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS. BS-H, BPH)

ATHLTR 1822 - INJURY EVAL AND TREATMENT 2

Minimum Credits: 3
Maximum Credits: 3
The course includes anatomy, recognition, and commonly accepted techniques and procedures for clinical evaluation of common athletic injuries to the shoulder, arm, elbow, fore arm, wrist, hand, head, face, cervical and thoracic spine, and internal organs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BS-H, BPH)

ATHLTR 1823 - ADMINV ASPECT OF ATHL TRAINING

Minimum Credits: 2
Maximum Credits: 2
This course presents current administrative issues in athletic training including training room facility and design, record keeping procedures, personnel management and recruitment, medico-legal considerations and budgetary principles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BS-H, BPH)

ATHLTR 1824 - ATHLETIC TRAINING PRACTICUM 1

Minimum Credits: 3
Maximum Credits: 3
Designed to supplement first clinical experience presented in seminar fashion to address clinical proficiencies published in the 3rd edition of the NATA athletic training educational competencies introduced in the second semester academic courses. Presented by faculty of the AT program then evaluated in clinical setting in live situations when possible or under simulated conditions when narrated. Specific emphasis placed on those proficiencies that can be grouped into modules and which do not receive broad coverage in an academic course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BS-H, BPH)

ATHLTR 1831 - THERAPEUTIC MODALITIES AND LAB

Minimum Credits: 4
Maximum Credits: 4
The course presents the theoretical basis for use of superficial heat and cold, ultrasound, electrical muscle stimulation, tens, and other current modalities. Laboratory experiences are included in the use of these modalities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BS-H, BPH)

ATHLTR 1832 - THERAPEUTIC EXERCISE AND LAB

Minimum Credits: 4
Maximum Credits: 4
The course includes basic components of a comprehensive re habilitation program and theory and principles associated with the use of special evaluation/therapeutic exercise techniques. Laboratory experiences include practical use of manual testing techniques, goniometry, and the application of selected types of manual exercises.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BS-H, BPH)

ATHLTR 1833 - STRENGTH AND CONDITIONING

Minimum Credits: 2
Maximum Credits: 2
Instruction is provided describing the physiological basis for development of pre-season, in-season and off-season strength and conditioning programs. Laboratory experiences will include the theory and technique of operating contemporary isotonic, isokinetic and isometric strength training equipment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BS-H, BPH)

ATHLTR 1834 - SPEC TOPICS ATHLETIC TRAINING

Minimum Credits: 2
Maximum Credits: 2
The course includes common orthopedic problems encountered by the athletic trainer and orthopedic surgeon. Students are exposed to commonly used techniques of primary and re constructive surgery through lecture, operating room, clinic, and orthopedic rounds experiences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BS-H, BPH)

ATHLTR 1835 - ATHLETIC TRAINING PRACTICUM 2

Minimum Credits: 3
Maximum Credits: 3
Designed to supplement second clinical experience presented in seminar fashion to address clinical proficiencies published in the 3rd edition of the NATA athletic training educational competencies introduced in the second semester academic courses. Presented by faculty of the AT program then evaluated in clinical setting in live situations when possible or under simulated conditions when narrated. Specific emphasis placed on those proficiencies that can be grouped into modules and which do not receive broad coverage in an academic course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BS-H, BPH)

ATHLTR 1841 - ATHLETIC TRAINING PRACTICUM 3

Minimum Credits: 3
Maximum Credits: 3
Designed to supplement third clinical experience presented in seminar fashion to address clinical proficiencies published in the 3rd edition of the NATA athletic training educational competencies introduced in the second semester academic courses. Presented by faculty of the AT program then evaluated in clinical setting in live situations when possible or under simulated conditions when narrated. Specific emphasis placed on those proficiencies that can be grouped into modules and which do not receive broad coverage in an academic course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BS-H, BPH)

ATHLTR 1842 - ATHLETIC TRAINING PRACTICUM 4

Minimum Credits: 3
Maximum Credits: 3
Designed to supplement fourth clinical experience presented in seminar fashion to address clinical proficiencies published in the 3rd edition of the NATA athletic training educational competencies introduced in the second semester academic courses. Presented by faculty of the AT program then evaluated in clinical setting in live situations when possible or under simulated conditions when narrated. Specific emphasis placed on these proficiencies that can be grouped into modules and which do not receive broad coverage in an academic course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BS-H, BPH)

ATHLTR 1843 - ADVANCED ORTHOPEDIC ASSESSMENT
Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BPH, or BS-H)

ATHLTR 1866 - PSYCHOLOGY OF SPORT
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Athletic Training (BS, BS-H, BPH)

ATHLTR 1885 - INTRODUCTION TO EVIDENCE BASED REHABILITATION
Minimum Credits: 3
Maximum Credits: 3
Provides basic skills in reading, reviewing, and critiquing the research literature in the rehab sciences. These skills will be applied to the relevant literature in diagnosis, prognosis and intervention strategies within the spectrum of rehab science. Students learn to generate relevant research questions, utilize an evidenced based medicine approach, appraisal and synthesis of current articles within the fore mentioned areas. Will culminate in an individual review project aimed the development and resolution of one research question, using the best, current available literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective

Biochemistry

DSBIOC 1010 - BIOCHEMISTRY
Minimum Credits: 2
Maximum Credits: 2
The first half of this course is spent discussing chemistry and occurrence of various types of biochemicals. Each type is introduced by illustrating structural features and then classifying it according to its occurrence in specific organisms, tissues and subcellular locations. In the second half, metabolism of each of these types of compounds is outlined. All presentations of metabolism emphasize energy maintenance in organisms, nutritional impact on each pathway, hormonal influence, and interrelationship among metabolism of various types of biochemicals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Biological Engineering

BIOENG 0050 - WORKSHOP IN BIOENG DESIGN
Minimum Credits: 1
Maximum Credits: 1
Students are introduced to bioengineering design use of the solidworks software suite. Solidworks is one of several computer aided engineering software packages (autocad and proengineer are other examples) that is widely used in industry and academia. Skills learned (1) will help with bioengineering design projects, and (2) are easily translated to other computer engineering packages such as autocad or proengineer. The workshop consists of weekly solidworks-based practice assignments (tutorials) that must be completed to receive an 'S' (satisfactory) grade in the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit
Course Requirements: PLAN: Bioengineering (BEH OR BSE)

BIOENG 0051 - WORKSHOP IN MEDICAL DEVICES
Minimum Credits: 1
Maximum Credits: 1
Reverse engineering' of medical devices is used to introduce students to basic terminology in the medical device field, the coupling of design with function, and the processes involved in moving from device conception to product. Skills learned
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit
Course Requirements: PLAN: Bioengineering (BSE)

BIOENG 0052 - WORKSHOP IN OPENSIM

Minimum Credits: 1
Maximum Credits: 1
Computational models and simulations are tremendously useful tools for understanding human movement control. It is not always straightforward to identify cause-and-effect relationships through experiments alone and computational modeling and simulation techniques can complement experimental approaches, e.g. models can provide estimates of important variables such as muscle forces that are difficult to measure experimentally. Opensim is an open-source software package that enables users to build, exchange, and analyze computer models of the musculoskeletal system and dynamic simulations of movement (Delp et al., 2007). The purpose of this course is to introduce students to opensim by demonstrating the utility of graphics-based modeling and simulation. Specifically, students will learn how to use opensim tools, through both the graphical user interface (GUI) and application programming interface (API) that uses MatLAB scripting, to analyze and simulate models and motions.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PLAN: Bioengineering

BIOENG 0053 - WORKSHOP IN STATISTICAL DESIGN

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Workshop
Grade Component: Satisfactory/No Credit
Course Requirements: PREQ: ENGR 0020; PLAN: Bioengineering

BIOENG 0054 - WORKSHOP IN DESIGN FOR MANUFACTURABILITY

Minimum Credits: 1
Maximum Credits: 1
Design for manufacturability (DFM) provides a systematic methodology that can be used to analyze product design for improvements in assembly and manufacturing. Students will use dfm to redesign current products for changes in manufacture that lead to reduction in production cost and improved operability/customer satisfaction. Students will employ modern software tools that accurately model parts for specific manufacturing operations, model part costs, simplify products, find specific avenues to reduce manufacturing and assembly costs, benchmark products, and quantify improvements. Students will gain hands-on experience incorporating the DFM concepts in a project. Upon completing the course, the students should be able to describe the utility of DFM in product development and early manufacturing design, be able to quantitatively evaluate the impact of design choices on manufacturing cost, and be able to use modern quality control concepts and approaches. Topics include : steps for applying DFM during product design; DFM guidelines for assembly; strategies in component(s) design; designing for automation; designing in quality/reliability; standardization; designing in teams; early resolution of issues; optimizing vendor participation; off-the-shelf parts; modular design; product definition; creativity; brainstorming; total cost; modern philosophies and practices (lean manufacturing, quality control in manufacturing systems, use of software tools for analysis of manufacturing cost and time); evaluation of alternatives.
Academic Career: UGRD
Course Component: Workshop
Grade Component: S/NC

BIOENG 0501 - MUSIC ENGINEERING

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1002 - INTRAMURAL INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
Students employ practical experience, gained from mentored research in an academic environment, which includes project planning, design of experiments, and analysis of results to develop professional quality oral presentation skills. Emphasis is placed on critical analysis of research projects, development of technical abstract writing skills, and development of professional quality visual aids that accompany oral presentations. The course culminates with an oral presentation at a technical symposium. Upon completing the course, the student should be able to prepare a professional quality abstract documenting background, methodology, and results from a research project and make a professional quality oral presentation describing the research.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0020; PLAN: Bioengineering

BIOENG 1003 - INDUSTRIAL INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
A research or design project involving a literature search, planning, design, fabrication, experimentation, analysis, and technical report writing

performed by the student. The work is completed under the guidance of an industrial sponsor on an approved subject and culminates in an oral presentation at a technical symposium.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

BIOENG 1005 - RADIOFREQUENCY MEDICAL DEVICES

Minimum Credits: 3
Maximum Credits: 3
The course will cover topics related to the applications of electromagnetics and RF in medicine and in other devices that can cause thermal safety hazards. Topics such as Maxwell Equations, Wave Equations, Transmission Lines, Electromagnetic Theorems, Introduction to Antennas, and Introduction to Computational Electromagnetics will be presented. The class will include analyses of several RF devices used in medical applications and/or have electromagnetic safety implications such as magnetic resonance imaging (MRI), biological sensors (brain machine interface), RF ablation, and cell phones. Upon completing the course, the student should be able to describe how to apply fundamental electromagnetic principles to set up and solve problems in RF devices used in medical applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1310 and BIOENG 1320; PLAN: Bioengineering (BSE or BEH)

BIOENG 1050 - ARTIFICIAL ORGANS

Minimum Credits: 3
Maximum Credits: 3
Artificial organs is the first of a three course sequence that explores design, development, and clinical use of artificial organ technology. Each course in the series is stand-alone and, as such, is not a prerequisite for any other course in the series. Students may take one, two, or all three courses. Artificial organs is directed toward artificial heart and vascular prostheses. The basic physiology of each system (heart and vascular) is reviewed with emphasis on identifying the bioengineering design requirements for appropriate organ replacement systems. Commercially available systems are analyzed from the point of view (where applicable) of mass transfer efficiency; biomechanics and hemodynamic similarity to the host; and size and efficiency of the device. Students will be required to design an artificial organ consistent with the above-mentioned considerations. Upon completing the course, the student should be able to describe the fundamental engineering principles related to heart and vascular physiology and apply the fundamental principles to design improvements and/or new designs for artificial heart and vascular prostheses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1220; PLAN: Bioengineering (BEH OR BSE)

BIOENG 1051 - ARTIFICIAL ORGANS 2

Minimum Credits: 3
Maximum Credits: 3
Artificial organs 2 is the second of a three course sequence that explores design, development, and clinical use of artificial organ technology. Each course in the series is stand-alone and, as such, is not a prerequisite for any other course in the series. Students may take one, two, or all three courses. Artificial organs 2 is focused on artificial blood and artificial lung. The basic physiology of each system (blood and the lungs) is reviewed with emphasis on identifying the bioengineering design requirements for appropriate organ replacement systems. Commercially available systems are analyzed from the point of view (where applicable) of mass transfer efficiency; biomechanics and hemodynamic similarity to the host; and size and efficiency of the device. Students will be required to design an artificial organ consistent with the above-mentioned considerations. Upon completing the course, the student should be able to describe the fundamental engineering principles related to blood and lung physiology and apply the fundamental principles to design improvements and/or new designs for artificial blood substitutes and artificial lung devices.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1210; PLAN: Bioengineering (BSE or BEH)

BIOENG 1052 - ARTIFICIAL ORGANS 3

Minimum Credits: 3
Maximum Credits: 3
Artificial organs 3 is the third of a three course sequence that explores design, development, and clinical use of artificial organ technology. Each course in the series is stand-alone and, as such, is not a prerequisite for any other course in the series. Students may take one, two, or all three courses. Artificial organs 3 is focused upon artificial kidney and artificial liver. The basic physiology of each system (kidney and liver) is reviewed with emphasis on identifying the bioengineering design requirements for appropriate organ replacement systems. Commercially available systems are analyzed from the point of view (where applicable) of mass transfer efficiency; biomechanic and hemodynamic similarity to the host; and size and efficiency of the device. Students will be required to design an artificial organ consistent with the above-mentioned considerations. Upon completing the course, the student should be able to describe the fundamental engineering principles related to kidney and liver physiology and apply the fundamental principles to design improvements and/or new designs for artificial kidney and artificial liver.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1220; PLAN: Bioengineering (BSE or BEH)

BIOENG 1061 - HUMAN FACTORS ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
A study of human abilities, characteristics, behavior, and motivation in the design, development and operation of components and systems designed for human use.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1063 - INTRO TO ORTHOPADC BIOMECHANC

Minimum Credits: 3
Maximum Credits: 3
Coursework will include an introduction to the structure and function of the musculoskeletal system. Specific topics will include: tendon, bone, cartilage, and muscle mechanics. Particular emphasis will be placed on the relationship between function and material properties of these tissues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1064 - BIOMECH ORGANS, TIS & CELLS

Minimum Credits: 3
Maximum Credits: 3
This course will provide the first year bioengineering graduate students with introductory materials for general biomechanics. The student will be exposed to various interdisciplinary fields in biomechanics. The topics include orthopedic biomechanics, biomechanics of human movement, vascular biomechanics, cardio-pulmonary biomechanics, and biomechanics of biomaterials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0135 and 1631 and (MATH 0250 or 1035); PROG: Swanson School of Engineering

BIOENG 1070 - INTRODUCTORY CELL BIOLOGY 1

Minimum Credits: 3
Maximum Credits: 3
Principles of cell biology in higher organisms: structure, function, biosynthesis, and macromolecular organization with a focus on macromolecular organization and function from a quantitative systems perspective. Upon completing the two course sequence, BIOENG 1070 and BIOENG 1071, students should be able to (1) demonstrate understanding of the principles of cell structure and function, (2) describe the experimental tools used to understand cellular function such as molecular genetic techniques, biochemical analysis, and microscopy, and (3) use systems approaches to understand how cellular processes are integrated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0012 or ENGR 0712 or ENGR 0715 or (CREQ: ENGR 0016) or (PLAN: Bionengineering)

BIOENG 1071 - INTRODUCTION TO CELL BIOLOGY 2

Minimum Credits: 3
Maximum Credits: 3
Continuation of BIOENG 1071. Principles of cell biology in higher organisms: structure, function, biosynthesis, and macromolecular organization with a focus on macromolecular organization and function from a quantitative systems perspective. Upon completing the two course sequence, BIOENG 1070 and BIOENG 1071, students should be able to (1) demonstrate understanding of the principles of cell structure and function, (2) describe the experimental tools used to understand cellular function such as molecular genetic techniques, biochemical analysis, and microscopy, and (3) use systems approaches to understand how cellular processes are integrated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1070; PROG: School of Engineering

BIOENG 1072 - HONORS INTROD TO CELL BIOL 2

Minimum Credits: 3
Maximum Credits: 3
Principles of cell biology in higher organisms: structure, function, biosynthesis, and macromolecular organization with a focus on macromolecular organization and function from a quantitative systems perspective. This course is accompanied by a weekly one hour seminar in which original research articles pertinent to cell biology are presented and discussed.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1070; PROG: Swanson School of Engineering

BIOENG 1075 - INTRO CELL MOL BIOL LAB TECHNQ

Minimum Credits: 3
Maximum Credits: 3
An undergraduate laboratory course designed to complement theoretical knowledge learned in BIOENG 1070 & BIOENG 1071 that covers practical aspects of fundamental cell biology, cell culture, visualization of cellular components, protein biochemistry (isolation, purification, and analysis), molecularupon completing the course, the student should have acquired 'hands-on' skills in basic techniques in cell biology, biochemistry and molecular biology and be able to apply them in practice. Biology techniques, and functional measurements in cells.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1071; PLAN: Bioengineering (BSE or BEH)

BIOENG 1085 - INTRO TO BIOENGNRNG: SEMINAR

Minimum Credits: 0
Maximum Credits: 0
Seminar is designed to acquaint students with aspects of bioengineering that are not normally encountered in the classroom or extracurricular activity settings. As such, seminar is a vehicle to provide important information and communicate materials that students need to know to maximize their educational experience and develop post-graduation plans. Emphasis is placed on career planning and development and options available in the undergraduate program that will help realize post-graduation goals. Student awareness of opportunities that are available and knowledge about how to utilize the opportunities for their benefit.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1095 - SPECIAL PROJECTS

Minimum Credits: 1
Maximum Credits: 6
Special projects provides an opportunity for students to develop an individual research project under the guidance of a faculty member/mentor. Projects can involve laboratory research, engineering design, or instructional development. While the project must be related to bioengineering, the mentor can be a faculty member in any department or hospital affiliated with the university of Pittsburgh. A written report documenting the project and project outcomes, evaluated by the mentor, is required. The report must be submitted to the undergraduate coordinator, department of bioengineering prior to receiving a grade.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

BIOENG 1096 - UGRD TEACHING EXPERIENCE

Minimum Credits: 1
Maximum Credits: 2
Students gain teaching experience by serving as assistant instructors in one of the bioengineering Undergraduate courses.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1150 - BIOENG METHODS & APPLICATIONS

Minimum Credits: 3
Maximum Credits: 3
Bioengineering methods and applications uses laboratory experiences to illustrate principles taught in several bioengineering core classes. In addition to being exposed to particular laboratory skills for each of the experimental modules in the course, students are expected to practice previously developed skills in technical writing, creating tables and graphs, data analysis, and statistics to create professional quality laboratory reports that document each module. Upon completing the course, the student should be able to state and describe the basic components of a laboratory report and create well-written archival documents that reflect professional quality work.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ:(BIOENG 1071 or 1072) and 1220 and 1310 and 1630; Plan: Bioengineering (BSE or BEH)

BIOENG 1160 - BIOENGINEERING DESIGN 1

Minimum Credits: 3
Maximum Credits: 3
The two course sequence, bioengineering design 1 & 2, is a mentored opportunity for the student to synthesize and extend skills and knowledge acquired during the undergraduate education experience in design (or redesign) of a biomedical product or equivalent. Students are exposed to key facets of the medical product design process and the unique regulatory requirements for biomedical products. Student teams select a design project, conduct a market/reimbursement analysis, apply design process methodology, maintain a design history file, and create a prototype product. Students will be able to apply appropriate product design-related procedures and tools, maintain design history files, conduct preliminary market/reimbursement studies, and address regulatory affairs in developing a prototype biomedical product or equivalent.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: LEVEL: Senior; PLAN: Bioengineering (BSE or BEH)

BIOENG 1161 - BIOENGINEERING DESIGN 2

Minimum Credits: 3
Maximum Credits: 3
The two course sequence, bioengineering design 1 & 2, is a mentored opportunity for the student to synthesize and extend skills and knowledge acquired during the undergraduate education experience in design (or redesign) of a biomedical product or equivalent. Students are exposed to key facets of the medical product design process and the unique regulatory requirements for biomedical products. Student teams select a design project, conduct a market/reimbursement analysis, apply design process methodology, maintain a design history file, and create a prototype product. Students will be able to apply appropriate product design-related procedures and tools, maintain design history files, conduct preliminary market/reimbursement studies, and address regulatory affairs in developing a prototype biomedical product or equivalent.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1160 ; PLAN: Bioengineering (BSE or BEH)

BIOENG 1210 - BIOENGINEERING THERMODYNAMICS

Minimum Credits: 3
Maximum Credits: 3
Bio thermodynamics uses an interactive framework in the joint (student and instructor) exploration of thermodynamics as it applies on the biological cellular and systems level. At this most fundamental level, thermodynamics studies the flow of energy, interconversion of energy, maintenance of cellular function and information, and the processes necessary to sustain life itself. Upon completing the course, the student should be able to describe how the three laws of thermodynamics and entropy impact biological systems, and be able to apply fundamental thermodynamics principles to set up and solve problems in physiological systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1070 and (MATH 0240 and 0290) and (PHYS 0175 or 0476); PLAN: Bioengineering (BSE or BEH)

BIOENG 1211 - HONORS BIOENG THERMODYNAMICS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0240 and MATH 0290 and BIOENG 1070 and (PHYS 0175 or PHYS 0476); PLAN: Bioengineering (BEH or BSE); LVL: So, Jr, Sr

BIOENG 1218 - EMERGING BIOMEDICAL TECHNOLOGIES

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG

BIOENG 1220 - BIOTRANSPORT PHENOMENA

Minimum Credits: 3
Maximum Credits: 3
Bio transport phenomena explores the similarities between the fundamental principles of momentum, heat, and mass transfer, develops analogies between the fundamentals that apply at microscopic and macroscopic scales, and uses the fundamentals in conjunction with conservation laws to develop mathematical descriptions of physiological and engineering systems. Special emphasis is placed on identifying assumptions that may be used in developing the mathematical descriptions. The course uses an interactive framework developed through the VANTH (Vanderbilt, Northwestern, Texas, and Harvard-MIT) consortium for biomedical engineering curricula development to explore transport phenomena (momentum, heat, and mass transfer) through a series of interactive modules. Upon completing the course, the student should be able to describe the fundamental principles pertaining to momentum, heat, and mass transport and apply the fundamental principles to set up and solve problems in physiological systems and

design of medical devices.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1210; PLAN: Bioengineering (BSE or BEH)

BIOENG 1230 - VECTOR CALCULUS

Minimum Credits: 1
Maximum Credits: 1
This course teaches the practical aspects of vector calculus necessary for concepts used in bioengineering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1241 - SOCTL, POL & ETHCL ISS BIOENG

Minimum Credits: 3
Maximum Credits: 3
Engineering, as a profession, has ethical obligations to society that go beyond the simple application of technology as learned in science and technology courses. Bioethics seeks to supplement technological aspects of bioengineering by engaging students in an analysis of the effects of bioengineering developments on society, focusing on safety of the public as a primary ethical concern. Students are educated on a variety of ethical tools that enable them to analyze fictional, yet realistic, cases. Students are evaluated individually, as well as in groups, with a particular focus on the ethical issues related to their senior design projects (BIOENG 1160 & 1161). Upon completion of the course, students will be able to recognize, articulate, and resolve ethical issues within the arena of bioengineering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: BIOENG 1160; PLAN: Bioengineering (BSE or BEH); LEVEL: Juniors

BIOENG 1255 - DYNAMC SYSTMS: PHYSIO PERSPCTV

Minimum Credits: 4
Maximum Credits: 4
A foundation of basic systems concepts is built through combining modeling of dynamic systems with physiological examples. Mathematical models of physiological systems are developed using a combination of systems understanding (analogous thinking, engineering synthesis and analysis, and integrative system approaches in solving problems) and bioengineering design (recognizing the potential applications of both engineering principles to biology and biological principles to engineering). These models are then used to address biological/clinical questions. Upon completing the course, the student should be able to: demonstrate skill and competence in methods of dynamic systems modeling through (a) building dynamic models of bioelectrical, biomechanical, biochemical, and physiological systems, (b) solving systems of equations representing dynamic models including analytical, numerical, and graphical software methods, (c) validating models including descriptive, predictive, and explanative validation, and (d) applying models to scientific and engineering applications including analysis and synthesis relative to identification and simulation. Describe physiological processes in dynamic system terms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (BIOSC 1250 or NROSCI 1250 or 1070 or NUR 0012) and BIOENG 1320; PLAN: Bioengineering (BSE)

BIOENG 1310 - LINEAR SYSTEMS & ELECTRONICS 1

Minimum Credits: 3
Maximum Credits: 3
Bioinstrumentation covers electronic circuit theory and the practical aspects of building electronic prototypes. The mathematics of complex exponentials and complex impedance are also covered. A series of projects are built by each student individually, using a system of student-owned electronics components and tools called the PittKit. The kit includes a special apparatus, the breadboard laboratory interface processor (BLIP) which each student constructs, and which acts as a logging voltmeter, a frequency meter, a logic analyzer, a waveform generator, and a pulse duration meter. The blip interfaces to any computer via a USB port, without requiring any special software to be installed on the computer. After completing the course, the student should be able to design and construct prototypes of useful, simple circuits, such as preamplifiers and signal conditioners for sensors, as well as use off-the-shelf modules to construct laboratory instrumentation. They should be able to describe applications to other linear systems such as those found in physiological systems with greater clarity from having worked with circuits.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0240 and (PHYS 0175 or PHYS 0476); PLAN: Bioengineering (BSE or BEH)

BIOENG 1311 - HEMODYNAMICS AND BIOTRANSPORT

Minimum Credits: 3
Maximum Credits: 3
This course covers the fundamental principles of fluid mechanics and mass transport as applicable to physiological and biological systems. The fluid

mechanics coverage emphasizes blood flow in the cardiovascular system. Topics include Poiseuille flow and circulatory flow resistance, blood rheology and tube flow of blood, pulsatile blood flow in arteries, and microcirculatory blood flow. The mass transport coverage emphasizes steady and unsteady diffusion, mass transfer coefficients and correlations, controlled release, coupled diffusion and reactions in biological systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1220 or CHE 0300; PROG: School of Engineering

BIOENG 1320 - BIOLOGICAL SIGNALS & SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
The theory and application of linear time-invariant (LTI) systems is explored, with emphasis on an appreciation of the description and analysis of biomedical signals and systems via LTI methods. After completing the course, the student should be able to state the properties of LTI systems; be able to test whether a system is LTI; know how to obtain, and interpret, the frequency response, impulse response, step response, and transfer function of a system. The student should also be able to demonstrate mastery of the mathematical skills of convolution and integral transform techniques
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1310 and MATH 0240 and MATH 0290; PLAN: Bioengineering (BSE or BEH)

BIOENG 1330 - BIOMEDICAL IMAGING

Minimum Credits: 3
Maximum Credits: 3
Biomedical imaging introduces the major imaging modalities (x-ray, cat-scan, MRI, ultrasound) used in clinical medicine and biomedical research, as well as the fundamentals of images, from a signals and systems standpoint. After completing the course, the student should be able to use imaging modalities to determine anatomical or physiological function and apply physics and signal processing in medical imaging for particular research applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1320; PROG: Swanson School of Engineering

BIOENG 1350 - PRACTICAL C++ PRGMG FOR ENGNRS

Minimum Credits: 3
Maximum Credits: 3
This course is designed to teach you c++ programming in the context of real-world tasks that you will likely encounter in future academic or industrial work. In these applications, project management, working with different compilers and operating systems, and learning to effectively use source code that was written by other developers is no less important than programming theory. In this course we will cover the fundamentals of c++, object oriented design, programming with graphical user interfaces, and a basic 3d graphics. By the end of this class, you will know how to effectively use c++ to solve real-world computing problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Graduate School of Engineering

BIOENG 1351 - COMPTR APPLCTNS IN BIOENGNRNG

Minimum Credits: 3
Maximum Credits: 3
C++ programming is taught in the context of real-world tasks that engineering students will likely encounter in future academic or industrial work. In such applications, project management, working with different compilers and operating systems, and learning to effectively use source code that was written by other developers is no less important than programming theory. The fundamentals of c++, object oriented design, programming with graphical use upon completing the course, students should be able to successfully implement a solution to basic engineering programming tasks using the c++ language. Students should be able to identify and utilize open source and commercial software libraries to tackle more advanced design problems without coding from scratch. Students should be able to effectively use c++ to solve real-world engineering computing problems. R interfaces, and basic computer vision are covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CS 0441 or (ENGR 0012 or ENGR 0712 or ENGR 0716); PLAN: Bioengineering (BSE, MN)

BIOENG 1360 - MATHMTCL METHODS IN BIOENGRNG

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1220 and BIOENG 1255; PLAN: Bioengineering (BSE); LVL: Sr

BIOENG 1370 - COMPUTATIONAL SIMULATION IN MEDICAL DEVICE DESIGN

Minimum Credits: 3
Maximum Credits: 3
Computational simulation is increasingly utilized as a method to assess the performance of medical devices. The course provides students with a hands on learning experience on how to use computational simulation in the modeling and design of medical devices. The course details the important steps in computational simulations from preprocessing to solution to post-processing and data presentation. Commercially available software programs are introduced and used to simulate a variety of physical phenomena (solid, fluid, transport) pertinent to medical device design. Upon completing the course, the student should be able to simulate the solid, fluid, and transport phenomena that are useful in medical device design. Particular attention will be placed on avoiding common mistakes in the preprocessing and interpretation of computational results. Topics covered: geometry creation; discretization; appropriate assignment of material properties; solver management; error mitigation and debugging; postprocessing and data presentation; data interpretation; introduction to design optimization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG
Course Requirements: PREQ: MATH 0280; CREQ: BIOENG 1220 and 1630

BIOENG 1380 - MEDICAL IMAGING SYSTEMS 1

Minimum Credits: 3
Maximum Credits: 3
A systems perspective introduction to the fundamentals of medical imaging techniques used to generate cross-sectional images of patients. Emphasis on use of multi-dimensional Fourier Transforms to develop the generalized central-section theorem used in tomography and the imaging equation used in MRI. The critical concepts of image snr and image quality will also be introduced. MRI and X-ray CT are used as two sample modalities to explore these basic concepts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1383 - BIOMEDICAL OPTICAL MICROSCOPY

Minimum Credits: 3
Maximum Credits: 3
Optical imaging microscopy techniques have become essential tools to investigate biological processes and diagnose diseases at unprecedented cellular and molecular levels. Biomedical researchers have an increasingly important need both to understand the advantages and limitations of the various types of optical microscopy and to apply the appropriate microscopy technique to solve specific biomedical problems. Biomedical optical microscopy is a comprehensive exploration of the basic principles of optical microscopy and imaging techniques commonly used in biomedical research. Upon completion of the course, the student should be conversant in the basic principles of common optical imaging microscopy techniques, able to apply an optical microscopy technique to address biological questions, and able to perform basic quantitative image analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (PHYS 0102 or PHYS 0106 or PHYS 0111 or PHYS 0175 or PHYS 0476 or 1306 or PHYS 1361) or BIOENG 1075; PLAN: Bioengineering (BSE or BEH)

BIOENG 1384 - APPLC OF NMR SPCTRSCPY IN MED

Minimum Credits: 3
Maximum Credits: 3
This course constitutes into two parts. The first part is intended to teach basic understanding of nuclear magnetic resonance (NMR) spectroscopy with numerous examples. Development of two-dimensional, three- dimensional NMR spectroscopy. Focus will be given to design of different NMR experiments for drug discovery, protein structure determination and dynamics of protein molecule. Special emphasis will be given to product operator formalism and different 2d and 3d NMR experiments will be explained with the help of product operator formalism. Classes will focus on NMR data analysis and protein structure calculation. The second part of the course will teach brain imaging using functional imaging (FMRI) and magnetic resonance spectroscopy (MRS) methodology and their application to different neurodegenerative diseases such as Alzheimer and Parkinson disease.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1390 - INTRODCTN TO IMAG PROCESSING

Minimum Credits: 3
Maximum Credits: 3
Introductory subjects in image processing include image spaces and image representation, image enhancement, edge detection, edge and region based segmentation, and feature extraction and object recognition. Spatial and frequency domain approaches will be addressed with emphasis on spatial

domain approaches. Some problems are solved on the computer in the c programming language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1391 - PROJECTS IN COMPUTER VISION

Minimum Credits: 3
Maximum Credits: 3
A set of full term group projects attacking problems in image processing and computer vision. Projects will typically involve the development of problem solutions on computer vision workstations in the c programming language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1410 - BIOLOGICAL SIGNALS AND SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
This course presents the mathematical techniques used to analyze continuous and discrete signals and linear systems. Examples from biological systems and medical applications are used to give students experience in the applications of these techniques. Topics include mathematical modeling of physical systems, transform theory, and use of Laplace and Fourier Transforms to solve linear differential equations. Frequency-domain analysis, system stability, and the sampling theorem are discussed. Discrete Fournier Transforms and Z-Transforms are introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1530 - BIOCHEMISTRY FOR ENGINEERS

Minimum Credits: 3
Maximum Credits: 3
This course is aimed at defining biochemistry needed by engineers, and includes: cell structure, structure and properties of biological molecules, the fundamentals of microbiology and bacterial growth and culture, cellular metabolism, cellular energetics, the principles and applications of genetic engineering, enzymology and applied enzymology including protein engineering, biological effluent treatment, and practical examples of biotechnology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1531 - FUNDMS OF BIOCHEMICAL ENGR

Minimum Credits: 3
Maximum Credits: 3
This course focuses on application of engineering principles to the production of biomolecules and pharmaceuticals. Included are batch cultivation methods, continuous bioreactors, immobilized cell system, bioreactor consideration of mammalian cell cultures, cell metabolism, metabolic, metabolic engineering, and viral vectors and vaccines.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CHE 0400 and (CHE 1530 or BIOSC 1000); PROG: Swanson School of Engineering

BIOENG 1532 - BIOSEPARATIONS

Minimum Credits: 3
Maximum Credits: 3
Bio separation processes are critical for purification of peptides and proteins, nucleic acids, vaccines and viral vectors, and a host of other biomolecules of interest in pharmaceutical and biotechnology industries. This course will focus on downstream bioprocessing for separation and purification of recombinant and natural proteins, DNA, and viruses including viral vectors for gene therapy applications. Ultrafiltration, tangential or cross flow systems, precipitation, and chromatography-based processes will be examined. Ion exchange and affinity chromatography will be discussed in detail. Application of genomic manipulation and proteomics for improvements in bio separation processes will also be covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CHE 1531 or BIOENG 1531; PROG: School of Engineering

BIOENG 1533 - CONTROLLED DRUG DELIVERY

Minimum Credits: 3
Maximum Credits: 3
Controlled drug delivery explores the physics, chemistry, and material science rationale behind the engineering of controlled drug delivery systems, which stands as a 114 billion dollar industry. To this end, the course focuses on topics at the interface between chemical engineering and medicine, such as polymer chemistry, biomaterials, pharmacokinetics, and transport phenomena. Pertinent pharmaceutical examples that are discussed include: transdermal, aerosol, oral, gene, and targeted cellular delivery, with emphasis placed on fabrication considerations and the relevant physiological environment. Upon completing the course, the student should be able to state the constraints on material properties posed by the physiological environment; use the fundamentals of polymers, diffusion, degradation, modeling and pharmacokinetics to solve problems specific to controlled drug delivery; and demonstrate ability to search and summarize primary research literature, write a review article, and deliver a cohesive oral presentation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (BIOSC 1000 or BIOSC 1810 or CHEM 1810) and (BIOENG 1220); PLAN: Bioengineering (BSE or BEH)

BIOENG 1580 - BIOMD APPLC OF SIGNAL PROCING

Minimum Credits: 4
Maximum Credits: 4
The fundamentals of digital signal processing of time series are developed, via applied exercises and projects with a focus on medical and biological signal analysis and interpretation. Biomedical applications are selected from a variety of areas, such as cardiovascular, gait and balance, electrophysiological (EEG, EKG, ECOG, ETUPON completion of this course, students should be able to properly acquire data in digital form; perform standard methods of spectral analysis; implement and apply linear time-invariant discrete-time filters; and demonstrate basic skills in digital signal processing. C.) And neural signal processing, among others. Upon completion of this course, students should be able to properly acquire data in digital form; perform standard methods of spectral analysis; implement and apply linear time-invariant discrete-time filters; and demonstrate basic skills in digital signal processing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1320 and (ENGR 0012 or 0712 or 0716); PLAN: Bioengineering (BSE or BEH)

BIOENG 1585 - METHODS & LOGIC NEUROSCIENCE

Minimum Credits: 3
Maximum Credits: 3
The course will examine some of the major scientific results in behavioral neuroscience, and the mathematical and computational principles of brain function they illustrate. Neuroscience topics will include sensory transduction, visual processing, motor control, and neural prosthetics. Students will learn to apply techniques from signals and systems, statistics, machine learning, information theory, and control theory to neuroscience data sets. Course format will consist of lectures, and student-led discussions of important publications in neuroscience.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1586 - QUAN SYSTEMS NEUROSCIENCE

Minimum Credits: 3
Maximum Credits: 3
The course examines some of the major scientific results in Behavioral Neuroscience, and the mathematical and computational principles of brain function they illustrate. Neuroscience topics include sensory transduction, visual processing, motor control, and neural prosthetics. Students learn to apply techniques from signals and systems, statistics, machine learning, information theory, and control theory to neuroscience data sets. Course format consists of lectures and student-led discussions of important publications in neuroscience. Upon completing the course, the student should be able to describe organizing principles of brain function, from biological and theoretical perspectives apply statistics, signal processing, and machine learning techniques to the analysis of biological data sets design novel experiments, analyses, and data interpretation demonstrate critical evaluation scientific and technical literature
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (BIOENG 1071 or BIOENG 1072) and BIOENG 1255 and BIOENG 1320; PLAN: Bioengineering (BSE or BEH)

BIOENG 1590 - BIOMED APPLICATION OF CONTROLS

Minimum Credits: 3
Maximum Credits: 3
The goal of this course is to provide students with system modeling and control design experience in biological systems and medical applications. Root locus, proportional-integral-derivative, and state variable methods for feedback controller design are introduced. Specific applications to be considered include analysis of the muscle stretch reflex, the Vestibulo-ocular reflex system, and control of artificial organs, including ventricular-assist devices and the artificial pancreas, characterization of design criteria in terms of application requirements and problems.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1601 - PRIN & PROPS CPLX ENGNRD MATLS

Minimum Credits: 3
Maximum Credits: 3
Complex engineered materials are a new class of systems comprising a variety of inorganic materials. This course is designed to introduce the principles and various functional properties exhibited by inorganic materials at the Nano, Micro and Meso scales. Since inorganic materials comprising metallic and non-metallic systems are a very complicated class of materials that display myriad properties, this course is outlined to discuss the most important properties. Thus, the course will mainly cover optical, electrical, thermal and electrochemical properties of both crystalline and amorphous inorganic complex engineered materials. In each category, the principles underlining each property will be discussed followed by the material class, behavior and applications. The effect of microstructure on each of the properties will also be discussed. The course objective is to introduce the student to these complex engineered materials family and their properties. In doing so, the student should be able to identify a material for a particular application
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (CHE 0200 or MEMS 1051 or BIOENG 1210) and ENGR 0022 and MATH 0290; LVL: Jr or Sr; PROG: Swanson School of Engineering

BIOENG 1620 - INTRO TO TISSUE ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
Tissue engineering (TE) is defined as the development and manipulation of laboratory-grown molecules, cells, tissues, or organs to replace and/or support the function of injured body parts. TE is highly interdisciplinary and therefore crosses numerous engineering and medical specialties. The course introduces students to the fundamentals of TE and the biomaterials, cells and growth factors used in TE through consideration of cell and tissue biology, biomaterials, drug delivery, engineering methods and design, and clinical implementation. Specific applications include skin, nerve, bone, and soft tissue regeneration. Throughout the course ties are made between the topic of study and clinically relevant situations. Upon completing this course, students should be able to: describe basic principles behind human cell and tissue biology and cell; describe the general types of biomaterials used in tissue engineering; describe techniques utilized to design, fabricate, and functionally assess tissue engineering systems; and, apply the combined knowledge of tissue organization and tissue engineering strategies to design a unique, reasonable tissue engineering solution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1810; PLAN: Bioengineering (BSE)

BIOENG 1630 - BIOMECH 1-MECHL PRIN BIO SYMS

Minimum Credits: 3
Maximum Credits: 3
Biomechanics 1 is a first course in undergraduate biomechanics that applies and builds on the concepts of statics, dynamics, and mechanics of materials as applied to human activities and tissues. After briefly reviewing equilibrium concepts and free body diagrams as applied to the human body, principles from kinetics are used to develop dynamic descriptions of human motion. Finally, engineering concepts employed in description of the fundamental strength of materials are applied to biological tissues. After completion of the course, students should be able to describe the general characteristics and material properties for tissue and organs studied in the course, analyze the forces at a skeletal joint for various static and dynamic human activities, state and use the concepts of balance and stability in describing human motion, and compute the stresses and strains in biological tissues, given loading conditions and material properties.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0135; PLAN: Bioengineering (BSE or BEH)

BIOENG 1631 - BIOMECHANICS 2

Minimum Credits: 3
Maximum Credits: 3
Modern biomechanics is an increasingly diverse field that encompasses the mechanics of the whole body, all the way down to the cellular and molecular levels. Students are introduced to fundamental concepts and techniques of biodynamics and bio solid mechanics which provide the basis for biomechanics 3 and 4. General approaches used in mechanics are introduced throughout the semester and applied in several laboratories. Upon completing the course, the student should be able to demonstrate recall of functional anatomy of musculoskeletal system perform inverse dynamic analyses describe the principles of basic muscle biomechanics perform analyses of deformable bodies (including viscoelastic materials) describe general experimental techniques for rigid and deformable body analyses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1630; PROG: Swanson School of Engineering

BIOENG 1632 - BIOMECH 3: BIODYNAMICS OF MOVM

Minimum Credits: 3
Maximum Credits: 3
Biodynamics, the area of focus in biomechanics 3, is the study of large-scale movements in biologic systems. As such, the course focuses on the analysis of human movement, which is used in clinical and research settings to understand how various pathologies impact movement and how interventions can be implemented to aid those affected by movement disorders. We cover the fundamentals of biomechanics of human movement using mechanical modeling techniques. The major focus is kinematic analyses in three dimensions using matrix techniques. Some fundamentals of kinetics are covered as well, 2d and 3d inverse dynamics. Upon completing the course, the student should be able to describe basic methods of kinematic/kinetic analysis used in multi-link systems and be able to implement the methods in the analysis of human movement. Students should also be able to apply the methods to study common human movements, e.g. Gait analyses, eye movement analyses, etc. Finally, students should be able to use the computer programming language, mat lab, to perform computations on kinematic data.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1631 and MATH 0280 and (ENGR 0012 or ENGR 0712 or ENGR 0716); PLAN: Bioengineering (BSE or BEH)

BIOENG 1633 - BIOMECHANICS 4

Minimum Credits: 3
Maximum Credits: 3
Modern biomechanics is an increasingly diverse field that encompasses the mechanics of the whole human body, including all the way down to the cellular and molecular levels. Biomechanics 4 builds upon biomechanics fundamentals learned in BIOENG 1630 and BIOENG 1631 in building a comprehensive application of bio solid mechanics to describe the mechanical behavior of soft and hard biological tissues. The course provides fundamental concepts in the development and application of constitutive models, as well as a foundation for more advanced topics that are covered in graduate school. Mathematica (Wolfram Research, Inc.) Is used both in class and for assignments. Upon completing the course, the student should be able to formulate biomechanics constitutive models that describe soft and hard tissues and use Mathematica as a framework for exploring the impact of model parameters in the model description.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1631 and MATH 0280; PLAN: Bioengineering (BSE or BEH)

BIOENG 1680 - BIOMEDICAL APPLC OF CONTROL

Minimum Credits: 4
Maximum Credits: 4
The goal of this course is to provide students with systems modeling and control design experience in biological systems and medical applications. Root locus and frequency response methods for compensation are reviewed, and state-variable models for controller design are introduced. Several specific control problems drawn from medical applications and biological research are discussed in depth, with appropriate physiological background being presented. Characterization of design criteria in terms of application requirements and problems in implementing control solutions are discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOENG 1320; PLAN: Bioengineering (BSE)

BIOENG 1710 - INTRO TO REHABILITATION ENGR

Minimum Credits: 3
Maximum Credits: 3
This course introduces undergraduate engineering students to the field of rehabilitation engineering by applying engineering concepts to reduce the barriers people with disabilities currently face. Topics include analysis and design of sensory aids for vision and hearing; electrical stimulation of nerve; design of accessible accommodations; analysis and design of prosthetics; biomechanics of wheelchair propulsion; solutions for interfacing technology and people with disabilities; ethical considerations of designing technology for people with disabilities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

BIOENG 1810 - BIOMAT AND BIOCOMPATIBILITY

Minimum Credits: 3
Maximum Credits: 3
Undergraduate students are introduced to an advanced understanding of biomaterials and the use of biomaterial in areas such as tissue engineering, artificial organs, and implantable devices. Throughout the course, ties are made between the topic of study and clinically relevant biomaterial performance. The course introduces various biomaterials, such as polymers, metals, and ceramics, with the focus on biomaterial synthesis, characterization, structure-property relationship and surface modification. Biocompatibility issues of biomaterials will be discussed from different aspects such as protein adsorption, foreign body reaction, immune and inflammatory response, and sterilization. Finally, examples of clinical applications are discussed. Upon completing the course, the student should be able to: state the basic principles behind human tissue response to artificial surface implantation, describe the general types of materials used in soft and hard tissue replacements, drug delivery devices, and

extracorporeal devices, describe techniques utilized to control the physiologic response to artificial surfaces, and identify various design strategies and clinical applications of biomaterials
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CHEM 0320 and (BIOSC 1000 or BIOSC 1810 or CHEM 1810); PLAN: Bioengineering (BSE or BEH)

Biological Sciences

BIOSC 0050 - FOUNDATIONS OF BIOLOGY LAB 1

Minimum Credits: 1
Maximum Credits: 1
This is the first course in a two-course sequence on the study of organisms in the laboratory and the field. We will work with techniques that are important in biology and apply these techniques to illustrate basic biological principles, with an emphasis on living organisms. The laboratory exercises focus on cell structure and function, basic cellular processes, plant structure and function, and basic animal anatomy and physiology.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0150 or 0715 or 0170 or 0190 or BIOL 0101 or 0110 (MIN GRADE: 'C' for all courses listed) or CREQ: BIOENG 1070

BIOSC 0057 - FDS OF BIOLOGY RESEARCH LAB 1

Minimum Credits: 1
Maximum Credits: 1
This course is designed to introduce biology as an experimental science and attempts to expose the student to some basic concepts and laboratory techniques in a more challenging fashion and in greater depth than BIOSC 0050. BIOSC 0057 provides a foundation for future laboratory courses and work in biology.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: BIOENG 1070; PREQ: (BIOSC 0150 or 0170 or 0715 or 0190) or (BIOL 0101 or 0110); Min Grade 'C'

BIOSC 0058 - FDS BIOLOGY PHAGES LAB 1

Minimum Credits: 1
Maximum Credits: 1
This research-focused version of BIOSC 0050 uses bacteriophage discovery to introduce biology as an experimental science. Students learn current laboratory techniques through discovery, isolation, and characterization of their own novel virus. Students will be introduced to concepts in microbiology, evolution, and molecular biology through hands-on experiments driven by results obtained during class. This course is the first half of a two-part course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LEVEL: Freshman or Sophomore

BIOSC 0060 - FOUNDATIONS OF BIOLOGY LAB 2

Minimum Credits: 1
Maximum Credits: 1
This one-credit laboratory course is the second in a two-course sequence designed to be an introduction to scientific inquiry in the biological sciences for majors in biology and related fields. You will use genetics, biochemistry, and molecular biology to undertake authentic research exploring the evolution of metabolic pathways in different species.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0050 or 0057 or 0058 or 0070 or 0190 or BIOL 0101 or 0111) and (BIOSC 0160 or 0716 or 0180 or BIOL 0102 or 0120); Min Grade 'C'

BIOSC 0067 - FOUNDTNS OF BIOL RES LAB 2

Minimum Credits: 1
Maximum Credits: 1
This research-focused version of BIOSC 0060 uses real research projects to introduce biology as an experimental science. Students learn current laboratory techniques through an inquiry-based project or set of projects throughout the semester. Experiments can focus on genetics, molecular biology, evolution, and ecology.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

Course Requirements: PREQ: (BIOSC 0050 or 0057 or 0058 or 0070 or 0190 or BIOL 0101 or 0111) and (BIOSC 0160 or 0180 or 0716 or BIOL 0102 or 0120); Min Grade 'C'

BIOSC 0068 - FDS OF BIOLGY SEA-PHAGES LAB 2

Minimum Credits: 1
Maximum Credits: 1
This research-focused version of BIOSC 0060 uses bacteriophage genomics to introduce biology as an experimental science. Students learn current computational biological techniques through annotation and characterization of novel viral genomes. Students will be introduced to concepts in bioinformatics, microbiology, evolution, and molecular biology through hands-on experiments driven by results obtained during class. This course is the second half of a two-part course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0058

BIOSC 0100 - PREPARATION FOR BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is intended for students who have not had high school biology in the past five years. The course is also highly recommended for students who have not completed algebra. The lecture will over a subset of topics from foundations of biology 1 and 2, including a discussion of basic chemistry used in biology, cell biology including mitosis and meiosis, human anatomy and physiology, and an introduction to genetics. The weekly recitations will explore topics covered in lecture in more depth and integrate problem solving and study skills. Some laboratory exercises will be included in the recitation period to re-enforce the lecture topics by giving students the opportunity to investigate the experimental aspect of biology. The laboratory exercises and assignments will focus on basic math and writing skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 0150 - FOUNDATIONS OF BIOLOGY 1

Minimum Credits: 3
Maximum Credits: 3
This introductory course in biology is divided into two parts. The first part covers the cellular basis of life including a discussion of simple chemistry; cells as units of structure and function; and energy transformations. The second part includes an examination of those functions common to all organisms such as nutrition, gas and fluid transport, and hormonal and neuronal control. Throughout, the emphasis is on the mechanisms used to accomplish these basic functions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 0160 - FOUNDATIONS OF BIOLOGY 2

Minimum Credits: 3
Maximum Credits: 3
This introductory course covers the basic principles of genetics, evolution, and ecology. Emphasis will be placed on the experimental and observational basis for our knowledge of these subjects.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0150 or 0715 or 0170 or 0190) or (BIOL 0101 or 0110); Min Grade 'C'

BIOSC 0190 - INTRO TO BIOLOGICAL WORLD 1

Minimum Credits: 4
Maximum Credits: 4
This introductory biology course integrates lab and lecture and is recommended to those students interested in pursuing research in the biological sciences and/or in building problem solving and data analysis skills. Lectures cover macromolecule structure and function, energy and metabolism, and histology and physiology of select organ systems. Labs expose students to cutting-edge research methods and are run by the same instructors that teach the lecture portion of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: LVL: Fr

BIOSC 0191 - INTRO TO BIOLOGICAL WORLD 2

Minimum Credits: 4
Maximum Credits: 4
This introductory biology course integrates lab and lecture and is recommended to those students interested in pursuing research in the biological sciences and/or in building problem solving and data analysis skills. Lectures cover genetics, development, ecology, and evolution. Labs expose

students to cutting-edge research methods and are run by the same instructors that teach the lecture portion of the course. This course is equivalent to BIOSC 0160/BIOSC 0060 or BIOSC 0716/ BIOSC 0060.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BIOSC 0190

BIOSC 0200 - TEACHING BIOLOGICAL SCIENCES

Minimum Credits: 1
Maximum Credits: 3
Teaching biology is a complex and multi-faceted challenge. It requires the integration of deep disciplinary knowledge with a functional understanding of learning theory and the development of practical skills for working with students. Teaching biological sciences is designed to help you explore multiple strategies for effective teaching and learning and refine your own understanding of biology through efforts to become a better science communicator. The course has both seminar and project based components. You are encouraged to coordinate your work in this course with existing teaching opportunities but this is not required.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0716 or 0191 or 0180) or (BIOL 0102 or 0120); Min Grade 'C'

BIOSC 0350 - GENETICS

Minimum Credits: 3
Maximum Credits: 3
This course is designed to examine the gene in the following dimensions: the gene as a unit of transmission, a unit of function, and a unit of mutation. In addition, the distribution and activity of genes in populations will be considered in the context of current theories of evolution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0716 or 0191 or 0180) or (BIOENG 1071 or 1072) or (BIOL 0102 or 0120) and (CHEM 0120 or 0720 or 0770 or 0970 or 0102 or 0112 and 0114); Min Grade 'C'

BIOSC 0351 - GENETICS LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Laboratory exercises designed to illustrate the major principles of genetics.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0060 or 0067 or 0068 or 0191 or 0080 or BIOL 0102 or 0121); Min Grade 'C'; CREQ: (BIOSC 0350 or 0355 or BIOL 0350 or 0203); Min Grade 'C'

BIOSC 0355 - UHC GENETICS

Minimum Credits: 4
Maximum Credits: 4
This course is designed to examine the gene as a unit of transmission, a unit of function, and a unit of mutation. The course emphasizes the relationship between classical mendelian genetics and the modern molecular understanding of gene structure and function. Recitations are used for week ly problem sets and discussion of exercises in the virtual flylab, an internet-based simulation of genetic experiments with the fruit fly drosophila melanogaster.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL (0102 or 0120)] and [CHEM 0120 or 0720 or 0102 or (0112 and 0114)]; Min Grade 'C' for all classes listed.

BIOSC 0370 - ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
The objective of the course is to provide a broad introduction to the study of ecology at the undergraduate level, through the presentation of lectures dealing with organismal, population, community, and ecosystem levels of hierarchical organization. The contributions of laboratory and field investigations to the development of ecological knowledge will be considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120; Min Grade 'C' for all classes listed.

BIOSC 0390 - ECOLOGY LABORATORY

Minimum Credits: 1
Maximum Credits: 1
The objective of the laboratory course is to provide students with practical experience in ecological methods and in the design, conduct, and analysis of ecological studies. Laboratory exercises are designed to correspond with major lecture topics presented in BIOSC 0370. Exercises will include laboratory and field studies.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0060 or 0067 or 0068 or 0080 or 0191 or BIOL 0102 or 0121; CREQ: BIOSC 0370 or 0371 or BIOL 1430 or 1515; Min Grade 'C' for all classes listed.

BIOSC 0391 - ECOLGY LABORATORY WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Course is a writing practicum for ecology laboratory, BIOSC 0390. Students will prepare laboratory reports and write essays based on exercises and assignments for the companion course, BIOSC 0390. The reports and essays will be returned with instructor comments for student revision and resubmission.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102 or ENGR 0012; CREQ: BIOSC 0390; PLAN: Ecology and Evolution (BS)

BIOSC 0715 - UHC FOUNDATIONS OF BIOLOGY 1

Minimum Credits: 3
Maximum Credits: 3
This course covers biological phenomena at the cellular level: macromolecules, cell structure, photosynthesis, cell respiration, homeostasis, signaling and genetics. The experimental basis supporting our understanding of these processes will be introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: MIN CUM GPA: 3.25 or Advanced Placement Biology Test Score equal/greater 4 or International Baccalaureate Biology Score equal/greater 5

BIOSC 0716 - UHC FOUNDATIONS OF BIOLOGY 2

Minimum Credits: 3
Maximum Credits: 3
This course will cover the cell cycle, DNA replication, transcription, translation, molecular biology, biotechnology, genomics and bioinformatics, plant development, and animal development. The experimental basis supporting our understanding of these processes will be introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0715 (MIN GRADE: 'C') or Advanced Placement Biology Test Score equal/greater 5 or International Baccalaureate Biology Score equal/greater 7; MIN CUM GPA: 3.25

BIOSC 0740 - YELLOWSTONE FIELD COURSE

Minimum Credits: 4
Maximum Credits: 4
The honors program of the University of Pittsburgh, in conjunction with the Department of BIOSC, has developed a summer field course in ecology which will be held in and adjacent to the yellow stone region of Wyoming and Montana. Field study opportunities will be emphasized and will comprise approximately 50% of the student contact hours.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 0800 - BIOLOGY FOR NON-MAJORS 1

Minimum Credits: 3
Maximum Credits: 3
This is a course in human biology and physiology for students not majoring in biology. The goal is to provide students with an understanding of fundamental principles of life with an emphasis on the human body. The course will cover basic biochemistry and cell biology and then move to the structure and function of human organ systems. An essential part of the course is discussion of current issues, such as infectious, autoimmune and neurodegenerative diseases; asthma and allergy; nutrition and health; stem cells research and cloning; and methods of contraception and reproductive technologies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 0805 - THE HUMAN BODY

Minimum Credits: 3
Maximum Credits: 3
This is a course in human biology and physiology for students not majoring in biology. The goal is to provide students with an understanding of fundamental principles of life with an emphasis on the human body. The course will cover basic biochemistry and cell biology and then move to the structure and function of human organ systems. An essential part of the course is discussion of current issues, such as infectious, autoimmune and neurodegenerative diseases; asthma and allergy; nutrition and health; stem cells research and cloning; and methods of contraception and reproductive technologies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 0810 - BIOLOGY FOR NON-MAJORS 2

Minimum Credits: 3
Maximum Credits: 3
At an ever-increasing pace, issues of biological relevance are confronting the citizenry of this country and the world. Ranging from personal through political to global, these issues require that individuals have at lEast a rudimentary knowledge of basic biological phenomena in order to make informed decisions. The major goal of this course, together with its companion, BIOSC 0800, is to provide students (citizens) with the intellectual tools needed to approach these issues as they arise.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 0815 - GENES AND DISEASES

Minimum Credits: 3
Maximum Credits: 3
This course is designed to give students not majoring in biology the essential background in genetics and evolution to understand human disease. The material covered includes the fundamental principles of genetics, the role of genes and environment in various diseases, genomics, and the role of evolution. An essential part of the course is the discussion of current issues, such as genetic diseases, genetic screening, reproductive cloning, gene therapy, genetic basis of cancer, and emerging and reemerging diseases.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 0825 - SPEC TOPCS IN BIOL NON-MAJORS

Minimum Credits: 1
Maximum Credits: 3
A major topic in biology will be developed and explored by students.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

BIOSC 0850 - SCIENCE OF EVERYDAY LIFE - 1

Minimum Credits: 3
Maximum Credits: 3
This 2-semester course will present non-science majors with a comprehensive picture of the natural world. Topics will include: the solar system; laws of motion; energy; structure of matter; the earth; cosmology; the science of living things; the living cell; genetics; evolution. Emphasis will be on fundamental concepts that underlie our present understanding. Connections will be made to historical developments and to scientific and technological issues that impact individuals and society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 0851 - SCIENCE OF EVERYDAY LIFE - 2

Minimum Credits: 3
Maximum Credits: 3
This 2-semester course will present non-science majors with a comprehensive picture of the natural world. Topics will include: the solar system; laws of motion; energy; structure of matter; the earth; cosmology; the science of living things; the living cell; genetics; evolution; emphasis will be on fundamental concepts that underlie our present understanding. Connections will be made to historical developments and to scientific and technological issues that impact individuals and society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: BIOSC 0850 or PHYS 0850 or CHEM 0850; Min Grade 'C' for all courses listed

BIOSC 1000 - BIOCHEMISTRY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide students with a basic understanding of the principles and underlying themes of modern biochemistry. The course includes all the major topics in biochemistry in considerable depth including thermodynamics and enzymology, protein and nucleic acid structure, function, and synthesis, lipids and membranes as well as metabolic pathways. This course will require that you master a new vocabulary including chemical structures, and there is an emphasis throughout on experimental approaches, molecular mechanisms, and problem solving. Although the same topics will be covered as in the two semester biochemistry series (BIOSC 1810-1820), no one topic in BIOSC 1000 will be covered in as much detail.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0716 or 0191 or 0180 or BIOENG 1071 or BIOENG 1072 or BIOL 0102 or 0120) (Min Grade 'C' for these courses) and (CHEM 0320 or 0350 or 0740 or 0208 or 0232)

BIOSC 1005 - INTRO TO BIOCHEMISTRY LAB

Minimum Credits: 1
Maximum Credits: 1
This course will guide students through a common experimental approach that is used in academic and industry research labs. In the first part of the semester, students will clone genes that have been selected because they are new genes of interest to research labs within the department. In the second part of the semester, students will express their cloned genes and purify the encoded proteins. They will use computer analysis to predict possible functions of their proteins and then test their hypotheses using biochemical techniques.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0060 or BIOSC 0067 or BIOSC 0068 or 0080 or BIOSC 0191) or (BIOL 0102 or 0121); CREQ: BIOSC 1000

BIOSC 1010 - COM IN THE BIOLOGICAL SCIENCES

Minimum Credits: 2
Maximum Credits: 2
Conventions of scientific communication will be taught in this junior/senior level course as students research, write and revise a position article and oral presentation about a biological controversy. Students will learn to locate information from peer-reviewed scientific literature in electronic databases. Through peer review exercises, students will develop evaluation skills and learn to incorporate feedback. Document design, argument construction, and readability will be taught and practiced with the goal of producing a clear and concise written document and oral presentation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0350or0355or0370or0371or1000or1810or1130) or (BIOL 0203or0350or1430or1515); MinGrad 'C'; and (ENGCMP 0004or0006or0020or0200or0203or0205or0207or0208or0250) or (FP 0003or0006) or (ENG 0102 or ENGR 0012); LVL: Jr or Sr; PLAN: BIOSC-BS

BIOSC 1030 - COMMERCIAL MICROBIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course will serve as an introduction to the world of applied/industrial microbiology. To enter the course, students should have a sound background in chemistry and at least an initial contact with biochemistry and/or microbiology. The following topics will be dealt with: microbial physiology of relevant organisms; biochemical activity of microorganisms (secondary metabolite, diversity and biosynthesis); the beneficial aspects of microbial action - a series of case histories will be presented illustrating the utilization of applied microbiology in the production/processing of drugs (E.G ethanol), coal and oil, and in the disposal of waste; the deleterious aspect of microbial action - a series of case histories will be presented illustrating how microorganisms can affect humans adversely (mycotoxins in food, microbial destruction of wood and fabric).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0716 or 0191) and (CHEM 0320 or 0350 or 0208 or 0232); Min Grade 'C' for all courses listed

BIOSC 1040 - AQUATIC ECOSYSTEM MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Through hands-on instruction in field methods of ecological assessment, combined with reading and lectures by experts, students learn the fundamentals of ecological management. Career possibilities in ecological management are also explored.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 1070 - HUMAN PHYSIOLOGY-UHC

Minimum Credits: 4
Maximum Credits: 4
After a general introduction on cell biology, muscle physiology, and intracellular communication, this course will examine the function of the following systems: cardiovascular, respiratory, renal, gastrointestinal and immune. The systems will be considered in the context of the function of the body as a whole, and how they respond during challenges (e.g. exercise) and pathological states. Current research related to the functioning of these systems will be emphasized throughout the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0716 or 0191 or 0180) or (BIOL 0102 or 0120) or (BIOENG 1071 or 1072) and [CHEM 0120 or 0720 or 0770 or 0970 or 0102 or (0112 and 0114)]; Min Grade 'C' for all courses listed

BIOSC 1080 - HUMAN ANATOMY AND PHYSIOLOGY

Minimum Credits: 6
Maximum Credits: 6
This course is an introduction to the study of human structure and function. We will take a systems approach to study the anatomy of the human body and its normal function and maintenance. Each system will be examined from the perspective of development, tissue structure, adult anatomy and physiology. Lectures will assume that the student has had the equivalent of a major's level college course in introductory biology and introductory chemistry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120) and [CHEM 0120 or 0720 or 0101 or (0112 and 0114)]; Min Grade 'C' for all courses listed

BIOSC 1100 - TOPICS IN BIOLOGICAL RESEARCH

Minimum Credits: 2
Maximum Credits: 2
This course will address the how and why basic research in the biological sciences is performed and provide a basic knowledge behind experimental design. The goal of this course is to prepare students for undergraduate research as well as full-time research assistant positions and graduate programs. We will use real life examples of experimental systems employed by research faculty in the department of biological sciences. Meetings will consist of faculty presentations and class discussions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 1120 - BIOSTATISTICS

Minimum Credits: 3
Maximum Credits: 3
This course provides students the knowledge on applications of statistical technique to biological problems. The data fit, regression analysis, significance of correlation coefficient and of standard error of estimate will be discussed. The binomial, normal, and Poisson distributions, the student's t-distribution and the chi-squared distribution will be introduced. Hypothesis testing, significance levels, confidence limits for large and small samples and non-para metric statistics will be covered. Basic computer programming (use of BMDP and statview) will be introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0180 or 0191 or 0716 or BIOL 0102 or 0120 (Min Grade 'C') and STAT 1000

BIOSC 1130 - EVOLUTION

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to biological evolution. The theory, process and pattern of evolutionary change are presented. This course will encompass both micro evolutionary and macro evolutionary concepts. Lecture topics will include inheritance and variation, population genetics, natural selection, speciation, adaptation, the fossil record, and phylogenetic.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0350 or 0355 or BIOL 0203 or 0350; Min Grade 'C' for all courses listed

BIOSC 1140 - BEHAVIORAL ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
Behavior is studied from an evolutionary perspective. Current models of foraging, mating, and social behavior are evaluated through classroom and field work.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120; Min Grade 'C' for all courses listed

BIOSC 1150 - HISTORY OF EVOLUTNARY THOUGHT

Minimum Credits: 3
Maximum Credits: 3
This course is team taught by an evolutionary biologist and a historian and philosopher of biology. The historical and philosophical foundations of evolutionary biology, along with the principles of evolutionary biology itself, are examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 1160 - FOREST ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
Study of environmental factors and their influence on reproduction, growth, and development of individual trees and forest stands. Provides the biological basis for forest resources management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120; Min Grade 'C' for all courses listed

BIOSC 1170 - FRESHWATER ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
A field-oriented study of lakes, reservoirs, and streams as dynamic systems. Emphasis will be placed on the use of quantitative sampling and analytical techniques.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120; Min Grade 'C' for all courses listed

BIOSC 1180 - ECLGY OF AMPHIBIANS & REPTILES

Minimum Credits: 3
Maximum Credits: 3
This course will include the ecology, evaluation, identification techniques, habitats, and life histories of amphibians and reptiles. While emphasis will be on the amphibians and reptiles of western Pennsylvania, those species occurring in the bordering states of Ohio, New York, and west Virginia will also be studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0180 or 0191 or 0716 or BIOL 0102 or 0120; Min Grade 'C' for all courses listed

BIOSC 1190 - AQUATIC ENTOMOLOGY

Minimum Credits: 3
Maximum Credits: 3
An introduction to aquatic insects. Subjects emphasized will include ecology, morphology, evolution, habitats, and identification. Field and laboratory experiences will be supplemented with lectures and selected readings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 1200 - VERTEBRATE MORPHOLOGY

Minimum Credits: 3
Maximum Credits: 3
A study of the gross anatomy, histology, development, and evolution of the vertebrate body. Topics: vertebrate origin, phylogeny, and classification; basic histology; early embryology; evolutionary morphology; integument; skeletal system; muscular system; sense organs; nervous system; endocrine system; body cavity and mesenteries; digestive system; respiratory system; circulatory system; excretory system; reproductive system. Each system is examined in terms of its embryonic development, histology, functional anatomy, and evolutionary history. General principles of evolutionary morphology are emphasized. The purpose of the course is to provide an understanding of the history and functional anatomy of the body. It is designed as a background for studies in embryology, physiology, systematics, and human anatomy and physiology in professional schools.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120; Min Grade 'C' for all courses listed

BIOSC 1205 - VERTEBRATE MORPHOLOGY LAB

Minimum Credits: 1
Maximum Credits: 1
This is a laboratory to accompany BIOSC 1200. Students will dissect a shark and a cat, study various skeletons, and examine histology slides. The purposes of the course are to illustrate the structures discussed in the BIOSC 1200 lectures and to give the student the personal experience of learning animal structure through dissection and observation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0060 or BIOSC 0067 or BIOSC 0068 or 0080 or BIOSC 0191) or (BIOL 0102 or 0121); CREQ: BIOSC 1200

BIOSC 1210 - VERTEBRATE MORPHOLOGY LAB

Minimum Credits: 2
Maximum Credits: 2
This is a laboratory to accompany BIOSC 1200. Students will dissect a shark and a cat, study various skeletons (including human), and examine histology slides. The purposes of the course are to illustrate the structures discussed in the BIOSC 1200 lectures, and to give the student the personal experience of learning animal structure through dissection and observation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0060 or 0191 or 0080 or BIOL 0102 or 0121; CREQ: BIOSC 1200; Min Grade 'C' for all courses listed

BIOSC 1220 - ECOLOGICAL FIELD STUDIES

Minimum Credits: 3
Maximum Credits: 3
This course provides extensive field experience for undergraduates and will focus on developing the skills necessary for any practicing ecologist. Students will be involved in all stages of field projects including both individual and group exercises. Using a combination of lecture, extensive readings from the primary literature and hands-on field projects, the instructor will assist the students in gaining a proficiency with the background knowledge, thinking skills and technological tools necessary to conduct empirical ecological investigations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0370 or 0371 or BIOL 1430 or 1515; Min Grade 'C' for all courses listed

BIOSC 1230 - ORNITHOLOGY

Minimum Credits: 3
Maximum Credits: 3
The study of birds with a field-oriented emphasis revolving around the late spring migrants and the breeding species in a wide variety of habitats. Classroom topics will include study skins, nests, eggs, and the annual cycle.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0180 or 0191 or 0716) or (BIOL 0102 or 0120); Min Grade 'C' for all courses listed

BIOSC 1240 - HUMAN SKELETAL ANALYSIS

Minimum Credits: 4
Maximum Credits: 4
A lecture and lab course applicable to students of varied interests. Lectures will cover such topics as skeletal growth; dental and skeletal pathologies; criteria for determining the sex and age of individuals; the importance of morphological variation as population markers; induced skeletal alteration; lab techniques such as x-raying, measuring and reconstructing skeletal remains. Students must learn in detail the human skeleton.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

BIOSC 1250 - HUMAN PHYSIOLOGY

Minimum Credits: 3
Maximum Credits: 3
After a general introduction on cell biology, physiology of nerves and muscle, and intercellular communication, this course will survey the function of the following systems: cardiovascular, respiratory, renal, and gastrointestinal. Each system discussed will be integrated into the larger function of homeostatic and their adaptation during pathology and challenges (e.g., exercise).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0716 or 0191 or 0180 or BIOENG 1071 or BIOENG 1072 or BIOL 0102 or 0120) and [(CHEM 0120 or 0720 or 0770 or 0970 or 0102 or (0112 and 0114)]; Min Grade 'C' for all courses listed

BIOSC 1255 - PHYSIOLOGY LABORATORY

Minimum Credits: 1
Maximum Credits: 1
This laboratory course complements BIOSC 1250 - HUMAN PHYSIOLOGY. Students will spend the first half of the semester developing their skills by measuring homeostatic parameters of the human body (blood pressure, blood chemistry, muscle response, etc). They will then use that knowledge to design and perform experiments modeled after conditions of both eustress (exercise) and distress (disease). In addition to weekly assignments, students will be required to present the results of their research projects.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0060 or BIOSC 0067 or BIOSC 0068 or BIOSC 0191 or 0080) or (BIOL 0102 or 0121); CREQ: (BIOSC 1250 or BIOENG 1070 or BIOSC 1080) or (NROSCI 1070 or NROSCI 1250); PLAN: Biological Sciences (BS)

BIOSC 1260 - AQUATIC BOTANY

Minimum Credits: 3
Maximum Credits: 3
Study of the algae and vascular plants occurring in local lakes, streams, and wetlands. Emphasis on identification, quantification, and ecological relationships of these aquatic organisms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 1270 - ECOLOGY OF FISH

Minimum Credits: 3
Maximum Credits: 3
A field course dealing with the interrelationships of fish and the biotic and abiotic environment. Improvements of aquatic habitat and applied aspects of the ecology of fish and fishery biology will be studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0180 or 0191 or 0716) or (BIOL 0102 or 0120); Min Grade 'C' for all courses listed

BIOSC 1280 - MICROBIAL GENETIC ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
This course will consist of a series of lectures discussing the molecular genetics of prokaryotic and eukaryotic microbes and ways in which they can be genetically engineered. It includes: (1) the genome structures of microbes, (2) classic methods for genetic exchange, (3) current approaches to genetic engineering, (4) applications of genetic engineering to human disease. Visits to the computer lab will introduce web-based analysis of microbial genome sequences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 1850 and (BIOSC 0350 or BIOSC 0355 or BIOL 0350 or BIOL 0203); Min Grade 'C' for all courses listed

BIOSC 1285 - GENOMICS LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0060 or BIOSC 0067 or BIOSC 0068 or BIOSC 0191 or 0080 or BIOL 0102 or 0121) and (BIOSC 0350 or BIOSC 0355 or BIOL 0203 or 0350); PROG: School of Arts and Sciences (UA-S)

BIOSC 1290 - EXPERIMENTAL GENETIC ENGR LAB

Minimum Credits: 1
Maximum Credits: 1
This is a laboratory course focusing on the genetic engineering of prokaryotic and eukaryotic microbes. During this course, students will isolate novel mutants of a specific microbe and employ both traditional genetic approaches and current methods in molecular microbiology to clone, characterize and sequence the mutant alleles.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 1855 or 1860) and (BIOSC 0350 or BIOSC 0355 or BIOL 1315 or BIOL 0350); Min Grade 'C' for all courses listed

BIOSC 1291 - EXPRML GENETC ENGRG WRTNG PRAC

Minimum Credits: 1
Maximum Credits: 1
This course is a writing practicum for experimental genetic engineering. Students will write three short laboratory reports based on work done in the corequisite course BIOSC 1290, and revise these, based on instructor comments, to form a final integrated paper.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or ENGR 0012 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102); CREQ: BIOSC 1290 (Min Grade 'C'); PLAN: Microbiology (BS)

BIOSC 1300 - VERTEBRATE COMMUNITY ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
Consideration of the structure and function of terrestrial vertebrate communities, with emphasis on factors that determine community composition. Topics include the influences of species interactions, abiotic environment, and human impacts on community dynamics. Techniques of data gathering and analysis will be acquired during field studies of small mammal communities in two different habitats.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 1310 - WETLAND ECOLOGY AND MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0180 or BIOSC 0191 or BIOSC 0716) or (BIOL 0102 or 0120)

BIOSC 1320 - POPULATION BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This is a course in the scientific study of the distribution and abundances of animal and plant populations. The course will begin with the dynamics of single populations, emphasizing demography, exponential growth, and intra-specific competition. Next we will cover interactions between populations, especially competition and predation. Finally we will consider the implications of population dynamics to the evolution of life history strategies, to population regulation, and to community structure. Throughout, empirical studies of natural and laboratory populations will be used to test mathematical models of population processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0370 or 0371 or BIOL 1430 or 1515; Min Grade 'C' for all courses listed

BIOSC 1330 - FIELD BOTANY

Minimum Credits: 3
Maximum Credits: 3
Identification of native herbaceous and woody plants in terrestrial communities and the methods of quantifying their relative numbers, mass, and ecological relationships.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120; Min Grade 'C' for all courses listed

BIOSC 1340 - FIELD ENTOMOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is offered at the Pymatuning laboratory of ecology field station. An introduction to the amazing taxonomic and ecological diversity of insects and their close relatives in the phylum Arthropoda. Emphasis will be placed on the collection and identification of the adult stages. Field and laboratory exercises will be supplemented with lectures and selected readings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120; Min Grade 'C' for all courses listed

BIOSC 1350 - PLANT BIOLOGY

Minimum Credits: 3
Maximum Credits: 3

This course will present an in-depth discussion of plant structure, function, and development in an ecological and evolutionary context. In addition, this course will survey the plant kingdom and related taxa with a focus on the evolution of these groups.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120; Min Grade 'C' for all courses listed

BIOSC 1360 - ECOLOGY OF FUNGI

Minimum Credits: 3
Maximum Credits: 3
A survey of the fungi and their interrelationships with abiotic and biotic factors in the environment. Adaptations will be studied in the field of laboratory using both aquatic and terrestrial fungi. Special emphasis will be placed on identification of the larger basidiomycetes (mushrooms).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 180 or 0191 or 0716 or BIOL 0102 or 0120; Min Grade 'C' for all courses listed

BIOSC 1370 - BIOGEOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to acquaint the students with factors that contribute to the local and large-scale distributions of species and higher taxonomic groups. Since biogeography is a multidisciplinary science we will often draw information from a variety of sources, e.g. geology, geography, paleontology, climatology, evolution and ecology. Although the major emphasis will be on the more general phenomena, there will be frequent references to particular taxonomic groups.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0370 or 0371 or BIOL 1430 or 1515 (MIN GRADE 'C')

BIOSC 1380 - GLOBAL ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
Compelling evidence points to the 1990's as the decade of environmental crisis. Human quality of life, and probably survival, likely depends more on treaties about land, air, and water than on weaponry. This course will examine environmental issues of the decade and the basic concepts of the fundamental environmental science - ecology - that underlie them. The nature of key environmental changes, their extent and rates, will be considered, along with likely consequences and possible solutions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0180 or 0191 or 0716) or (BIOL 0102 or 0120) (MIN GRADE 'C')

BIOSC 1390 - FIELD TECHNQ ECOLOGY & CONSR

Minimum Credits: 3
Maximum Credits: 3
This course introduces a variety of field and research techniques used in ecology and conservation, including experimental design, sampling design, and techniques in sampling plants and animals in forests, fields, and aquatic habitats. It will also include an introduction to radio telemetry and the use of GIS and GPS systems. Student projects will be presented at the end of the course. Collectively, these experiences will expose students to important research techniques in biology and prepare them for opportunities to conduct research with researchers in the fields of ecology, evolution, and conservation biology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0180 or BIOSC 0191 or BIOSC 0716) or (BIOL 0102 or 0120)

BIOSC 1410 - VERTEBRATE ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
A field course in vertebrate's natural history, covering the ecology, behavior, and identification of the vertebrates of the northeastern united states.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120 (MIN GRADE 'C')

BIOSC 1420 - WILDLIFE MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3

This field course will address the principles that guide natural resource professionals in management of wildlife, including those used in management of game animals for harvest, in maintenance and restoration of viable populations, and in ecosystem management. The application of principles to actual problems in management and conservation of wildlife populations is emphasized including the techniques used to reduce, maintain, and increase population densities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0180 or 0191 or 0716) or (BIOL 0102 or 0120) (MIN GRADE 'C')

BIOSC 1430 - ECOPHYSIOLOGY

Minimum Credits: 3
Maximum Credits: 3
The adaptations of animals to deal with specialized environmental situations are studied across a spectrum of biological levels (biochemical to the organismal). Thermal relations, water balance, and bioenergetics are major topics in the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0716 or 0191 or 0180) or (BIOL 0102 or 0120) and (CHEM 0120 or 0720 or 0770 or 0970 or 0102 or (CHEM 0112 and 0114)); (Min Grade 'C')

BIOSC 1440 - ANIMAL BEHAVIOR

Minimum Credits: 3
Maximum Credits: 3
This course examines the diversity of animal behavior from evolutionary and ecological points of view. We will examine how animals decide what to eat, where to live, how to compete with each other, and how to avoid predators. We also will investigate how animals choose who to mate with, when they should offer parental care, the conditions that favor social living, and how to best communicate. The lecture and recitation material is appropriate for more advanced students that have been trained in introductory biology and ecology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120; CREQ: BIOSC 0370 or 0371 or BIOL 1430 or 1515 (ALL MIN GRADE 'C')

BIOSC 1445 - ANIMAL COMMUNICATION

Minimum Credits: 3
Maximum Credits: 3
This course addresses the extraordinary variety of ways that animals communicate with each other. We explore how animals produce and receive signals using sound, light, chemicals, mechanical pressure, and electricity. We then approach how such signals evolve by considering questions of optimality, decision making, information theory, and economics. We discuss the contexts in which signals are used, including aggression and dominance, mate attraction and courtship, cooperation and social signaling, and foraging. We conclude by extending to humans, plants, and microbes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0370

BIOSC 1450 - HISTOLOGY

Minimum Credits: 4
Maximum Credits: 4
Course is intended to show how embryonic rudiments build or gans and how tissues and cell types interact to produce the functional systems in the adult. The course covers descriptive, comparative, and experimental histology, but emphasizes the diversity of tissues in organs, and the differentiation of cell types.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 1460 - ECONOMIC BOTANY

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the plant sciences beyond that which occurs in the freshman biology sequence. Objectives are; an understanding of some of the basic principles of plant science, primarily at the structural/functional level in seed plants; and the mutual relationships between plants and humans, with emphasis on plant products, how they are derived and used in various ways by humans.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 1470 - BIOPHYSICAL CHEMISTRY

Minimum Credits: 3
Maximum Credits: 3
This course will deal with fundamental physical chemical principles especially applicable in the study of molecular biology. Topics will include (1) thermodynamics and chemical equilibrium; (2) kinetic theory and transport; and (3) chemical and enzyme kinetics. These subjects will be richly highlighted with numerous examples from biological systems, and techniques for studying these systems will be described. The topics covered will be developed from a physical chemical point of view.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120) (MIN GRADE 'C') and (MATH 0230 or 0231)

BIOSC 1480 - EMBRYOLOGY

Minimum Credits: 3
Maximum Credits: 3
The development of some invertebrates' and vertebrates' eggs, embryos, organs and systems is examined in the light of basic concepts and problems of embryology, emphasizing the techniques, critical approaches, and analytic methods of experimental embryology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120 (MIN GRADE 'C')

BIOSC 1490 - EMBRYOLOGY LABORATORY

Minimum Credits: 2
Maximum Credits: 2
The embryological development of the frog, chick and pig are intensively studied in microscopic preparations emphasizing the integration of temporal and spatial events with attention to homology and adaptation.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

BIOSC 1500 - CELL BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course will be devoted to a discussion of the current state of our understanding of cell structure and function. Eukaryotic cells will be emphasized with particular attention to animal cells. However, prokaryotic cells will be discussed for comparative purposes. Course material will emphasize the experimental basis for our understanding of cell biology and the relationship between structure and function. Most of the techniques to be considered will involve biochemical and molecular biological approaches used in the study of cell function. Thus the course will assume a familiarity with the principles of biochemistry covered in the prerequisites and will not repeat this material. Topics will include membranes, the nucleus, mitochondria and chloroplasts, the cytoskeleton, cell motility, growth and division, endocytosis and exocytosis, and selected topics on the cellular biological aspects of cancer and the immune system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 1000 or 1810 (MIN GRADE 'C')

BIOSC 1510 - CELL BIOLOGY LABORATORY

Minimum Credits: 1
Maximum Credits: 1
This experimental methods course is designed to give upper division majors and opportunity to learn modern techniques used in cell biology research. Students will master the fundamentals of light microscopy (bright field, phase contrast, and dark field) and explore more advanced techniques such as fluorescence, confocal, video, and differential interference contrast microscopy. Students will isolate plasma membranes, mitochondria, nuclei, brush borders, and flagella and characterize these organelles by microscopy, enzyme assays and antibody labeling.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0060 or 0067 or 0068 or 0191 or 0080) or (BIOL 0102 or 0121); CREQ: BIOSC 1500 (MIN GRADE 'C')

BIOSC 1511 - CELL BIOLOGY LAB WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
This course is the writing practicum for cell biology laboratory, BIOSC 1510. Students will prepare laboratory reports based on exercises and assignments for the companion course, BIOSC 1510.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

Course Requirements: PREQ: ENGCMP 0200 or ENGR 0012 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102); CREQ: BIOSC 1510 (MIN GRADE 'C'); PLAN: Molecular Biology (BS)

BIOSC 1520 - DEVELOPMENTAL BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
The mechanisms of animal development will be analyzed. The first half of the course will emphasize classic embryological investigations focusing on how the embryonic body plan becomes organized, while the second half will deal primarily with the genetic and molecular regulation of development. The experimental analysis of such processes as fertilization, morphogenetic movements, tissue interactions, pattern formation, and gene expression will be discussed using examples from a variety of animal embryos, and by discussion of the current research literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0350 or 0355 or BIOL 0350 or 0203 (MIN GRADE 'C')

BIOSC 1530 - DEVELOPMNTAL BIOLGY LABORATORY

Minimum Credits: 1
Maximum Credits: 1
This laboratory course is designed to provide students with practical experience in the scientific method of experimental research with regard to animal development. Initial labs will stress observational skills, but the goal of each will be to understand the careful and deliberate process of experimental design, execution, and the interpretation of results. The importance of establishing and interpreting controls in experimental procedure will also be emphasized.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0060 or 0067 or 0068 or 0191 or 0080 or BIOL 0102 or 0121; CREQ: BIOSC 1520 (ALL MIN GRADE 'C')

BIOSC 1531 - DEVELM BIOLGY LAB WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Course is a writing practicum for developmental biology laboratory, BIOSC 1530. Students will prepare laboratory reports and write essays based on exercises and assignments for the companion course, BIOSC 1530.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or ENGR 0012 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102); CREQ: BIOSC 1530 (MIN GRADE 'C'); PLAN: Molecular Biology (BS)

BIOSC 1540 - COMPUTATIONAL BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This upper-level course is designed to give student's abroad understanding of how computational approaches can be used to solve problems in biology. Current computational techniques will be covered in depth, including sequence analysis and alignment, the construction of phylogenies, and comparison based prediction of function and structure. Course will also provide survey-level coverage of new and specialized techniques, in the form of brief introductions and case studies. Both the biological and computational under pinning's of the methods will be addresses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0180 or 0191or 0716) or (BIOL 0102 or 0120) (MIN GRADE 'C')

BIOSC 1545 - THE MATHEMATICS OF BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course uses specific examples from biology to illustrate how mathematics has been used to increase our understanding of biological systems. Some of the topics that we will cover come from neurobiology, cell biology, and human physiology. For each topic, we will present key mathematical concepts that will give students a new perspective on biology. Standard computer packages will be used to solve the mathematical models, giving the students hands on computer experience. In the final weeks, students will pick a topic of interest and construct their own model by using many of the techniques learned earlier in the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 1000 or 1080 or BIOSC 1250 or BIOSC 1500 or BIOSC 1540 or BIOSC 1810 or MATH 0280

BIOSC 1550 - ECOLOGY AND EVOLUTION SEMINAR

Minimum Credits: 1
Maximum Credits: 1

In this seminar course, a single topic is developed by student presentations of research articles from the original scientific literature as chosen by the instructor. Topics might include, for example, cladistics controversies", "molecular phylogeny", or "wetlands conservation"."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0350 or 0355 or BIOL 0350 or 0203) and (BIOSC 0370 or 0371 or BIOL 1430 or 1515) and BIOSC 1130; (ALL MIN GRADE 'C') PLAN: Ecology and Evolution (BS)

BIOSC 1551 - ECOL & EVOLT SEMNR WRITNG PRAC

Minimum Credits: 1
Maximum Credits: 1
This course is a writing practicum for the ecology and evolution seminar. Students will write one paper, with several revisions, based on the topic of their oral presentation in the co-requisite course BIOSC 1550. Topics will be chosen by the instructor for BIOSC 1550.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or ENGR 0012 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102); CREQ: BIOSC 1550 (MIN GRADE 'C'); PLAN: Ecology and Evolution (BS)

BIOSC 1560 - CELL & DEVELM BIOLOGY SEMINAR

Minimum Credits: 1
Maximum Credits: 1
In this seminar course, a single topic each term is developed by student presentations of research articles from the original scientific literature, as chosen by the instructor. Possible topics might include genes encoding major developmental switch proteins, the cytoskeletal basis of morphological movements in development, or establishing and subdividing body axes in development.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 1500 (MIN GRADE 'C'); CREQ: BIOSC 1520 (MIN GRADE 'C'): PLAN: Molecular Biology (BS)

BIOSC 1561 - CELL DEVELM BIOL SEM WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
This course is a writing practicum for the cell and developmental biology seminar. Topics will be chosen by the instructor for BIOSC 1560.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or ENGR 0012 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102); CREQ: BIOSC 1560 (MIN GRADE 'C'); PLAN: Molecular Biology (BS)

BIOSC 1570 - MICROBIOLOGY SEMINAR

Minimum Credits: 1
Maximum Credits: 1
In this seminar course, a single topic each term will be chosen in which the instructor is experienced and knowledgeable, and in which a suitable collection of primary research articles is available for student presentation. The papers to be discussed will be drawn primarily from the recent literature, and will reflect current concepts in microbiology.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 1865 (MIN GRADE 'C'); PLAN: Microbiology (BS)

BIOSC 1571 - MICROBIOLGY SEMNR WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
This course is a writing practicum for the microbiology seminar. Topics will be chosen by the instructor for BIOSC 1570.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or ENGR 0012 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102); CREQ: BIOSC 1570 (MIN GRADE 'C'); PLAN: Microbiology (BS)

BIOSC 1580 - BIOCHEMISTRY SEMINAR

Minimum Credits: 1
Maximum Credits: 1
In this seminar course, a single topic each term is developed by student presentations of research articles from the original scientific literature, as chosen by the instructor. Recent topics have included biosynthesis of peptide hormones, recombinant DNA technology, processing of mRNA

precursors, protein folding with emphasis on the molecular biology and biochemistry of chaperonins, and protein translocation within cells.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 1820 (MIN GRADE 'C'); PLAN: Molecular Biology (BS)

BIOSC 1581 - BIOCHMSTRY SEMNR WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
This course is a writing practicum for the biochemistry seminar. Topics will be chosen by the instructor for BIOSC 1580.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or ENGR 0012 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102); CREQ: BIOSC 1580 (MIN GRADE 'C'); PLAN: Molecular Biology (BS)

BIOSC 1590 - SPECIAL TOPICS IN BIOLOGCL SCI

Minimum Credits: 1
Maximum Credits: 3
A single major topic in biology will be developed and explored by students in the form of student presentations of current and/or historical literature.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0350 or 0355 or BIOL 0203 or 0350 (MIN GRADE 'C')

BIOSC 1600 - STREAM ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
A lecture, field, and laboratory course covering geological, physical, chemical, and biological aspects of lotic ecosystems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120 (MIN GRADE 'C')

BIOSC 1610 - CONSERVATION BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This field course will focus primarily on the applied aspects of conservation biology by examining the degradation and loss of species populations and ecosystems due to human activities and by considering alternatives for avoiding and/or mitigating these impacts. The perspectives of science, management, and policy will be elucidated in the context of historical, current, and future strategies designed to conserve the diversity of life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0180 or BIOSC 0191 or BIOSC 0716) or (BIOL 0102 or 0120)

BIOSC 1640 - BIOINFORMATICS SOFTWARE DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course will develop software for bioinformatic applications.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: BIOSC 1540 or CS 1501; PLAN: Bioinformatics

BIOSC 1690 - EXPERNC IN UNDERGRAD TEACHING

Minimum Credits: 0.5
Maximum Credits: 6
A program to allow qualified juniors and seniors to assist in the teaching of one of the biological sciences lecture or laboratory courses. Details of the student's responsibility must be worked out with the biological sciences faculty member in whose course the student will be assisting.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

BIOSC 1730 - VIROLOGY

Minimum Credits: 3
Maximum Credits: 3

This course presents the concepts and methods of modern molecular virology. Principles of bacteriophage and animal virus replication are covered. Particular emphasis is placed on the use of viruses as model systems to approach basic problems in molecular biology. Applications of virological knowledge to medicine and biotechnology will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0350 or 0355 OR BIOL 0203) and (BIOSC 1000 and 1850) (MIN GRADE 'C')

BIOSC 1740 - VIROLOGY LABORATORY

Minimum Credits: 1
Maximum Credits: 1
This course accompanies BIOSC 1730. The exercises are designed to give each student practical experience with the methods and techniques used in the study of both bacterial and animal viruses and the reactions of host cells to viral infections. Included are tissue culture techniques, methods used in the isolation, characterization and assay of viruses and purification of viral DNA.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 1855 or 1860) and (BIOSC 0350 or 0355 or BIOL 0203 or 0350); MIN GRADE 'C' for all courses

BIOSC 1741 - VIROLOGY LAB WRITING PRACTICUM

Minimum Credits: 1
Maximum Credits: 1
Course is a writing practicum for virology laboratory, BIOSC 1740. Students will prepare laboratory reports and write essays based on exercises and assignments for the companion course, BIOSC 1740.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or ENGR 0012 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102); CREQ: BIOSC 1740(MIN GRADE 'C')

BIOSC 1750 - IMMUNOLOGY LABORATORY

Minimum Credits: 1
Maximum Credits: 1
This course presents basic principles of immunology and immunological techniques. Experimental methods from both humoral and cellular immunology will be used to study the cells, tissues and molecules involved in immune response initiation and maturation, antibody products and their characteristics, immunoassays, molecular immunology, and both cellular and humoral immune effector functions. Quantitative analysis of data will be emphasized.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0060 or 0067 or 0068 or 0080 or 0191 or BIOL 0102 or 0121) and (BIOSC 0350 or 0355 or BIOL 0350 or 1315) (MIN GRADE 'C'); CREQ: BIOSC 1760 (MIN GRADE 'C')

BIOSC 1751 - IMMUNO LAB WRITING PRACTICUM

Minimum Credits: 1
Maximum Credits: 1
Course is a writing practicum for immunology laboratory, BIOSC 1750. Students will prepare laboratory reports and write essays based on exercises and assignments for the companion course, BIOSC 1750.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

BIOSC 1760 - IMMUNOLOGY

Minimum Credits: 3
Maximum Credits: 3
Course will describe the role of the immune system invertebrates. The molecular and cellular basis of immunity will be emphasized. The roles of antigens, antibodies and immunocompetent cells in pathogenesis and immunity will be covered. The applications of immunology in the design of vaccines, immunotherapeutic, immunodiagnostics, organ transplantation, cancer therapy, and immune system diseases will be discussed, as will the use of immunology in biological research.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0350 or 0355 or BIOL 0350 or 0203 (MIN GRADE 'C')

BIOSC 1810 - MACROMOLECULAR STRUCT & FUNCTN

Minimum Credits: 3
Maximum Credits: 3
This course is concerned primarily with the structure and functions of proteins and nucleic acids. These are large polymers where structure and function are determined by the sequence of monomeric units. Topics will include the physical and chemical properties of the monomer units (amino acids/nucleotides); the determination of the linear sequence of these units; analyses of the three-dimensional structures of the macromolecules; kinetics and mechanisms of enzyme catalyzed reactions, including RNA enzymes; regulation of enzyme activity; molecular recognition; and fidelity of protein synthesis. Emphasis throughout will be on experimental methods, molecular mechanisms and problem solving.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0716 or 0191 or 0180 or BIOENG 1071 or BIOENG 1072 or BIOL 0102 or 0120) (MIN GRADE 'C') and (CHEM 0320 or 0350 or 0740 or 0208 or 0232)

BIOSC 1820 - METBLC PATHWAYS & REGULATION

Minimum Credits: 3
Maximum Credits: 3
The primary focus of this course will be on the pathways of intermediary metabolism by which all cells and organisms synthesize and degrade carbohydrates, lipids (fats), nitrogenous compounds, and nucleotides. Specifically, we will examine the chemistry of the reactions that constitute these pathways, and discuss how energy is derived from the breakdown of nutrients. A strong emphasis will be placed on how the pathways are regulated by specific molecules and hormones in living systems. Finally, we will consider how several human diseases arise from defects in metabolic pathways, and will review papers in the current scientific literature on new techniques by which the components of metabolic pathways are characterized in the laboratory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 1810 (MIN GRADE 'C')

BIOSC 1830 - BIOCHEMISTRY LABORATORY

Minimum Credits: 3
Maximum Credits: 3
Course introduces several basic experimental techniques of biochemistry including spectrophotometry, ion-exchange and gel-permeation chromatography, radio-chemical methods, gel electrophoresis, enzyme isolation, and nucleic acid purification. Lecture will concern the techniques under study.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0060 or 0067 or 0068 or 0191 or 0080 or BIOL 0102 or 0121) and BIOSC 1810 (MIN GRADE 'C'); CREQ: BIOSC 1820 (MIN GRADE 'C')

BIOSC 1831 - BIOCHEMISTRY LAB WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Course is a writing practicum for biochemistry laboratory, BIOSC 1830. Students will prepare laboratory reports and write essays based on exercises and assignments for the companion course, BIOSC 1830.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102 or ENGR 0012); CREQ: BIOSC 1830 (MIN GRADE 'C'); PLAN; Molecular Biology (BS)

BIOSC 1850 - MICROBIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to the basic biology, diversity in types, and survival strategies of microorganisms. We will study basic topics, including microbial growth, metabolism, nutrition and genetics, as well as the relevance of microorganisms to human disease, biotechnology and environmental science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0716 or 0191 or 0180 or BIOENG 1071 or 1072 or BIOL 0102 or 0120) and [CHEM 0120 or 0720 or 0770 or 0970 or 0102 or (0112 and 0114)] (MIN GRADE 'C')

BIOSC 1855 - INTRO TO MICROBIOLOGY LAB

Minimum Credits: 1
Maximum Credits: 1
Students in this course will culture microorganisms from natural samples such as soil, vegetables, and their own skin, and learn various methods in

the process of studying the organisms they have cultured. The topics for the course include (a) survey types of microorganisms, including bacteria, fungi, protozoa, algae, and bacterial viruses, (b) types of methods used to culture and study these microorganisms, (c) some practical applications of microbiology such as microbiological analysis of wastewater, and identification of clinical isolates.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0060 or 0067 or 0068 or 0191 or 0080 or BIOL 0102 or 0121 (MIN GRADE 'C'); CREQ: BIOSC 1850 (MIN GRADE 'C')

BIOSC 1860 - MICROBIOLOGY LABORATORY

Minimum Credits: 2
Maximum Credits: 2
This laboratory course introduces basic techniques used for isolation of microorganisms in pure culture, identification of groups of microorganisms, and study of microbial physiology, genetics, and ecology. Some topics in applied microbiology that are covered include food microbiology, water and waste water analysis, and identification and antibiotic sensitivity-testing of pathogenic isolates. Viruses, archaebacterial, bacteria, algae, protozoa, and fungi that students isolate from soil, pond water, human skin, and other sources are used to illustrate these methods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0060 or 0067 or 0068 or 0191 or 0080 or BIOL 0102 or 0121) (MIN GRADE 'C'); CREQ: BIOSC 1850 (MIN GRADE 'C'); PLAN: Microbiology (BS)

BIOSC 1861 - MICROBIOLOGY LAB WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Course is a writing practicum for microbiology laboratory, BIOSC 1860. Students will prepare laboratory reports and write essays based on exercises and assignments for the companion course, BIOSC 1860.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102 or ENGR 0012); CREQ: BIOSC 1860 (MIN GRADE 'C'); PLAN: Microbiology (BS)

BIOSC 1865 - MICROBIAL PHYSIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course examines the diversity of microbial life from a physiological point of view. We will examine the fundamental processes of microbial metabolism in diverse organisms, and develop a framework for understanding how organisms use different approaches to solve specific needs. Lecture material is appropriate for students trained in introductory microbiology and in biochemistry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 1850 and (BIOSC 1000 or 1810); Minimum Grade 'C'

BIOSC 1870 - ANIMAL PHYSIOLOGY

Minimum Credits: 3
Maximum Credits: 3
Course is a survey of the current state of our knowledge of how animals work. The emphasis will be on physiological mechanisms for survival in natural environments. A comparative approach will stress the diversity of physiological adaptations throughout the animal kingdom. Topics include nutrition, metabolism, muscle, respiration, circulation, osmoregulation, sensory and neural physiology, and hormones. The material will stress multi-cellular systems of organization at the levels of tissues, organs, and whole animals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120 (MIN GRADE 'C')

BIOSC 1880 - ANIMAL PHYSIOLOGY LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Course designed for the serious student who intends to pursue a professional career requiring first-hand experience in current techniques of animal physiology. Experimental topics include energy metabolism, osmoregulation, muscle physiology, neurophysiology, cardiovascular physiology, respiratory physiology, and endocrinology. A major goal is to develop familiarity with the use of current laboratory research procedures through rigorous structured experiments and written laboratory reports.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

Course Requirements: PREQ: BIOSC 0060 or 0067 or 0068 or 0191 or 0080 or BIOL 0102 OR 0121 (MIN GRADE 'C'); CREQ: BIOSC 1870 (MIN GRADE 'C')

BIOSC 1881 - ANIML PHYSLGY LAB WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Course is a writing practicum for animal physiology laboratory, BIOSC 1880. Students will prepare laboratory reports and write essays based on exercises and assignments for the companion course, BIOSC 1880.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102 or ENGR 0012); CREQ: BIOSC 1880 (MIN GRADE 'C'); PLAN: Biological Sciences (BS)

BIOSC 1890 - ADVANCD TOPICS IN MICROBIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This advanced-level lecture course will be one-half devoted to medical microbiology and one-half devoted to microbial ecology. Lectures based on the assigned text will be amplified by detailed treatment of a few related topics. Topics to be treated in extra depth could include (but would not be limited to): modern approaches to epidemiology, current methods of diagnosis, microbial recycling of industrial and agricultural waste, microbial biogeochemical cycling, and deliberate release in the environment of genetically engineered microorganisms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 1850 (MIN GRADE 'C')

BIOSC 1901 - INDEPENDENT STUDY

Minimum Credits: 0.5
Maximum Credits: 6
A program of independent reading with individual tutorials on a topic chosen in consultation with the BIOSC faculty member who will supervise the program.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit
Course Requirements: PREQ: BIOSC 0160 or 0716 or 0191 or 0180 or BIOL 0102 or 0120

BIOSC 1903 - UNDERGRADUATE RESEARCH

Minimum Credits: 0.5
Maximum Credits: 6
A program of independent laboratory research, with supporting library work, on a topic chosen in consultation with the BIOSC faculty member who will supervise the work.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit
Course Requirements: PREQ: [(BIOSC 0060 or 0067 or 0080 or BIOL 0121) and (BIOSC 0160 or 0716 or 0180 or BIOL 0120)] or BIOSC 0191 or BIOL 0102

BIOSC 1904 - UNDERGRADUATE HONORS RESEARCH

Minimum Credits: 0.5
Maximum Credits: 6
A program of independent laboratory and library research on topic chosen in consultation with the BIOSC faculty member who will supervise the work.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit
Course Requirements: PREQ: [(BIOSC 0060 or 0067 or 0080 or BIOL 0121) and (BIOSC 0160 or 0716 or 0180 or BIOL 0120)] or BIOSC 0191 or BIOL 0102 (MIN GRADE 'C')

BIOSC 1905 - HONORS RESEARCH WRITING PRACM

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

BIOSC 1906 - RESEARCH COMMUNICATION

Minimum Credits: 1
Maximum Credits: 1
This course introduces students to a variety of topics associated with the written, oral, and pictorial communication of scientific hypotheses, data, and results, using personal research experiences of students in the course. Students will read scientific literature, discuss how to present data and models, and complete diverse assignments. Techniques to model presentations for different audiences will be emphasized. It is recommended that students work in a research lab while taking the course. The course is for students enrolled in the research certificate in biological and biomedical sciences.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

BIOSC 1907 - RESEARCH DECONSTRUCTION

Minimum Credits: 1
Maximum Credits: 1
This course takes an in depth look into how scientific research is done by studying where research is done, who does it, how questions are developed, how approaches and techniques are chosen, and how data is analyzed and presented. Students listen to a research seminar aimed at an expert audience, and then dissect the work throughout the semester. At the end of term, pieces from studying the research project are reassembled, a video of the seminar critiqued, and the course concludes with a Q+A session with the seminar speaker. The course is for students enrolled in the research certificate in biological and biomedical sciences.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: BIOSC 0160 or 0180 or BIOSC 0191 or BIOSC 0716 or BIOL 0102 or 0120; CREQ: BIOSC 1903 or BIOSC 1904 or NROSCI 1901 or NROSCI 1961

BIOSC 1940 - MOLECULAR BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
Course will examine the molecular basis of life processes, with a primary emphasis on genes (what they are, what they do, how they determine the properties of an organism). Topics covered will include replication of DNA, transcription of DNA into rna, and translation of RNA into protein. Much of the course will be concerned with how these processes are regulated in response to changes in the environment, and how this regulation relates to the observed properties and behavior of the organism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0350 or 0355 or BIOL 0350 or 0203) and (BIOSC 1000 or 1810) (MIN GRADE 'C')

BIOSC 1950 - MOLECULAR GENETICS LABORATORY

Minimum Credits: 2
Maximum Credits: 2
This course will discuss the theories and methodologies that have recently emerged as the central theme of modern molecular genetics. Lectures will emphasize descriptions and applications of techniques such as molecular cloning, restriction site mapping, in vitro mutagenesis, the polymerase chain reaction and DNA sequence analysis that have led to the recent explosion in knowledge about chromosome organization, gene structure, and the regulation of gene expression. Laboratory sessions will emphasize polymerase chain reaction, agarose gel electrophoresis, cloning DNA fragments, bacterial transformation, restriction analysis, and the sanger method of sequencing DNA.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 0060 or 0067 or 0068 or 0191 or 0080 or BIOL 0102 or 0121 (MIN GRADE 'C'); CREQ: BIOSC 1940 (MIN GRADE 'C')

BIOSC 1951 - MOLEC GENETCS LAB WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Course is a writing practicum for molecular genetics laboratory, BIOSC 1950. Students will prepare laboratory reports and write essays based on exercises and assignments for the companion course, BIOSC 1950.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102 or ENGR 0012); CREQ: BIOSC 1950 (MIN GRADE 'C'); PLAN: Molecular Biology (BS)

BIOSC 1980 - MOLECULAR BIOPHYSICS

Minimum Credits: 2
Maximum Credits: 2
This is an advanced level course that introduces students to the physical chemistry of biological macromolecules and the methods used to study their structure, interactions, and function. Concepts of positional and structural information will be integrated with those of thermodynamics, statistical

mechanics, and kinetics. We will focus on the enzyme rnase-a, a paradigm for the study of the physico-chemical properties and mechanism of function of proteins.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BIOSC 1990 - MOLECULAR BIOPHYSC LABORATORY
Minimum Credits: 3
Maximum Credits: 3
This is an advanced level laboratory course that introduces students to modern techniques such as x-ray crystallography, NMR and cd spectroscopy, calorimetry, and molecular dynamics simulations for the study of the structure, interactions, and function of biological macromolecules. Experiments will use the enzyme rnase-a, a paradigm for the study of the physico-chemical properties and mechanism of function of proteins.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

BIOSC 1999 - MEDICAL MICROBIOLOGY
Minimum Credits: 3
Maximum Credits: 3
This is an advanced level lecture course educating students in the microbial aspects of human infectious diseases. Students will learn about the microbial basis of infection, the host response, and the nature of specific infections within the human body. The course also will present approaches for the diagnosis of infections and strategies for disease control. The topics of medical microbiology will be presented in a system-based rather than an organism-based approach.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: BIOSC 1850 (MIN GRADE 'C')

Biological Statistics

BIOST 1200 - INTRO BIOSTATISTICAL REASONING
Minimum Credits: 3
Maximum Credits: 3
This SIBS Pittsburgh program is an introduction to the most commonly used statistical tools in 2-sample comparative studies in medicine and public health, with an emphasis on applications in epidemiology and human genetics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BIOST 1201 - SEM IN BIOSTATISTICAL COLLBRTN
Minimum Credits: 1
Maximum Credits: 1
The SIBS Pittsburgh program is developed around the collaborative research of the participating faculty and is organized into three components. The seminar component is a paired set of presentations, an overview lecture on a general area and the presentation of a specific study/data set. The journal club component will involve reading and discussion of papers. In the independent study component small groups of students will meet with a study team and develop a small data analysis project.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

BIOST 2011 - PRINCIPLES OF STATISTICAL REASONING
Minimum Credits: 3
Maximum Credits: 3
Acquaints students with the concepts of statistical reasoning as applied to the study of public health problems. Students learn the general principles of statistical analysis and acquire the ability to utilize a statistical software package (Minitab) as a tool to facilitate the processing, editing, storing, displaying, analysis and interpretation of health research related data.
Academic Career: GRAD
Course Component: Lecture
Grade Component: GradLG/SU3
Course Requirements: PROG: Graduate School of Public Health; PLAN: Excluded Plans = Biostatistics(DPH, PHD, MPH, MS, MSH)

BIOST 2012 - BAYESIAN & EMPIRICAL BAYES STAT
Minimum Credits: 3
Maximum Credits: 3
THE THEORETICAL FOUNDATIONS OF BAYESIAN AND EMPIRICAL BAYES STATISTICAL METHODS WILL BE PRESENTED. THE

USE OF THESE METHODS IN DATA ANALYSIS WILL BE ILLUSTRATED WITH SPECIFIC EXAMPLES AND WITH DISCUSSIONS OF COMMON DATA ANALYSIS ISSUES CONTRASTS AND SIMILARITIES BETWEEN BAYESIAN, EMPIRICAL BAYESIAN, AND CLASSICAL METHODS WILL BE EVALUATED.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Letter Grade

BIOST 2041 - INTRODUCTION TO STATISTICAL METHODS 1
Minimum Credits: 3
Maximum Credits: 3
Discusses techniques for the application of statistical theory to actual data. Topics include probability theory, estimation of parameters, and tests of hypothesis for both the discrete and continuous case.
Academic Career: GRAD
Course Component: Lecture
Grade Component: GradLG/SU3

Business

BUS 0001 - CBA ORIENTATION
Minimum Credits: 1
Maximum Credits: 1
This orientation course is designed to help new CBA students successfully launch their preparation for a career in business while enhancing the skills necessary to succeed in CSA and CBA coursework. Primary focus on academic habits skill building, career exploration, communication basics, and personal computer skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

BUS 0010 - YOUR ACADEMIC & CAREER SUCCESS
Minimum Credits: 1
Maximum Credits: 1
In this course, you will: learn the technical aspects (academic and experiential attributes) pertaining to the majors offered in CBA, and how they relate to your next step; extensively use the wall street journal; explore global opportunities, such as study abroad, the international internship program, etc., develop networking skills, and establish your personal and professional network; create a resume that has been reviewed by a professional development consultant; and establish a SIMON account on which you may post your resume, schedule appointments with CLDC staff, register for events, view internship/job opportunities, and access secure documents.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit
Course Requirements: PROG: College of Business Admin

BUS 0020 - YOUR CAREER SUCCESS
Minimum Credits: 1
Maximum Credits: 1
In this course, you will: learn and practice a variety of tools used in the exploration of career paths (e.g., MBTI, strong inventory, informational interviewing, job shadowing, etc.); Explore your skills, abilities, and preferred roles and environments; develop and implement a personal strategy for career goal setting and planning; learn the internship and job search processes; learn and practice communication tools necessary throughout the job application process (e.g., resume, cover letter, unsolicited letter, letter of regret, networking, interviewing, and accepting job offers).
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit
Course Requirements: PROG: College of Business Admin

BUS 1020IS - CBA INT'L INTERNSHIP PRG - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Internship
Grade Component: No Grade Required

BUS 1020OS - CBA INT'L INTERNSHIP PRG - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD

Course Component: Internship
Grade Component: No Grade Required

BUS 1021IS - CBA INT'L INSHP PRG PARIS - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Internship
Grade Component: No Grade Required

BUS 1021OS - CBA INT'L INSHP PRG PARIS - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Internship
Grade Component: No Grade Required

BUS 1023 - GLOBAL PERSPECTIVES

Minimum Credits: 1
Maximum Credits: 1
This one-credit, one-week international experience is for students who wish to gain valuable experience and exposure to several business sectors and firms within the visited country. The purpose of experience is to focus on four industry-specific business sectors relevant to the historical, cultural, political, and economic background of the country. The sectors will be chosen from the following: healthcare, tourism/hospitality, arts, sports/athletics, human/social services, education, real estate, and banking. As a result of the experience, students will develop a "tool kit" of concepts and information regarding the cultural and business climate of the country in focus, begin developing of a working knowledge of how differences in cultural context affect business activities and develop a basis for critical evaluation of a country- specific, cross-sector business analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1023IS - GLOBAL PERSPECTIVES - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUS 1023OS - GLOBAL PERSPECTIVE- OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUS 1025 - DOING BUSINESS IN EUROPE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1027 - DOING BUSINESS IN ASIA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1028 - DOING BUSINESS IN JAPAN

Minimum Credits: 3
Maximum Credits: 3

The purpose of this course is to provide a broad introduction to business in Japan. Topics covered include: the Japanese economy, from post-war growth, through the 'bubble' and post-'bubble' years, to today; ongoing demographic, social/cultural, and structural change; human resource and production management; women in the workforce; and working with Japanese in a business setting. By the end of the course, students will be more knowledgeable about Japan and Japanese business, and about the opportunities and challenges facing Japanese firms and individuals working in or with Japanese firms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1030 - DOING BUSINESS LATIN AMERICA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1035 - DOING BUSINESS: CZECH REPUBLIC

Minimum Credits: 3
Maximum Credits: 3
This course is for students who wish to gain valuable work experience, develop professional skills, and earn academic credit while in a foreign setting. The first two weeks will be spent on Pitt's campus, providing students with an opportunity to develop cultural knowledge and language skills. Faculty will then accompany students abroad and hold courses for an additional two weeks; students then begin their business internship. Final student presentations will take place in September. No prior language knowledge is required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1036 - DOING BUSINESS: GERMANY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1038 - DOING BUSINESS: PR OF CHINA

Minimum Credits: 3
Maximum Credits: 3
This course is for students who wish to gain valuable work experience, develop professional skills, and earn academic credit while in a foreign setting. The first two weeks will be spent on Pitt's campus, providing students with an opportunity to develop cultural knowledge and language skills. Faculty will then accompany students abroad and hold courses for an additional two weeks; students then begin their business internship. Final student presentations will take place in September. No prior language knowledge is required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1039 - DOING BUSINESS: FRANCE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1040 - DOING BUSINESS: BRAZIL

Minimum Credits: 3
Maximum Credits: 3
This course is for students who wish to gain valuable work experience, develop professional skills, and earn academic credit while in a foreign setting. The first two weeks will be spent on Pitt's campus, providing students with an opportunity to develop cultural knowledge and language skills. Faculty will then accompany students abroad and hold courses for an additional two weeks; students then begin their business internship. Final student presentations will take place in September. No prior language knowledge is required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1045 - DOING BUSINESS IN SPAIN

Minimum Credits: 3
Maximum Credits: 3

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1175 - INTRO TO INTERNATIONAL BUSINSS

Minimum Credits: 3
Maximum Credits: 3
Examines why firms engage in international activities foreign trade, operating abroad, technology transfer, and various ways business can be conducted internationally. Critical economic, legal, political, social and cultural factors affecting international business will be reviewed as they influence corporate objectives and actions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BUS 1176 - TOPICS INTERNATIONAL BUSINESS

Minimum Credits: 3
Maximum Credits: 3
Focuses on a variety of international business issues. The specific issues addressed will vary by instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1392 - PERSONAL FINANCIAL PLANNING

Minimum Credits: 1
Maximum Credits: 1
This course deals with the basics of personal financial planning. Students will create personal financial plans based on projected horizons of 1, 3, and 5 years. The primary focus is on near term planning with emphasis on: initial savings, paying off student debt, judicious use of credit, and investing for short and long term goals. Students will prioritize and codify their plans based on personal, professional, and lifestyle objectives projected over the plans stated horizons.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

BUS 1447 - TOPICS INT'L HR MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
This course explores topics of current interest in international human resources management. Topics covered will vary by instructor in areas such as HRM planning, selection, recruitment, appraisal, compensation and benefits, training and development, labor relations, and organizational culture and structure.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BUS 1448 - TOPICS INT'L ORGNZTNL BEHAVR

Minimum Credits: 3
Maximum Credits: 3
This course explores topics in the field of organizational behavior that have significant international dimensions such as leadership, work motivation, organizational culture, communication, and team dynamics. Topics covered will vary by instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BUS 1449 - TOPICS IN INT'L MARKETING

Minimum Credits: 3
Maximum Credits: 3
This course explores topics of current interest in international marketing. Topics covered will vary by instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BUS 1780 - INT'L MGT & LEADRSHP ESSENTLS

Minimum Credits: 2
Maximum Credits: 2
Managers face complex demands when pursuing initiatives in international settings. Students are given a basic set of tools to assess management and leadership challenges in a global context, and work on an experiential global team project.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Satisfactory/No Credit

BUS 1865 - TOPICS IN ENTREPRENEURSHIP

Minimum Credits: 3
Maximum Credits: 3
This course explores topics in the field of entrepreneurship. The topics covered will vary by instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1900 - BUSINESS INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
The business internship provides an opportunity for students to study in depth a particular area of business management in a work setting. An internship is primarily an academic experience, not a part-time or full-time job, in which students work for a firm or organization under a supervisor and faculty sponsor to achieve specific educational objectives.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: Restricted for College of Business Administration

BUS 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of business problems or functions to which they have been introduced in other business courses. The course involves directed reading and research under guidance of a full-time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis
Course Requirements: Restricted for College of Business Administration

BUS 1901IS - INDEPENDENT STUDY - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

BUS 1901OS - INDEPENDENT STUDY - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

BUS 1902 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of business problems or functions to which they have been introduced in other business courses. The course involves directed reading and research under guidance of a full-time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit
Course Requirements: Restricted for College of Business Administration

BUS 1903 - CAREER EXPLORATION INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
CBA students who participate in a full-time, career-developing internship experience as an integral part of their CBA academic program may register for this course. Students must have completed at lEast 60 credits, be in good academic standing, and plan to return to campus the first spring or fall term immediately following the internship term. Internships for this course are designated by the offering organization as full-time and lasting the duration of the term. Internship agreements specifying the academic work to be completed as part of the internship are required.
Academic Career: UGRD

Course Component: Internship
Grade Component: Letter Grade
Course Requirements: Restricted for College of Business Administration

BUS 1904 - CBA FULL-TIME CO-OP

Minimum Credits: 1
Maximum Credits: 1
CBA students who participate in a full-time career-developing internship experience as an integral part of their CBA academic program may register for this course. Students must have completed at least 60 credits, be in good academic standing, and plan to return to campus the first spring or fall term immediately following the internship term. Internships for this course are designated by the offering organization as full-time and lasting the duration of the term. Internship agreements specifying the academic work to be completed as part of the internship are required.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: Restricted for College of Business Administration

BUS 1905 - MANAGRIAL COMPETENCIES INTSHP

Minimum Credits: 3
Maximum Credits: 3
The managerial competencies internship is an opportunity for students to explore a career interest and develop competencies necessary for effective performance as a manager through a formal work experience in a business or non-profit organization. The course focuses on those managerial roles and competencies required for successful performance in the intern's position. Interns learn about the primary roles of their position and develop several key competencies with the company supervisor and instructor as mentors.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

BUS 1906 - CAREER EXPLORATION INTERNSHIP

Minimum Credits: 1
Maximum Credits: 1
This internship course is designed to help students improve self-awareness of personal preferences with respect to career interests in the context of a work experience. Incorporates readings, self-assessment instruments and exercises, job analysis, journal entries and two performance appraisals. May be used for internships, summer jobs, part time jobs and full-time positions that involve work related to a possible career interest. The internship site may be located anywhere in the world.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

BUS 1910 - BUSINESS INT'L INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

BUS 1920 - BRAZL TODAY:ETHNY ECONY ENVRN

Minimum Credits: 1
Maximum Credits: 1
After an overview of brazil, this course will provide an introduction to brazil in three dimensions: its diverse groups of people, the growth and development of the Brazilian economy, and the environmental opportunities and challenges in modern Brazil.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

BUS 1925 - CHINA TODAY

Minimum Credits: 1
Maximum Credits: 1
The course will explore: who are "the Chinese"? How does china's multi-ethnic composition affect educational opportunity and career advancement? Education in china past and present: how does the history of education in china affect educational opportunity today?' What is in store as china moves from technological supplier to technological innovator?
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1930 - S AFR TODAY: ECONY, TEC & PEPL

Minimum Credits: 1
Maximum Credits: 1
South Africa's 2010 entry into brics transformed bric from a body founded on comparable economic performance, to an increasingly a political club representing the developing world, determined to counterbalance Western influence in major international forums. Entrance into this club is connected to the race for mineral resources needed by emerging nations. South Africa is the fourth largest source of gold and diamonds, and sitting on three-quarters of global pLatinum reserves. By 2014, the IMF predicts Brazil, India, China, Russia and South Africa will contribute to 60% of the global growth.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUS 1940 - STUDY ABROAD

Minimum Credits: 1
Maximum Credits: 18
Study abroad represents credits earned in an approved study abroad program.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1941 - STUDY ABROAD: ARGENTINA

Minimum Credits: 1
Maximum Credits: 18
Study abroad Argentina represents credits earned in an approved study abroad program in Argentina.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1942 - STUDY ABROAD: AUSTRALIA

Minimum Credits: 1
Maximum Credits: 18
Study abroad Australia represents credits earned in an approved study abroad program in Australia.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1943 - STUDY ABROAD: AUSTRIA

Minimum Credits: 1
Maximum Credits: 18
Study abroad Austria represents credits earned in an approved study abroad program in Austria.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1946 - STUDY ABROAD: BRAZIL

Minimum Credits: 1
Maximum Credits: 18
Study abroad Brazil represents credits earned in an approved study abroad program in Brazil.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1949 - STUDY ABROAD: CANADA

Minimum Credits: 1
Maximum Credits: 18
Study abroad Canada represents credits earned in an approved study abroad program in Canada.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1952 - STUDY ABROAD: CHINA

Minimum Credits: 1
Maximum Credits: 18
Study abroad China represents credits earned in an approved study abroad program in China.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1953 - STUDY ABROAD: COSTA RICA
Minimum Credits: 1
Maximum Credits: 21
Study abroad Costa Rica represents credits earned in an approved study abroad program in Costa Rica.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1955 - STUDY ABROAD: DENMARK
Minimum Credits: 1
Maximum Credits: 18
Study abroad Denmark represents credits earned in an approved study abroad program in Denmark.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1958 - STUDY ABROAD: ENGLAND
Minimum Credits: 1
Maximum Credits: 18
Study abroad England represents credits earned in an approved study abroad program in England.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1961 - STUDY ABROAD: FRANCE
Minimum Credits: 1
Maximum Credits: 18
Study abroad France represents credits earned in an approved study abroad program in France.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1964 - STUDY ABROAD: GERMANY
Minimum Credits: 1
Maximum Credits: 18
Study abroad Germany represents credits earned in an approved study abroad program in Germany.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1965 - STUDY ABROAD: INDIA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1967 - STUDY ABROAD: IRELAND
Minimum Credits: 1
Maximum Credits: 18
Study abroad Ireland represents credits earned in an approved study abroad program in Ireland.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1970 - STUDY ABROAD: ISRAEL
Minimum Credits: 1
Maximum Credits: 18
Study abroad Israel represents credits earned in an approved study abroad program in Israel.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1973 - STUDY ABROAD: ITALY

Minimum Credits: 1
Maximum Credits: 18
Study abroad Italy represents credits earned in an approved study abroad program in Italy.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1976 - STUDY ABROAD: JAPAN

Minimum Credits: 1
Maximum Credits: 18
Study abroad Japan represents credits earned in an approved study abroad program in Japan.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1979 - STUDY ABROAD: MEXICO

Minimum Credits: 1
Maximum Credits: 18
Study abroad Mexico represents credits earned in an approved study abroad program in Mexico.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1982 - STUDY ABROAD: RUSSIA

Minimum Credits: 1
Maximum Credits: 18
Study abroad Russia represents credits earned in an approved study abroad program in Russia.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1985 - STUDY ABROAD: SPAIN

Minimum Credits: 1
Maximum Credits: 18
Study abroad Spain represents credits earned in an approved study abroad program in Spain.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1987 - STUDY ABROAD: URUGUAY

Minimum Credits: 1
Maximum Credits: 18
Study abroad Uruguay represents credits earned in an approved study abroad program in Uruguay.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1990 - STUDY ABROAD: SEMESTER-AT-SEA

Minimum Credits: 1
Maximum Credits: 18
Study Abroad Semester-at-Sea represents credits earned in an approved Semester at Sea Program.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUS 1995 - STUDY ABROAD: INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
The study abroad internship provides an opportunity for students to study in depth a particular area of business management in a work setting outside of the United States. An internship is primarily an academic experience, not a part-time or full-time job, in which students work for a firm or organization under a supervisor and faculty sponsor to achieve specific educational objectives.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

BUS 1997 - STUDY ABROAD: EXCHANGE PROGRAM

Minimum Credits: 1
Maximum Credits: 18
The study abroad exchange program represents credits earned in an approved exchange agreement between the university of Pittsburgh and another educational institution.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

Business Accounting

BUSACC 0030 - FINANCIAL ACCOUNTING

Minimum Credits: 3
Maximum Credits: 3
Helps students become informed users of firms' external financial accounting reports. The basic structure and contents of such reports and the process by which they are prepared will be studied. Discussion will involve what items are included in financial accounting reports, how such items are measured, and how various economic events affect the reports. An understanding of what can be inferred from the reports about the past performance, present position, and future prospects of the firm will be developed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECON 0100 or 0102 or 0103 or 0105 or 0110 or 0115 or 0120; PROG: College of Business Administration; LVL: So, Jr, Sr

BUSACC 0040 - MANAGERIAL ACCOUNTING

Minimum Credits: 3
Maximum Credits: 3
Introduces students to the basic terminology and concepts of cost accounting, including product costing, budgetary control, responsibility accounting, and the use of cost information in resource allocation and other managerial decisions. Textbook material and various applications in actual organizations are used to engage students in applying the concepts and methods that have been developed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 0030 or BUSERV 1920 or CDACCT 6030 or MGMT 0022 or BUS 0115 or ACCT 0201; PROG: College of Business Administration

BUSACC 1204 - INTERMEDT FINANCL REPORTING 1

Minimum Credits: 3
Maximum Credits: 3
Covers the conceptual framework of financial accounting and its influence on Generally Accepted Accounting Principles (GAAP), with special emphasis on the valuation of assets and measurement of income.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ:(BUSACC0030orBUSERV1920orCDACCT6030orMGMT0022orBUS0115or ACCT0201)and(BUSACC0040orBUSERV1925orCDACCT6040orMGMT0023or BUS1110orACCT0202);MINGRADE 'CForListed Courses;PLAN: Acct,Fin,Gen Mgmt,Glbl Mgmt,Mrktng,Undclrd CBA,BIS,HRM,SCM,Not Cand Pre-MACC"

BUSACC 1205 - INTERMEDT FINANCL REPORTING 2

Minimum Credits: 3
Maximum Credits: 3
Topics covered include valuation of liabilities, owners' equity, cash flow statements, and disclosure outside the primary financial statements. Like intermediate financial reporting 1, this course also engages students as active participants in the learning process. Required for all accounting majors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 1204; PLAN: PLAN: Accounting, FInance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared, Not Cand for degree-Pre-MACC

BUSACC 1206 - INTERMEDT FINANCL REPORTING 3

Minimum Credits: 3
Maximum Credits: 3
Covers the current developments in Generally Accepted Accounting Principles (GAAP) and some highly technical accounting topics not covered in intermediate financial reporting 1 and 2. Requirements include resolving complex and unstructured financial accounting and reporting problems and presenting reasoning both orally and in writing.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade

BUSACC 1210 - FINANCIAL STATEMENT ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Financial statement analysis focuses on the evaluation of publicly traded company financial statements and related note disclosures as well as the correlation of this historic financial performance to the company's stock prices. This course will assist students' development of a systematic approach to analyzing reported financial data and understanding the underlying risks and possible inconsistencies among comparative companies. Requirements of the course include interim exams and written and oral presentations of analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 1205; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared

BUSACC 1216 - ADVANCED FINANCIAL ACCOUNTING

Minimum Credits: 3
Maximum Credits: 3
Covers topics that are of particular interest to financial report preparers and auditors. Special emphasis placed on accounting for business combinations and consolidated financial reporting. Other topics include international accounting, accounting for partnerships, and accounting by fiduciaries. Required for all accounting majors pursuing the CPA track.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 1205; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared

BUSACC 1221 - STRATEGIC COST MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Topics covered include how product cost measurement affects resource allocation decisions; how to design modern cost systems; the strategic role of cost information and the relationship between process improvement and cost reduction; performance measurement and organizational transformation for value creation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ:(BUSACC0030orBUSERV1920orCDACCT6030orMGMT0022orBUS0115or ACCT0201)and(BUSACC0040orBUSERV1925orCDACCT6040orMGMT0023or BUS1110orACCT0202);MINGRADE 'CForListed Courses;PLAN: Acct,Fin,Gen Mgmt,Glbl Mgmt,Mrktng,Undclrd CBA,BIS,HRM,SCM"

BUSACC 1226 - TOPICS IN MANAGEMENT ACCONTING

Minimum Credits: 3
Maximum Credits: 3
Extends the basic concepts developed in strategic cost analysis and financial value to their role in an organization's managerial control system. Topics covered include decentralization, development of budgetary control systems for responsibility accounting, financial and non-financial performance measures, transfer pricing, and managerial incentives and compensation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSACC 1236 - ACCOUNTING INFORMATION SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
Focuses on the design and implementation of accounting information systems and their ability to: collect data on the activities of an organization, accumulate and summarize the data, and make the information available to managers for analysis, decision-making and control.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ:(BUSACC0030orBUSERV1920orCDACCT6030orMGMT0022orBUS0115or ACCT0201)and(BUSACC0040orBUSERV1925orCDACCT6040orMGMT0023or BUS1110orACCT0202);MINGRADE 'CForListed Courses;PLAN: Acct,Fin,Gen Mgmt,Glbl Mgmt,Mrktng,Undclrd CBA,BIS,HRM,SCM,Not Cand Pre-MACC"

BUSACC 1238 - AUDITING

Minimum Credits: 3
Maximum Credits: 3

Introduces auditing process and profession. Main topics include nature and purpose of auditing, auditing standards, professional conduct, auditor legal liability and approaches in auditing financial statements. Emphasizes a risk-based approach to selecting appropriate auditing techniques. Examines auditor's decision process relating to internal control assessment, audit decision process relating to internal control assessment, audit sampling and obtaining audit evidence about financial accounts. Examines extent of auditor's responsibility to uncover fraud.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 1205; CREQ: BUSACC 1236; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared, Not Cand for Degree-Pre-MACC

BUSACC 1241 - TAX ACCOUNTING
Minimum Credits: 4
Maximum Credits: 4
Intensive introduction to federal income tax concepts, statutes and regulations, and their use in accounting and planning of business activities of corporations. Partner ships, and individual proprietorships. Also covered are federal income tax concepts for individuals, including their use in accounting and planning of personal activities and investments. Required for all accounting majors pursuing the CPA track.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSACC 1242 - INDIVIDUAL TAX ACCT & PLANNING
Minimum Credits: 3
Maximum Credits: 3
This course focuses on individual tax return preparation and planning. Students will learn how to calculate the taxes associated with a variety of personal, investment, property, and sole-proprietorship transactions. Concepts will be reinforced through the preparation of actual tax returns that reflect different combinations of such transactions. Students will develop tax planning skills by considering how various transactions can be restructured to minimize the current or future tax liability.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 1205 or CDACCT 6205; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared

BUSACC 1296 - ACCOUNTING INTERNSHIP
Minimum Credits: 3
Maximum Credits: 3
The accounting internship provides business credits for project assignments that augment a professional accounting work experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: PREQ: BUSACC 1205; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared

BUSACC 1298 - ACCOUNTING INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of accounting issues or problems to which they have been introduced in other accounting courses. The course involves directed reading and research under the guidance of a full-time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 1205; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared

Business Economics

BUSECN 1010 - MANAGERIAL ECONOMICS
Minimum Credits: 3
Maximum Credits: 3
Primarily an applied microeconomics analysis although some applied macroeconomic analysis of relevance to the business firm may also be treated. Emphasizes the development of economic tools and concepts which can be used in the firm's management decision-making process. Builds upon the standard economic analysis of the firm which integrates a company's revenue, cost, output and pricing decisions. Marginal and incremental reasoning is stressed as an important decision making principle.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0120 or 0126 or 0136 or 0140 or 0220 or 0235) and (ECON 0100 or 0102 or 0105 or 0120) and (ECON 0103 or 0110 or 0115 or 0120); PROG: College of Business Administration

BUSECN 1505 - INDIA TODAY: INNOV INDUST & ED
Minimum Credits: 1
Maximum Credits: 1
This short course will explore how innovation, industry and education interact in India and play a role in the perceived position of India as a world.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

BUSECN 1508 - INT'L ECON FOR MANAGR
Minimum Credits: 3
Maximum Credits: 3
This course introduces the broad field of int'l econ, with emphasis on developing framework for effective management in today's global economoy. Key issues and problems are explored in areas of int'l trade, int'l investment & int'l payments, from perspective of manager of enterprises in operating in a cross-border, int'l environment. The approach will be verbal, graphical and non-technical and will draw from actual data sets and late-breaking news items from such business-oriented publications as Financial Times Economist, Wall Street Journal and New York Times.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: International Business (CPIB-CR1) or Global Management (GLMGT-BSBA)

BUSECN 1509 - INT'L BUSINESS AND TRADE
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSECN 1510 - RUSSIA TODAY:ENRGY ECON & POLC
Minimum Credits: 1
Maximum Credits: 1
This course will introduce students to Russia's political, economic, and institutional transformation as a result of the collapse of communism. It will focus on the transition from communism and state-planned economy to democracy and market economy. The course will discuss political and economic transformations, as well as changes in public policy, including health, education and the arts. The course will also focus on pressing contemporary issues of global importance such as energy policy, international trade, and Russia's position on the war of terror.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

Business Environment

BUSENV 0060 - MGRL ETHICS & STAKEHOLDER MGT
Minimum Credits: 3
Maximum Credits: 3
Examines the social, political and legal interfaces between the business institution (especially the corporation) and the environment. Topics typically considered include ethical and value issues in business, the social responsibilities of business, business-government relations, and the management of stakeholder relationships and corporate social policy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: College of Business Administration; LVL: So, Jr, Sr

BUSENV 0061 - CPLE:MGRL ETHC STAKEHOLDER MGT
Minimum Credits: 3
Maximum Credits: 3
Course examines the social, political and legal interfaces between the business institution (especially the corporation) and the environment. Topics typically considered include ethical and value issues in business, the social responsibilities of business, business-government relations, and the management of stakeholder relationships and corporate social policy. This section is reserved for students pursuing the certificate program in leadership and ethics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Leadership and Ethics (CERT)

BUSENV 1701 - ETHCAL LEADERSHIP FUNDAMENTALS

Minimum Credits: 1
Maximum Credits: 1
In this first integrated seminar of the CPLE sequence, students are introduced to ethics concepts and leadership skills - with a particular emphasis on demonstrating how ethics and leadership are complementary areas of emphasis for an effective leader. Ethics and leadership must be considered together in order to produce leaders who have the foresight to consider issues of responsibility, account ability and the full impact of their actions as well as a skill set that will empower them to implement their vision.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Leadership and Ethics (CERT)

BUSENV 1702 - LEADERS: DIVERSITY & COMPLXITY

Minimum Credits: 1
Maximum Credits: 1
In this second integrated seminar of the CPLE sequence, students will be challenged to view organizations as being part of a greater and more complex social system. Students will be required to recognize and analyze the competing pressures that can arise in organizational contexts, both conceptually - through readings on diversity in organizations, and practically - through attention to the leadership skills needed to navigate conflicts and disputes in their leader ship roles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSENV 1703 - STAKEHOLDER MANAGEMENT

Minimum Credits: 1
Maximum Credits: 1
In the third integrated seminar in the cple sequence, students will consider the practical realities of the popular notion that "leaders must exhibit moral courage" - particularly the often-competing expectation that leaders remain true and loyal to an organization and its purpose. Students will be challenged to develop their skills in regard to managing the political environment of their organization, while maintaining relationships with key constituents.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSENV 1704 - SOCIAL IMPACT OF ORGANIZATIONS

Minimum Credits: 1
Maximum Credits: 1
In this fourth and final integrated seminar of the CPLE sequence, students will learn to consider the broader implications of their organizations involvement in social issues and concerns. Students will be encouraged to develop their negotiation and delegation skills as a means of empowering them to act when their organization in the midst of a difficult social context. In particular, there will be an examination of the in-depth organization involvement in the holocaust.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSENV 1706 - MARKET MANIPULATIONS

Minimum Credits: 3
Maximum Credits: 3
Taking a historical perspective, the course focuses on the major kinds of market manipulations, as well as their impacts. Major topic areas include: the nature of a market and its 'failures,' and how firms as well as governments evolved to compensate for those failures; types of major market calamities, with historical comparisons, examining how they might have been successfully managed; the market manipulators, focusing on the 'robber barons' of the 'gilded age;' and the contexts and consequences of market manipulation, including an overview of factory towns and of worker impacts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSENV 1750 - LEADERSHIP & ETHICS INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
Students will complete both social and ethics audits of the organization for which they are working an internship assignment. These exercises are designed to lead students to examine and critique their organization's commitment to ethics and leadership in a critical, yet balanced, manner. The content of the internship course centers around students independently recognizing & identifying how issues related to ethics & leadership are & are not addressed in the organizations that they serve. Students permitted to take any internship approved by CBA's Berg Center for Leadership and Ethics.

Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: PLAN: Leadership and Ethics(CERT)

BUSENV 1755 - SERVICE LEARNING ORGANIZATIONS

Minimum Credits: 3
Maximum Credits: 3
This course is designed around an experiential learning methodology that uses a service project for a community organization to enhance student understanding of a particular content area in leadership and ethics. Students will be challenged to immerse themselves in readings, essays and discussions in a specific content area that will be operationalized and reviewed throughout the duration of the community service project.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Leadership and Ethics (CERT)

BUSENV 1760 - BUSINESS LAW

Minimum Credits: 3
Maximum Credits: 3
Provides students with an exposure to the extensive laws and regulations that affect almost all major aspects of business operations. Topics covered are chosen on the basis of their importance to contemporary business.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSENV 1761 - SPECIAL TOPICS IN BUSINESS LAW

Minimum Credits: 3
Maximum Credits: 3
Focuses on a variety of business law issues. Issues addressed will vary by instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSENV 1762 - ADVANCED ETHICS

Minimum Credits: 3
Maximum Credits: 3
Expands students' awareness and knowledge of ethical issues in business and how ethical decision making is hindered or facilitated by corporate structures and processes. Philosophical, sociological, and psychological dimensions of ethical decision making are explored in depth.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSENV 1765 - LEADERSHIP SOCIAL ENVIRONMENT

Minimum Credits: 3
Maximum Credits: 3
This course will give CPLE students exposure to in-depth analysis of leadership concepts and techniques in personal, interpersonal, and group skill areas. Students will complete a number of assessment and skill development exercises in topics such as teamwork, motivation, agenda building, power and influence tactics, problem solving and decision-making. The exercises will be grounded in students' real world experiences in internships, leadership roles and campus and community organizations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Leadership and Ethics (CERT)

BUSENV 1770 - BUSINSS ENVIRONMENT INDP STUDY

Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of business environment issues or problems to which they have been introduced in other business environment courses. The course involves directed reading and research under the guidance of a full-time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

BUSENV 1775 - CPLE CAPSTONE SEMINAR
Minimum Credits: 3
Maximum Credits: 3
In this final course of the CPLE sequence, student will take a capstone seminar that is essentially a graduate-level research seminar on specific content areas in ethics and leadership. Based on previous exposure to the research process in the integrated seminars, students in the capstone seminar will be challenged to develop a substantial research project on their primary area of interest and expertise.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Leadership and Ethics (CERT)

BUSENV 1780 - CORPORATE GOVERNANCE
Minimum Credits: 3
Maximum Credits: 3
Corporate governance, the set of policies, process and customs by which an institution is directed, is a topic of increasing importance. How a company is governed influences corporate performance, rights and relationships with its stakeholders. This course aims to provide a deep understanding of the fundamentals of corporate governance from a variety of angles ' the board of directors, senior management, investors, media, regulators and society ' and from an international perspective. After a highlight on the main issues of corporate governance (e.g. the relationships between owners, management, board and institutional environment), relevant theories and corporate governance practices will be analyzed. Students will gain skills required for understanding corporate behavior and will be introduced to issues in business and government relations through lectures, discussion and case/policy studies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSENV 1785 - SOCIAL ENTREPRENEURSHIP
Minimum Credits: 3
Maximum Credits: 3
This course covers theory, conceptual frameworks, and tools used to formulate strategies for commercializing new technologies. The analytical frameworks cover elements of commercialization strategy that are equally critical to start-ups and to corporate technology ventures. In addition, we discuss some of the key challenges that differ for start-ups versus established firms. The primary deliverable in the course is a professional quality project which evaluates the commercialization alternatives for an emerging technology. Your project team will be paired with a local inventor, unless you prefer to evaluate a technology of special interest to your team. Experienced entrepreneurs and expects in financing new technology ventures will also address the class.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSENV 1790 - BUS ENVIRONMENT INTERNSHIP
Minimum Credits: 3
Maximum Credits: 3
The business environment internship provides business credits for project assignments that augment a professional business environment work experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: Letter Grade

Business Information Systems

BUSBIS 1060 - INTRO TO INFORMATION SYSTEMS
Minimum Credits: 3
Maximum Credits: 3
IT does not matter it's what you do with IT! Business in the 21st century runs on IT. However, competitive advantage seldom comes from having exclusive or proprietary access to a technology. Rather, IT comes from more effectively utilizing technologies to which everyone - including the competition - has access. The implications of this reality are many. First, it is necessary to understand what technologies are available in the marketplace and their capabilities. Next, and far more challenging, it is necessary to understand how these capabilities may positively (or negatively) interact with business strategy. Business transformation is the alignment of process, people, and technology such that IT can both support and innovate business strategies. Given that technologies evolve and develop at a rapid pace, IT is necessary for managers to understand what technologies can do (both established and new) and how IT can be leveraged to create real value.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: College of Business Admin; LEVEL: Sophmore, Junior, Senior

BUSBIS 1600 - TEC-ENABLED BUS TRANSFORMATION

Minimum Credits: 3
Maximum Credits: 3
It does not matter it's what you do with it! Business in the 21st century runs on it. However, competitive advantage seldom comes from having exclusive or proprietary access to a technology. Rather, it comes from more effectively utilizing technologies to which everyone - including the competition - has access. The implications of this reality are many. First, it is necessary to understand what technologies are available in the marketplace and their capabilities. Next, and far more challenging, it is necessary to understand how these capabilities may positively (or negatively) interact with business strategy. Business transformation is the alignment of process, people, and technology such that it can both support and innovate business strategies. Given that technologies evolve and develop at a rapid pace, it is necessary for managers to understand what technologies can do (both established and new) and how it can be leveraged to create real value.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting(BSB),Finance(BSB),General Management(BSB),Global Management(BSBA),Marketing(BSB), Business Information Systems(BSB), Human Resources Management,Human Resources Management(BSB),Supply Chain Management(BSB) and undeclared CBA Majors

BUSBIS 1605 - DATABASE MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Topics covered include development of enterprise-wide data models using entity-relationship diagrams and semantic data models, logical design and implementation of relational databases, SQL, elements of data structures, and basic issues in the management of the corporate data resource.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting(BSB),Finance(BSB),General Management(BSB),Global Management(BSBA),Marketing(BSB), Business Information Systems(BSB), Human Resources Management,Human Resources Management(BSB),Supply Chain Management(BSB) and undeclared CBA Majors

BUSBIS 1615 - BIS INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
The business information systems internship provides the business credits for project assignments that augment a professional BIS work experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSBIS 1620 - BIS INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of business information systems issues or problems to which they have been introduced in other business information systems courses. The course involves directed reading and research under the guidance of a full-time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSBIS 1625 - ELECTRONIC COMMERCE

Minimum Credits: 3
Maximum Credits: 3
This course will cover: (1) electronic business, defined as the use of internet and related communication technologies for organizational communication, coordination, and management of the firm; (2) electronic commerce, defined as the process of buying and selling goods and services electronically; and (3) societal implications of the new technologies. Students will be evaluated on the basis of class participation, assignments, quizzes, exams, and a business plan where students propose e-commerce solutions to tackle specific organizational or business problems and opportunities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting(BSB),Finance(BSB),General Management(BSB),Global Management(BSBA),Marketing(BSB), Business Information Systems(BSB), Human Resources Management,Human Resources Management(BSB),Supply Chain Management(BSB) and undeclared CBA Majors

BUSBIS 1630 - PROJECT MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Planning, organizing, staffing, and controlling projects requires traditional management skills as well as an appreciation of the tools, techniques, and practices unique to project management. This course starts with an overview of project management concepts, and then focuses on project planning, estimating, monitoring, and controlling. It also covers topics related to being an effective project leader and managing project teams. The project management institute (PMI), a professional organization for project managers, has produced a guide to the project management body of knowledge, which documents the knowledge and practices needed by today's project managers. This guide, along with current research and management trends related to project management, provide the framework for material covered in this class.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting (BSB), Finance (BSB), General Management (BSB), Global Management (BSBA), Marketing (BSB), Business Information Systems (BSB), Human Resources Management, Human Resources Management (BSB), Supply Chain Management (BSB) and undeclared CBA Majors

BUSBIS 1635 - INF TECHN SYMS SUPPLY CHAINS
Minimum Credits: 3
Maximum Credits: 3
This course examines the advantages and complexities of ERP software and demonstrates how the system can improve processes and streamline operations as applied toward a global supply chain. ERP systems provide a competitive advantage for a company by allowing the management of different functions and processes in one single corporate information system, providing access to real-time data within the company, enabling greater business agility and strategic decisions. Accordingly, information technology systems in supply chains has been designed to provide students with: strong knowledge of enterprise resource planning (ERP) systems and how companies leverage ERP software to manage global supply chains. Hands-on experience with the execution of supply chain business processes in sap, an industry leader in ERP business software. Practical skills, acquired through experience-based learning activities, which will make students more effective working in a collaborative, global, virtual business world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting (BSB), Finance (BSB), General Management (BSB), Global Management (BSBA), Marketing (BSB), Business Information Systems (BSB), Human Resources Management, Human Resources Management (BSB),Supply Chain Management (BSB) and undeclared CBA Majors

BUSBIS 1640 - IT ARCH & PLATFORMS
Minimum Credits: 3
Maximum Credits: 3
There is no such thing as a technology decision ' there are only business decisions. The options and issues affecting the deployment and utilization of business information systems have grown in number and greatly increased in complexity since the internet and concomitant technologies have become the most important de-facto standards for business computing and networking. Business people who are involved in technology selection and deployment decisions need a basic knowledge of these areas as well as an understanding the value, costs and benefits they might offer to a business. They also must be able to find out about and evaluate new or emerging technologies and issues that could have relevance in their business situations. They then need to be able to explain all of this to other business people - in business terms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared

Business Marketing

BUSMKT 1040 - INTRODUCTION TO MARKETING
Minimum Credits: 3
Maximum Credits: 3
Provides an understanding of the roles of marketing in the economy and the firm, and develops a rationale for a marketing perspective as a guide to organizational and individual actions. Topics covered are the marketing environment, strategic planning, market segmentation, product development, pricing, distribution, promotion, consumer decision-making, control, and marketing management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: College of Business Admin; PROG: College of Business Admin; LVL: So, Jr, Sr

BUSMKT 1041 - INT TO MARKETING HONORS + 1
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSMKT 1411 - MARKETING RESEARCH

Minimum Credits: 3
Maximum Credits: 3
Emphasizes the development of methods of decision making for marketing management. Formal tools of decision making are stressed. The collection and analysis of marketing data is viewed in the context of a management information system. Provides a common analytical framework for later courses treating specialized aspects of marketing in depth.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1040 (MIN GRAD 'C') and (STAT 1000 or 1040 or 1100 or 1131 or MGMT 0024 or ECON 0204);PLAN: Acct,Fin,Gen Mgmt,Glbl Mgmt,Mrktng,Undclrd CBA,BIS,HRM,SCM

BUSMKT 1421 - SELLING SKILLS & SALES MGMNT

Minimum Credits: 3
Maximum Credits: 3
Develops effective persuasive skills through a study of persuasive principles, communication styles and non-verbal cues, and a review of the legal and ethical constraints associated with professional selling. The second focus is the role of the sales manager in hiring, training, directing, motivating, and rewarding a sales force.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSMKT 1422 - PRINCIPLES OF SELLING

Minimum Credits: 3
Maximum Credits: 3
Selling is universal. Everyone uses persuasive communication to "sell" products, services, ideas, opinions, or points of view. Examine and practice the techniques and use the tools examined to develop and/or improve your sales skills. Focused on business-to-business sales, the concepts will apply to negotiating mutually beneficial agreements. From customer identification thru gaining agreement and follow-up, learn to identify customer problems and develop solutions that appeal to customers and benefit your organization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1040 (MIN GRAD: 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1425 - SALES FORCE MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Responsible to implement the organization's strategic goals and create profit thru sales, the sales manager must plan, organize, implement, monitor and evaluate the sales function. The manager must assure alignment of goal, strategy, task, action and reward in the sales function to create "mutual benefit" with the customer. The manager's sales forecast drives the organization, while the sales tactics and strategies which the manager plans and oversees make those forecasts a reality. We will examine the sales management process and the evolving role of the manager.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1040 (MIN GRADE 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1426 - ADVRTSNG AND SALES PROMOTION

Minimum Credits: 3
Maximum Credits: 3
Provides students with an understanding of advertising and the marketing process within which effective advertising and sales promotions are rooted. It is further designed to teach students to develop effective advertising and promotion plans. Emphasis will be placed on both theoretical and conceptual foundations and their applications to the fields of advertising and sales promotions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1040 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1427 - PUBLIC RELATIONS MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
This course will examine how public relations (PR) fits into the strategic management of organizations and how it impacts firm performance. Students will develop a competence in applying PR principles to organizational opportunities and problems, with a focus on developing sound PR writing skills.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1040 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1428 - DIGITAL & SOCIAL MEDIA MARKTNG

Minimum Credits: 3
Maximum Credits: 3
This course covers advertising, marketing, and communications strategies in the new media landscape where traditional and social media co-exist. The course will focus on (i) how social media strategies can be used effectively in marketing programs, (ii) when they should/should not be used, (iii) how to build them, and (iv) how to measure, track, and evaluate their performance and effectiveness. This marketing strategy course will focus on analyzing, developing, implementing, and evaluating media strategies as an integral part of overall marketing strategy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1426; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1429 - MKT COMMUNICATIONS AUSTRALIA

Minimum Credits: 3
Maximum Credits: 3
Marketing communications in Australia provides an understanding of the ways in which advertising is effectively planned to achieve the objectives set in the overall marketing plan. The concept of integrated marketing communication is introduced as an organizational tool and as a philosophy for campaign planning. Integrated marketing communication requires a 'total' approach to planning advertising and promotions campaigns and coordinating communication strategies in support of overall brand and goods/services marketing objectives, and more broadly marketing strategy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSMKT 1430 - MARKETING COMNCTNS IN BRITAIN

Minimum Credits: 3
Maximum Credits: 3
Marketing communications in britain provides an understanding of the ways in which advertising is effectively planned to achieve the objectives set in the overall marketing plan. Home to the second largest global agency network, WPP - London (parent of major ad agencies Ogilvy & Mather, JWT, and Young & Rubicam, and universally recognized as the center for creative and production excellence), is an ideal place to learn about the industry that is "ad-land". Viewed from the us and elsewhere, a significant proportion of british advertising has a contempt for the hard sell, an antipathy to too much research, along with a penchant for irony and parody. This course is skewed to look at and assess the practice of advertising from this standpoint.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSMKT 1431 - PRODUCT DEVELOPMNT & MGMNT

Minimum Credits: 3
Maximum Credits: 3
Addresses all stages of the product life cycle beginning with the various phases of new product development, including creativity and new product concept generation, concept testing and evaluation, pricing, demand forecasting and new product marketing strategies. Also deals with special challenges related to marketing mature products/services, improving marketing implementation effectiveness, and marketing the intangible features of products.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1040 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1435 - SERVICES MARKETING

Minimum Credits: 3
Maximum Credits: 3
The focus of this course is to develop the students' skills as marketers-broading tools learned in the intro course to include development of strategies and programs for service firms. Course utilizes problem solving techniques through presentation, discussion, and analysis of contemporary service marketing cases involving examples of consumer and business to business services in both large and small firms. The course is appropriate for 1) any student seeking a follow-up course to the basic marketing class; 2) students who plan marketing careers with service firms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Course Requirements: PREQ: BUSMKT 1040 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1441 - CONSUMER BEHAVIOR

Minimum Credits: 3
Maximum Credits: 3
Focuses on the study of individual consumers through the integration of a wide variety of social science concepts and gaining familiarity with some of the more common techniques of consumer research methodology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1040 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1445 - CUSTMR INSIGHTS FRM COMMR DATA

Minimum Credits: 3
Maximum Credits: 3
Develops an understanding of cutting-edge marketing techniques via hands-on use of marketing databases. The focus is on consumer products in general and consumer packaged goods in particular. Topics include brand performance assessment, competitive analysis, marketing mix effects, store vs. panel data, fact-based marketing, category management, and new product opportunity identification.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: Restricted for College of Business Administration

BUSMKT 1451 - RETAIL MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Emphasizes the strategic decisions for developing an enduring store image, and the marketing policies to produce customer satisfaction through service quality. Topics covered include store location, layout and atmosphere, logistics and information systems, merchandising, vendor relations and customer services, as well as topics related to non-store retailing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1040 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1455 - PRICING STRATEGIES AND TACTICS

Minimum Credits: 3
Maximum Credits: 3
The purpose of pricing is to create value to the firm in the form of profits. Pricing practices are changing dramatically in an era of e-commerce and globalization. The objectives of this course are to: 1. Expose students to seminal concepts and theories on pricing from a marketing manager's viewpoint; 2. Develop independent assessment skills of the pricing strategies/tactics used in a variety of industries; 3. Provide opportunities for applying pricing knowledge to real-world problems. The course will be taught using interactive lectures, cases, problem sets and independent reports.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1461 - INTERNATIONAL MARKETING

Minimum Credits: 3
Maximum Credits: 3
Examines the unique characteristics of global marketing and the strategic marketing decisions for effective competition in the global environment in view of the rapid integration of the global economy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1040 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1481 - BRAND MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Exposes students to a wide range of marketing problems and provides them with the analytic perspectives and strategic marketing decision tools for analyzing and solving those problems.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1040 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1485 - PROJECTS IN MARKETING

Minimum Credits: 3
Maximum Credits: 3
BUSMKT 1485 connects undergraduate marketing students with prominent commercial/government clients to develop/implement specific marketing strategies. Students receive hands-on exposure to planning, strategy, research, advertising, public relations, event planning, and budgeting. Students demonstrate oral/written presentation skills via formal presentations to representatives from the client organizations.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: BUSMKT 1040 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSMKT 1490 - MARKETING INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
The marketing internship provides business credits for project assignments that augment a professional marketing work experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

BUSMKT 1495 - MARKETING INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of marketing issues or problems to which they have been introduced in other marketing courses. The course involves directed reading and research under the guidance of a full-time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

BUSMKT 1511 - MKTG "MADE IN ECUADOR" TO WRLD

Minimum Credits: 1
Maximum Credits: 1
Historically, Ecuador sits at the contact zone of the Incan and Cañari culture where trade through the spine of the Andes has been active for centuries. Currently, Ecuador is in the midst of building its brand to the world and is seen as the crucible of the chocolate industry. Promotion of the Galapagos, Yasuni Park and adventure travel on wild rivers has been part of the effort to showcase the best of the country to foreign markets. Ecuador's stunning volcanic peaks and rich tropical rainforest offer some of the greatest destinations on the planet along with unique and marketable resources of foods and culture. This course is designed to give you an understanding of Ecuador's natural and cultural assets including art, chocolate, ancient cities and adventure destinations and how to best market them to the world. This will be a hands-on experience where you will make your own chocolate, pottery and help locals prepare native crops as well as design promotions and refine and position their natural and cultural offerings for the global market. This is a real world experience that will be invaluable in your career as a marketer or employee in global enterprise.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Business Organization

BUSORG 1020 - ORGANIZATIONAL BEHAVIOR

Minimum Credits: 3
Maximum Credits: 3
Provides an overview of topics and concepts in the field of organizational behavior. Emphasis is on developing a theoretical grasp of issues and problems as well as an understanding of the practical implications of various theories of human behavior at work. Specific topics include leadership, motivation, teamwork, career issues, work roles, job enrichment, employee participation, and work and non-work integration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: College of Business Admin; LVL: So, Jr, Sr

BUSORG 1021 - ORGANIZATIONAL BHVR HONORS +1

Minimum Credits: 1
Maximum Credits: 1

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSORG 1101 - FUNDAMNTLS OF BUS COMMUNICTN

Minimum Credits: 3
Maximum Credits: 3
Provides conceptual foundations and training in key communication skills essential for a business professional's effectiveness. Develops skills in oral presentation, interpersonal communication, and communication in teams as applied in business settings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors ; LVL: So, Jr, Sr

BUSORG 1640 - THE ENTREPRENEURSHIP PROCESS

Minimum Credits: 3
Maximum Credits: 3
Emphasis will be placed on business principles vital to the entrepreneurship process, including idea generation, feasibility analysis, the integration of the functional areas of business (strategy, marketing, finance and accounting), building a new venture team, securing financing and protecting intellectual property. Through case studies, video clips and visiting entrepreneurs, these principles will be contextualized with real-life entrepreneurial successes and failures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSORG 1645 - CORPORATE ENTREPRENEURSHIP

Minimum Credits: 3
Maximum Credits: 3
The course concentrates around the question: how do companies strategically manage technology & innovation? The goal is to provide theories and methodologies relevant to the management of innovation which will help achieve a sustainable competitive advantage for firms. Students will have to apply ideas, concepts, tools, and frameworks introduced in the course to real world cases. They will be challenged to develop and defend their opinions in matters that are not always straightforward.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors; LVL: Jr or Sr

BUSORG 1650 - ISSUES IN CAREER MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Focuses on the issue of careers in organizations or the sequences of jobs and occupations that a person will hold over his or her lifetime. Examines a variety of perspectives on career management. Focuses on the individual and organizational factors in career development by addressing issues such as career planning, job choice, work socialization, career stages, mentoring and work and family concerns.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSORG 1020 (MIN GRADE 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSORG 1655 - INT'L DIMENSNS ORGNZTNL BEHAV

Minimum Credits: 3
Maximum Credits: 3
Provides an introduction to organizational behavior in a global context. Emphasis is on applying core organizational behavior concepts such as leadership, motivation, and group processes, as well as more contemporary topics such as cultural diversity and expatriation to workers in Europe, Asia, and the Americas. Develops an understanding of culture and cross-cultural differences and an awareness of the key skills needed to interact effectively in cross-cultural settings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSORG 1020; PLAN: International Business (CPIB-CR1) or Global Management (BSBA)

BUSORG 1655IS - INT'L DIMENSNS ORGNZTNL BEHAV

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSORG 1655OS - INT'L DIMENSNS ORGNZTNL BEHAV
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSORG 1660 - MANAGING DIVERSTIY IN ORGNIZTN
Minimum Credits: 3
Maximum Credits: 3
Examines the similarities and differences in the work experiences of men and women within organizations. Also examines some of the individual and organizational consequences of gender and work. Topics include gender role attitudes, occupational segregation, gender and leadership, sexual behavior within the workplace, career mobility and workforce diversity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSORG 1020 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSORG 1661 - INTRPRSNAL SKILLS FOR MANAGRS
Minimum Credits: 3
Maximum Credits: 3
Management of organization design and development. Review internal and external organizational factors such as environmental, size technology, power, politics, strategy, human resources, job design, and culture that influence an organization. Entails a critical review of classical and contemporary theories of organization using multiple perspectives. To enhance understanding will look at organization metaphorically using a system's perspective.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSORG 1670 - ORGANIZATIONAL BEHAVR IND STDY
Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of organizational behavior issues or problems to which they have been introduced in other organizational behavior courses. The course involves directed reading and research under the guidance of a full time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

BUSORG 1701 - SOCIAL ENTREPRENEURSHIP
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSORG 1703 - ENTREPRENEURIAL PROCESS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Business Service

BUSERV 1350 - ETHICS & LEADERSHIP IN ORGS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade

BUSERV 1355 - BUS ETHICS & STAKHLDR ENGAGMNT

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSERV 1360 - PRIN/PRA SCL RESPNSBLTY IN BUS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSERV 1365 - LEADERSHIP CAPSTONE EXPERIENCE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSERV 1910 - INTRODUCTION TO BUSINESS

Minimum Credits: 3
Maximum Credits: 3
Provides an overview of how American business operates in our economy. Emphasis is given to the study of management, planning, personnel, finance, and marketing, and how these are interrelated within our business system. The activities in each of these functions are discussed, role of the participants analyzed, and underlying theories examined. The student should gain an insight into the primary activities in business and an understanding of their practical applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BUSERV 1915 - INTRODUCTION TO MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Introduces the basic roles of managers such as planning, organizing, controlling, staffing, and directing. Aspects of leadership, motivation, organization structure, and the interdependence of functional subsystems will also be covered. Emphasis is placed on management practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BUSERV 1920 - FINANCIAL ACCOUNTING

Minimum Credits: 3
Maximum Credits: 3
A study of accounting and financial concepts pertaining to the business enterprise, with emphasis on the understanding and use of accounting and financial data. This course develops the ability to analyze and interpret internal and external financial developments as they relate to a business enterprise and provides an operational knowledge of the accounting cycle.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BUSERV 1925 - COST ACCOUNTING

Minimum Credits: 3
Maximum Credits: 3
This course has three objectives: (1) to develop an understanding of the broad range of cost accounting concepts underlying cost determination and analysis; (2) to provide familiarity with the controls that are afforded in the application of cost accounting concepts; and (3) to create an awareness of how cost accounting can contribute to decision-making and planning. These objectives are accomplished through analyses of the behavior and economic data within the firm, evaluation of actual and standard cost systems, and the examination of cost measurements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BUSERV 1940 - MARKETING FUNDAMENTALS
Minimum Credits: 3
Maximum Credits: 3
Provides an understanding of the roles of marketing in the economy and the firm, and develops a rationale for a marketing perspective as a guide to organizational and individual actions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSERV 1955 - PRINCIPLES OF SELLING
Minimum Credits: 3
Maximum Credits: 3
Examines aspects of personal selling and the links between the seller and the buyer. The establishment of rapport through the development of interpersonal skills and the translation of company or self-objectives into decisions that motivate the sales force are included. Methods of recruiting and selecting the salesperson, training the salesperson, problems of evaluation, establishing personal credibility, handling objections, closing a sale, establishing one's personal goals, and objectives and procedures for self-management are included.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSERV 1975 - FINANCIAL PLN FOR THE INDIVIDL
Minimum Credits: 3
Maximum Credits: 3
Course provides an overview of the personal financing planning process; developing personal financial goals, analytical tools used in financial planning, individual risk assessment and management techniques, investment and portfolio analysis, individual tax planning and management, employee benefits and retirement planning, and estate planning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BUSERV 1980 - THE LEGL ENVIRONMNT OF BUSINSS
Minimum Credits: 3
Maximum Credits: 3
Provides a broad introduction to the court systems, the legislative process, and the regulatory process. Covers topics such as business organization, securities regulation, employer-employee relations, product liability, consumer protection, anti-trust law, environmental law, torts, contracts, and legal ethics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BUSERV 1985 - SMALL BUSINESS MANAGEMENT
Minimum Credits: 3
Maximum Credits: 3
Introduces basic principles and practices for successful management of a small business. Topics include the economic environment, development of personal and organization objectives, marketing production, finance, credit, accounting, business law, and records management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Career Development Accounting

CDACCT 6030 - FINANCIAL ACCOUNTING
Minimum Credits: 3
Maximum Credits: 3
Helps students become informed users of firms' external financial reports. The basic structure and contents of such reports and the process by which they are prepared will be studied. Discussion will involve what items are included in the reports, how such items are measured, and how various economic events affect them. An understanding of what can be inferred from the reports about past performance, present position, and future prospects of the firms will be developed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECON 0102 or 0103 or 0105 or 0110 or 0115 or 0120; MIN GRADE: 'C' For Listed Courses; PLAN: Accounting (CERT)

CDACCT 6040 - MANAGERIAL ACCOUNTING

Minimum Credits: 3
Maximum Credits: 3
Introduces students to the basic terminology and concepts of cost accounting, and provides an introductory coverage of product costing, cost allocation, budgetary control, responsibility accounting, and the use of cost information in resource allocation and other managerial decisions. Textbook material and real world examples are used to engage students in extensive problem solving.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 0030 or BUSERV 1920 or CDACCT 6030 or MGMT 0022 or BUS 0115 or ACCT 0201; PLAN: Accounting (CERT)

CDACCT 6204 - INTERMEDT FINANCL REPORTING 1

Minimum Credits: 3
Maximum Credits: 3
Covers the conceptual framework of financial accounting and its influence on generally accepted accounting principles (GAAP), with special emphasis on the valuation of assets, and measurement of income. Requirements include reading the original pronouncements on GAAP, making oral presentations, and writing short position papers on various accounting issues of current interest.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (BUSACC 0030 or BUSERV 1920 or CDACCT 6030 or MGMT 0022 or BUS 0115 or ACCT 0201) and (BUSACC 0040 or BUSERV 1925 or CDACCT 6040 or MGMT 0023 or BUS 1110 or ACCT 0202); MIN GRAD: 'C' For Listed Courses; PLAN: Accounting (CERT)

CDACCT 6205 - INTERMEDT FINANCL REPORTING 2

Minimum Credits: 3
Maximum Credits: 3
Topics covered include valuation of liabilities, owners equity, cash flow statements, and disclosure outside the primary financial statements. Like intermediate financial reporting 1, this course also engages students as active participants in the learning process.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 1204 or CDACCT 6204; PLAN: Accounting (CERT)

CDACCT 6206 - INTERMEDT FINANCL REPORTING 3

Minimum Credits: 3
Maximum Credits: 3
Covers the current developments in generally accepted accounting principles (GAAP) and some highly technical financial accounting topics not covered in intermediate financial reporting 1 and 2. Requirements include resolving complex and unstructured financial accounting and reporting problems and presenting reasoning both orally and in writing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CDACCT 6210 - FINANCIAL STATEMENT ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Financial statement analysis focuses on the evaluation of publicly traded company financial statements and related note disclosures as well as the correlation of this historic financial performance to the company's stock prices. This course will assist students' development of a systematic approach to analyzing reported financial data and understanding the underlying risks and possible inconsistencies among comparative companies. Requirements of the course include interim exams and written and oral presentations of analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 1205 or CDACCT 6205; PLAN: Accounting (CERT)

CDACCT 6216 - ADVANCED FINANCIAL ACCOUNTING

Minimum Credits: 3
Maximum Credits: 3
Covers topics that are of particular interest to financial report preparers and auditors. Special emphasis placed on accounting for business combinations and consolidated financial reporting. Other topics include international accounting, accounting for partnerships, and accounting by fiduciaries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 1205 or CDACCT 6205; PLAN: Accounting (CERT)

CDACCT 6221 - STRATEGIC COST MANAGEMENT
Minimum Credits: 3
Maximum Credits: 3
Topics covered include how product cost measurement affects resource allocation decisions; how to design modern cost systems; the strategic role of cost information and the relationship between process improvement and cost reduction; performance measurement and organizational transformation for value creation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (BUSACC 0030 or BUSERV 1920 or CDACCT 6030 or MGMT 0022 or BUS 0115 or ACCT 0201) and (BUSACC 0040 or BUSERV 1925 or CDACCT 6040 or MGMT 0023 or BUS 1110 or ACCT 0202); MIN GRAD: 'C' For Listed Courses; PLAN: Accounting (CERT)

CDACCT 6236 - ACCOUNTING INFORMATION SYSTEMS
Minimum Credits: 3
Maximum Credits: 3
Deals with the design and implementation of accounting information systems and their ability to collect data on the activities of the organization, to accumulate and summarize it, and to make the information available to managers for analysis, decision making, and control. Special emphasis is placed on the problems inherent to this effort.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (BUSACC 0030 or BUSERV 1920 or CDACCT 6030 or MGMT 0022 or BUS 0115 or ACCT 0201) and (BUSACC 0040 or BUSERV 1925 or CDACCT 6040 or MGMT 0023 or BUS 1110 or ACCT 0202); MIN GRAD: 'C' For Listed Courses; PLAN: Accounting (CERT)

CDACCT 6238 - AUDITING
Minimum Credits: 3
Maximum Credits: 3
Introduces the auditing process and profession. Main topics include the nature and purpose of auditing, auditing standards, professional conduct, auditor legal liability, and approaches in financial statements. Emphasizes a risk-based approach to selecting appropriate auditing techniques. Examines auditor's decision process relating to internal control assessment, audit decision process relating to internal control assessment, audit sampling, and obtaining audit evidence about financial accounts. Also examines extent of auditor's responsibility to uncover fraud.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC1205 or CDACCT 6205; CREQ: BUSACC 1236 or CDACCT 6236; PLAN: Accounting (CERT)

CDACCT 6241 - TAX ACCOUNTING
Minimum Credits: 4
Maximum Credits: 4
Intensive introduction to federal income tax concepts, statutes and regulations, and their use in accounting and planning of business activities of corporations, partnership and individual proprietorships. Also covered are federal income tax concepts for individuals, including their use in accounting and planning of personal activities and investments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 1205 or CDACCT 6205; PLAN: Accounting (CERT)

CDACCT 6242 - INDIVIDUAL TAX ACCT & PLNNG
Minimum Credits: 3
Maximum Credits: 3
This course focuses on individual tax return preparation and planning. Students will learn how to calculate the taxes associated with a variety of personal, investment, property, and sole-proprietorship transactions. Concepts will be reinforced through the preparation of actual tax returns that reflect different combinations of such transactions. Students will develop tax planning skills by considering how various transactions can be restructured to minimize the current or future tax liability.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSACC 1205 or CDACCT 6205; PLAN: Accounting (CERT)

Chemical Engineering

CHE 0035 - INTRODUCTRY CHEMCL ENGINEERING

Minimum Credits: 4
Maximum Credits: 4
The principles of conservation of mass and energy are applied to the analysis of chemical processes. Included are material balance for multiple unit processes with recycle, p-v-t properties of gases and gas-vapor mixtures, thermochemistry, combined material and energy balances, and vapor-liquid equilibrium.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 0036 - CHEMCL ENGRNG THERMODYNAMICS 1

Minimum Credits: 3
Maximum Credits: 3
Development of the laws of thermodynamics using a macroscopic approach. Fundamental concepts are stressed. Emphasis is placed on chemical engineering applications in problem recitation sessions. Concepts of work, heat, internal energy, potential energy, kinetic energy, enthalpy, entropy, and free energy are developed. Thermodynamic properties and equations of state are defined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 0100 - FOUNDATIONS OF CHEMICAL ENGR

Minimum Credits: 6
Maximum Credits: 6
This course combines elements of mass and energy balances, thermodynamics, separations, and product design in order to set the foundation for the remainder of the chemical engineering curriculum. This course introduces chemical engineering problem solving techniques from both a (traditional) process-centric viewpoint as well as a product centric viewpoint. The course will span from theoretical (basic thermodynamics) to applied (separations) allowing a simple route to problem-based learning of difficult theoretical concepts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (CHEM 0120 or 0420 or 0770 or 0970 or 0102 or 0112) and (MATH 0230 or 0235 or 0150 or 0231) and (PHYS 0174 or 0475 or 0150 or 0201); CREQ: CHE 0101; PROG: Swanson School of Engineering

CHE 0101 - FOUNDATIONS OF CHE LABORATORY

Minimum Credits: 1
Maximum Credits: 1
The lab course associated with CHE 0100. Experiments and lectures will reinforce the content of CHE 0100.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: CREQ: CHE 0100; PROG: Swanson School of Engineering

CHE 0200 - CHEMICAL ENGR THERMODYNAMICS

Minimum Credits: 6
Maximum Credits: 6
This course combines the ideas from both pure and multicomponent thermodynamics. It introduces molecular insight and the tools (including commercial software) for solving both simple and complex problems in phase and chemical equilibria. The course will have a strong focus on multiscale analysis, for example, covering intermolecular potentials (molecular-scale) to aid students in choosing equations of state for novel materials (macro-scale). Advanced topics covered include interfacial behavior, adsorption, and osmotic equilibrium.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (CHEM 0120 or 0420 or 0970 or 0102 or 0112) and (MATH 0230 or 0235 or 0150 or 0231) and (PHYS 0174 or 0475 or 0150 or 0201); CREQ: CHE 0201 and 0214 ; PLAN: Chemical Engineering (CHE-BSE)

CHE 0201 - CHE THERMODYNAMICS LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Laboratory corresponding to CHE 0200.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: CREQ: CHE 0200; PLAN: Chemical Engineering (CHE-BSE)

CHE 0214 - INT TO CHEMICAL PRODC DESIGN

Minimum Credits: 3
Maximum Credits: 3
Traditionally, chemical product design has focused on a set procedure for product development from conception to development and testing and finally the launching of the product. Unfortunately, this model which does not keep in mind the values or needs of the customer has resulted in a high number of failures for new product launches. What skills are thus needed in order to be entrepreneurial and succeed in the development of new chemical products within industry today? This course examines the initial stages on how to approach chemical product design from an innovation perspective complete with the provision of the necessary technical skills to get the job done while placing an emphasis on the business and entrepreneurial skills required to be successful in the chemical product design business.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (CHEM 0102 or 0112 or CHEM 0120 or CHEM 0420 or CHEM 0770 or CHEM 0970) and (Math 0150 or MATH 0230 or 0231 or MATH 0235) and (PHYS 0150 or PHYS 0174 or 0201 or PHYS 0475); CREQ: CHE 0200; Plan: Chemical Engineering (BSE)

CHE 0300 - TRANSPORT PHENOMENA

Minimum Credits: 6
Maximum Credits: 6
Stresses analogies between the three modes of transport phenomena; momentum, mass, and heat transport. Covers from the molecular origins of transport up through continuum descriptions, as well as macroscopic balances. Reynolds and Colburn Analogies in Boundary-Layer Flow as well as direct comparison of linear transport relations, such as fluid drag and mass/heat convection will be a primary focus. Problems ranging from (traditional) packed bed reactors to micro-fluidics or micro-electromechanical systems will also be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CHE 0100 and (PHYS 0175 or 0152 or 0202 or 0476) and (MATH 0290 or 0250 or 1270); CREQ: CHE 0301; PROG: Swanson School of Engineering

CHE 0301 - TRANSPORT PHENOMENA LABORATORY

Minimum Credits: 1
Maximum Credits: 1
The lab course associated with CHE 0300. Experiments and lectures will reinforce the content of CHE 0300.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: CREQ: CHE 0300; PROG: Swanson School of Engineering

CHE 0314 - TAKING PRODUCTS TO MARKET

Minimum Credits: 3
Maximum Credits: 3
Traditionally, chemical product design has focused on a set procedure for product development from conception to development and testing and finally the launching of the product. Unfortunately, this model which does not keep in mind the values or needs of the customer has resulted in a high number of failures for new product launches. What skills are thus needed in order to be entrepreneurial and succeed in the development of new chemical products within industry today? This course is the next step in the chemical product design sequence and focuses on chemical product design and the development of business plans.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CHE 0100 and CHE 0214 and (PHYS 0152 or PHYS 0175 or 0202 or 0476) and (MATH 0250 or MATH 0290 or MATH 1270); CREQ: CHE 0300

CHE 0400 - REACTIVE PROCESS ENGINEERING

Minimum Credits: 5
Maximum Credits: 5
This course integrates reactor design, reaction kinetics, and advanced separation processes to allow the comprehensive study of systems ranging from polymerization reactors to enzyme-catalyzed metabolism to (bio-) artificial organs. Coverage includes integrating multiple topics, such as chemistry, physics, biochemistry/medicine and reactor engineering. Furthermore, it addresses all length scales from the molecular level to the reactor level to the full systems level. Both theory and experiment will be highlighted and detailed simulations will be included.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (CHE 0100 and 0200) and (PHYS 0175 or 0475 or 0202 or 0152) and (CHEM 0310 or 0206 or 0231) and MATH 0290; CREQ: CHE 0401; PLAN: Chemical Engineering (BSE)

CHE 0401 - REACTIVE PROCESS ENGR LAB

Minimum Credits: 1
Maximum Credits: 1

Laboratory corresponding to CHE 0400.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: CREQ: CHE 0400; PROG: Swanson School of Engineering

CHE 0500 - SYMS ENGR 1: DYNAMICS & MODLNG

Minimum Credits: 5
Maximum Credits: 5
The dynamics and modeling class is the first of a two-part systems engineering sequence. This course covers dynamical analysis of process systems, process control fundamentals, feedback, basic process modeling, and optimization. The course covers industrial-style examples from a multi-scale perspective by incorporating molecular insight into process variable calculations and large-scale information through process simulation (computer-aided design) software.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CHE 0300 and CHE 0400; CREQ: CHE 0501; PROG: Swanson School of Engineering

CHE 0501 - SYSTEMS ENGR 1 LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Laboratory experience accompanying CHE 0500. Both physical and computational experiments will be performed.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: CREQ: CHE 0500; PROG: Swanson School of Engineering

CHE 0600 - SYSTEMS ENGINEERING 2: DESIGN

Minimum Credits: 5
Maximum Credits: 5
The plant design portion of this course integrates design aspects of previous courses into the design of a chemical plant, computer process simulation, pinch technology, discounted cash flow economic analysis, and detailed design of chemical engineering units are used in the design process. The product design portion of this course will go through the steps to successful product design and contrast these with traditional process design methods. Good product design incorporates customer needs, manufacturing flexibility, economy, sustainability and molecular design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CHE 0300 and CHE 0400; CREQ: CHE 0601; PROG: Swanson School of Engineering

CHE 0601 - SYSTEMS ENGR 2 LABORATORY

Minimum Credits: 1
Maximum Credits: 1
The lab course associated with CHE 0600. Experiments and lectures will reinforce the content of CHE 0600.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: CREQ: CHE 0613; PROG: Swanson School of Engineering

CHE 0602 - CHE SAFETY AND ETHICS

Minimum Credits: 2
Maximum Credits: 2
This class will provide the student with a thorough understanding of the fundamentals in workplace health and safety with emphasis on chemical industry applications. This will be accomplished through presentation a discussion of critical issues as well as the application of these principles to the senior design project. This course will also cover ethical situations likely to arise in the chemical plant environment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: 0400; CREQ: CHE 0613; PROG: Swanson School of Engineering

CHE 0613 - SYS ENGNR 2: PROCESS DESIGN

Minimum Credits: 5
Maximum Credits: 5
This course integrates aspects of previous chemical engineering courses into the design of a complete chemical plant including the use of computer process simulation, pinch technology, and discounted cash flow economic analysis. The detailed design of chemical engineering units/processes is carried out for all aspects of the plant.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHE 0300 and CHE 0400; PROG: Swanson School of Engineering

CHE 0614 - SYS ENGNR 2: PRODUCT DESIGN

Minimum Credits: 2
Maximum Credits: 2
This course will go through the steps to successful product design and contrast these with traditional process design methods. Good product design incorporates customer needs, manufacturing flexibility, economy, sustainability and molecular design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHE 0300 and CHE 0400; PROG: Swanson School of Engineering

CHE 1007 - CHEMCL ENGRNG THERMODYNAMICS 2

Minimum Credits: 3
Maximum Credits: 3
Thermodynamic properties of homogeneous mixtures are examined. Emphasis is placed on analysis of multicomponent systems. A strong basis is developed in phase and chemical equilibria. Fundamentals of ideal and real solutions are developed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1008 - INTRODCTN TO STAGED SEPARTNS

Minimum Credits: 3
Maximum Credits: 3
Unified treatment of separation processes which are carried out in staged equipment. Computer solutions are emphasized. Binary distillation, calculations using graphical methods, multicomponent distillation of ideal and non ideal mixtures, liquid extraction, and differential distillation are studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1009 - CHEMICAL ENGINEERING WRITING

Minimum Credits: 2
Maximum Credits: 2
This course will focus on writing skills for chemical engineers, with an emphasis on assignments associated with the undergraduate curriculum. Techniques and formats for reports associated with labs, electives, cooperative education reports, independent study reports, design projects and short technical papers will be covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1010 - TRANSPORT PHENOMENA 1

Minimum Credits: 4
Maximum Credits: 4
Presents the fundamentals of fluid flow, heat transfer, and mass transfer thereby establishing a foundation for all chemical engineering operations involving physical rate processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1011 - TRANSPORT PHENOMENA 2

Minimum Credits: 4
Maximum Credits: 4
Applications of basic concepts of momentum, heat and mass transfer to design calculations for chemical engineering unit operations are emphasized. Problems of multiphase transport processes, including fluidization and particle technology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1012 - CHEMCL ENGRNG REACTOR KINETICS

Minimum Credits: 3
Maximum Credits: 3
Mechanisms and kinetics of chemical reactions are described and applied to the design of chemical reactors. Topics include reactor types, determination of rate expressions, mass and heat transfer effects and heterogeneous catalysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1013 - CHEMICAL ENGINEERING LAB 1

Minimum Credits: 3
Maximum Credits: 3
Basic chemical engineering principles are reinforced experimentally. Experiments in transport phenomena, stage-wise operation, and reaction kinetics are conducted. Engineering experimental planning, automated data acquisition and report writing are stressed.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1014 - CHEMICAL ENGINEERING LAB 2

Minimum Credits: 3
Maximum Credits: 3
Basic chemical engineering principles are reinforced experimentally. Experiments in transport phenomena, stage wise operation, and reaction kinetics are conducted. Engineering experimental planning, automated data acquisition and report writing are stressed.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1015 - MOL CHMCL &NUCLR REACTN KINET

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CHE 1017 - CHMCL ENRGY & NATR CHMCL BOND

Minimum Credits: 3
Maximum Credits: 3
An overview of energy transformations arising from chemical bonding in chemical catalysis, electrocatalysis, and combustion. Students will be introduced to qualitative quantum chemistry concepts: potential energy and kinetic energy operators, wave functions, electron correlation, and GVB diagrams for analysis of chemical bonds and molecular structures in energy transformations. Students are expected to have completed Undergraduate physical chemistry course on quantum mechanics or equivalent or have prior consent from the instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1020 - PROFESSIONAL PRACTICE

Minimum Credits: 2
Maximum Credits: 2
Course is designed to familiarize senior chemical engineering students with the history, present status, and the future of their profession and to introduce to the students problems of professional ethical practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1033 - ELECTRCL SYSTMS FOR CHMCL ENGR

Minimum Credits: 3
Maximum Credits: 3
Introduction to electrical systems. Includes analysis of dc circuits, Laplace transforms, transfer functions, frequency response, steady state ac circuits, transformers, power distribution, Polyphase Induction Motors, and DC Motors. Laboratory experiments are designed to familiarize chemical engineering student with principles of digital interfacing.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1034 - PROCESS DYNAMICS AND CONTROL

Minimum Credits: 3
Maximum Credits: 3
Fundamentals of process dynamics and control. Dynamic Analysis of Linear Systems, Transient response to simple inputs, Frequency Response Methods, Stability of Linear Systems, Control System Design, Statistical Process Control, Multiple Input Multiple Output Systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1043 - CHEMICAL ENGINEERING DESIGN 1

Minimum Credits: 3
Maximum Credits: 3
The basic principles of chemical process design are introduced. Students work on group projects selected from heat and material balances of processes, piping design, heat exchanger design, and instrumentation. Chemical engineering economics are covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1044 - CHEMICAL ENGINEERING DESIGN 2

Minimum Credits: 3
Maximum Credits: 3
Students work on group projects selected from reactor design, design of staged systems, and AIChE Student Contest Problems. Project management, optimization, statistics, and flow sheet analysis are covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1045 - CHEMICAL ENGR PLANT DESIGN

Minimum Credits: 4
Maximum Credits: 4
This course integrates design aspects of previous courses into the design of a chemical plant, computer process simulation, pinch technology, discounted cash flow economic analysis, and detailed design of chemical engineering units are used in the design process. Extensive computing work, plant trips, and oral and written reports are required. A unique set of state-of-the-art software is used which includes process simulation (aspen plus), process integration (Icarus) and 3-d process design (CadCentre PDMS and review).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1046 - CHMCL ENGR PLNT DESGN & SAFETY

Minimum Credits: 5
Maximum Credits: 5
This course integrates design aspects of previous courses into the design of a chemical plant, computer process simulation, pinch technology, discounted cash flow economic analysis, and detailed design of chemical engineering units are used in the design process. Extensive computing work. Plant health and safety are discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CHE 1047 - PLANT HEALTH, SAFETY & ETHICS

Minimum Credits: 2
Maximum Credits: 2
This class will provide the student with a thorough understanding of the fundamentals in workplace health and safety with emphasis on chemical industry applications. This will be accomplished through presentation a discussion of critical issues as well as the application of these principles to the senior design project. This course will also cover ethical situations likely to arise in the chemical plant environment.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CHE 1048 - PRODUCT DESGN CHEMCL ENGINEERS

Minimum Credits: 3
Maximum Credits: 3
Many CHE's find themselves doing product design & development as much or more so than process design once they enter industry. This course will go through the steps to successful product design & contrast these with traditional process design methods. Good product design incorporates customer needs, manufacturing flexibility and economy, as well as concepts in sustainability. Finally, because chemical engineering product involves molecule creation, course will introduce students to concepts in molecular design through both theory and applications-oriented software packages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1050 - ARTIFICIAL ORGANS

Minimum Credits: 3
Maximum Credits: 3
This is concerned with the design of artificial organs and their clinical usage. The basic physiology of four organ systems will be reviewed and the bioengineering design requirements for organ replacement systems considered. Commercially available systems will be analyzed from the point of view (where applicable) of mass transfer efficiency; biomechanic and hemodynamic similarity to the host; and size and efficiency of the device. Students will be required to design an artificial organ consistent with the above mentioned consideration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CHE 1051 - ARTIFICIAL ORGANS 2

Minimum Credits: 3
Maximum Credits: 3
This course is concerned with the design of artificial organs and their clinical usage. The basic physiology of three organ systems will be reviewed (blood, kidney, liver) and the bioengineering design requirements for organ re placement systems considered. Commercially available systems will be analyzed from the point of view (where applicable) of mass transfer efficiency; biomechanic and hemodynamic similarity to the host; and size and efficiency of the device. Students will be required to design an artificial organ consistent with the above-mentioned consideration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CHE 1085 - DEPARTMENTAL SEMINAR

Minimum Credits: 0
Maximum Credits: 0
The departmental seminars are designed to acquaint the student with aspects of engineering which are normally not encountered in classes.
Academic Career: UGRD
Course Component: Colloquium
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1097 - SPECIAL PROJECT

Minimum Credits: 1
Maximum Credits: 12
Student develops an individual project under supervision of a faculty member. Project may be experimental, design and oriented, or instructional. A written report is prepared.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

CHE 1118 - COLLOIDS AND SURFACES

Minimum Credits: 3
Maximum Credits: 3
Concepts from physical chemistry and transport phenomena are extended to study surface and colloidal phenomena, and related applications to materials processing and separations technology. Topics include: surface tension, adsorption, electrostatic double layer, dominant forces on the colloidal length scale, colloid stability, electro kinetic phenomena, and suspension rheology, surface probes.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1125 - CARDIOVASCULAR DYNAMICS

Minimum Credits: 3
Maximum Credits: 3
This course presents the principles of the flow of biological fluids in mammalian vessels and application of the navier-stokes equations to blood flow in pulsating vessels. Supercomputer applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CHE 1210 - PARLEL PRGG PROB IN SCI & ENGR

Minimum Credits: 2
Maximum Credits: 2
This course will cover the theory and practice of parallel programming. Students will learn to write parallel programs to solve basic computational problems using the Message Passing Interface (MPI) and time permitting, Parallel Virtual Machine (PVM). Weekly programming exercises will be given. Students will have access to three parallel computer architectures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CHE 1311 - HEMODYNAMICS AND BIOTRANSPORT

Minimum Credits: 3
Maximum Credits: 3
This course covers the fundamental principles of fluid mechanics and mass transport as applicable to physiological and biological systems. The fluid mechanics coverage emphasizes blood flow in the cardiovascular system. Topics include Poiseuille flow and circulatory flow resistance, blood rheology and tube flow of blood, pulsatile blood flow in arteries, and microcirculatory blood flow. The mass transport coverage emphasizes steady and unsteady diffusion, mass transfer coefficients and correlations, controlled release, coupled diffusion and reactions in biological systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CHE 0300; PROG: Swanson School of Engineering

CHE 1410 - MATHMTCL METHD IN CHMCL ENGR 1

Minimum Credits: 3
Maximum Credits: 3
Application of mathematical techniques to chemical engineering problems requiring the solution of ordinary differential equations and partial differential equations. Series solutions, transform solutions, vector calculus, and quadrature are covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1411 - MATHMTCL METHD IN CHMCL ENGR 2

Minimum Credits: 3
Maximum Credits: 3
Applied numerical techniques for chemical engineers. Extensive use of the computer is made for solving equations (algebraic and differential). Numerical integration and solutions of systems of equations are discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1412 - COMPUTING METHODS FOR CHE

Minimum Credits: 3
Maximum Credits: 3
The objective of this class is to utilize computational approaches for a broad range of chemical engineering applications. One of the goals is to develop programming skills applicable to a suite of chemical engineering problems. The primary programming packages that will be used are matlab and excel. In addition, several case studies of computational methods for chemical engineering will be evaluated. By the end of the course the student will have a set of programs that will be applicable to a broad range of chemical engineering problems.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1460 - COMPUTER INTERFACING

Minimum Credits: 3
Maximum Credits: 3
This course covers the fundamentals of computer interfacing and their application to the control of laboratory instrumentation. The basics of digital electronics and digital data handling are also covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1530 - BIOCHEMISTRY FOR ENGINEERS

Minimum Credits: 3
Maximum Credits: 3
The basic principles of biochemistry are presented and discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CHE 0100 and CHEM 0310; PLAN: Chemical Engineering (BSE)

CHE 1531 - FUNDMS OF BIOCHEMICAL ENGR

Minimum Credits: 3
Maximum Credits: 3
This course focuses on application of engineering principles to the production of biomolecules and pharmaceuticals. Included are batch cultivation methods, continuous bioreactors, immobilized cell system, bioreactor consideration of mammalian cell cultures, cell metabolism, metabolic, metabolic engineering, and viral vectors and vaccines.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CHE 0400 AND (CHE1530 or BIOSC 1000) PLAN: Chemical Engineering (BS)

CHE 1532 - BIOSEPARATIONS

Minimum Credits: 3
Maximum Credits: 3
Bio separation processes are critical for purification of peptides and proteins, nucleic acids, vaccines and viral vectors, and a host of other biomolecules of interest in pharmaceutical and biotechnology industries. This course will focus on downstream bioprocessing for separation and purification of recombinant and natural proteins, DNA, and viruses including viral vectors for gene therapy applications. Ultrafiltration, tangential or cross flow systems, precipitation, and chromatography-based processes will be examined. Ion exchange and affinity chromatography will be discussed in detail. Application of genomic manipulation and proteomics for improvements in bio separation processes will also be covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CHE 0300 or BIOENG 1220; PROG: Swanson School of Engineering

CHE 1533 - CONTROLLED DRUG DELIVERY

Minimum Credits: 3
Maximum Credits: 3
This course will provide students with a basic understanding of the engineering of controlled drug delivery systems, which stands as a 114 billion dollar industry. To this end, we will focus on topics at the interface between engineering and medicine such as biomaterials, pharmacokinetics, polymer chemistry, reaction kinetics, and biological transport phenomena. Design of transdermal, aerosol, oral, bio-mems, gene delivery, and targeted cellular delivery, will be reviewed with emphasis being placed upon us FDA regulatory considerations and the relevant physiological milieu.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: [PREQ: CHE 0300 and CHE 0400 and (CHE 1530 or BIOSC 1000 or CHEM 1810); LVL: Sr; PLAN: Chemical Engineering (BSE)] or [BIOENG 1220; LVL: Sr; PLAN: Bioengineering (BSE)]

CHE 1535 - APLD SOLID STATE CHEM

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CHE 1600 - PRIN & PROPS CPLX ENGNRD MATLS

Minimum Credits: 3
Maximum Credits: 3
Complex engineered materials are a new class of systems comprising a variety of inorganic materials. This course is designed to introduce the principles and various functional properties exhibited by inorganic materials at the Nano, Micro and Meso scales. Since inorganic materials comprising metallic and non-metallic systems are a very complicated class of materials that display myriad properties, this course is outlined to discuss the most important properties. Thus, the course will mainly cover optical, electrical, thermal and electrochemical properties of both crystalline and amorphous inorganic complex engineered materials. In each category, the principles underlining each property will be discussed followed by the material class, behavior and applications. The effect of microstructure on each of the properties will also be discussed. The course objective is to introduce the student to these complex engineered materials family and their properties. In doing so, the student should be able to identify a material for a particular application.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (CHE 0200 or MEMS 1051 or BIOENG 1210) and ENGR 0022 and MATH 0290; PLAN: Chemical Engineering (BSE); LVL: Jr or Sr

CHE 1752 - INTRO TO POLYMER PHYSICS

Minimum Credits: 3
Maximum Credits: 3
Introduction to the physics, chemistry, and mechanics of polymers in the solid and molten states. Macromolecules, structure, physical properties, and the morphology of the amorphous and crystalline states. Description of the engineering properties and design with polymeric materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1753 - INTRODCTN TO POLYMR PROCESSING

Minimum Credits: 3
Maximum Credits: 3
Scope of polymer processing; thermoplastics and thermosets; basic transport phenomena; equations of motion, energy; viscous dissipation; non-newtonian fluids; poiseuille and couette flows; lubrication approximation; plasticating extrusion; calendering; injection moulding; fiber spinning; film blowing; distributive and dispersive mixing; mixers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1754 - PRINCIPLES OF POLYMER ENGINRNG

Minimum Credits: 3
Maximum Credits: 3
This course deals with the elements of polymer science and engineering necessary for entry-level understanding of polymer technology. While the chemistry determines macromolecular microstructure, an understanding of polymer manufacture and processing requires the addition of physical chemistry and transport phenomena. The essential material covered in this class includes the elements of polymers thermodynamics, rheology, mechanical behavior, and equipment design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CHE 0200 or BIOENG 1210 or MEMS 1056; PLAN: Chemical Engineering (BSE)

CHE 1756 - POLYMERIZATION ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
Principles of chemical engineering as applied to the polymerization industry. Structure and properties of polymers, thermodynamics and kinetics of polymerization, and design of polymerization reactors and processes are covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1757 - APPLIED POLYMER PRINCIPLES

Minimum Credits: 3
Maximum Credits: 3
Seminar on special topics in polymers, polymer processing, and polymerization engineering. Topics vary from term to term.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1812 - BIOSENSORS

Minimum Credits: 3
Maximum Credits: 3
The course will cover: what biosensors are, how they are made, how they work, where they are already used, and what their future applications are
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: BIOSC 1000 or CHE 1530; PLAN: Chemical Engineering (BSE)

CHE 1850 - ENERGY TODAY

Minimum Credits: 6
Maximum Credits: 6
Geology of fossil fuels and nuclear materials. Coal extraction and utilization for steam generation. Petroleum production, refining, transportation and end uses. Nuclear fuel cycle and the use of nuclear fuels for steam generation. Technical operation of the electric industry, including electricity generation and transmission. Control of emissions from stationary and mobile energy conversion processes. Economics of current energy sources and utilization techniques. Current energy laws and regulations worldwide.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1870 - SOLIDS PROCESSING & TRANSPORT

Minimum Credits: 3
Maximum Credits: 3
Particle technology affects as much as 80% of the chemical process industry, yet is often omitted from the undergraduate curriculum of chemical engineers. This course is designed to give advanced undergraduates as well as early-term graduate students an introduction to this rich and diverse field. Topics will range from fundamentals (particle classification, properties, and flow) to applied (hopper design, mixing, etc. Industry related examples and designs with be presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1925 - FLUID/PARTICLE SEPARATION

Minimum Credits: 3
Maximum Credits: 3
The course will cover basic principles and industrial applications of fluid/particle separations. 1. Particle characterization and interfacial phenomena. 2. Particle dynamics in fluids. 3. Structure and flow behavior of porous media. 4. Applications of fluid/particle separations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CHE 1930 - SEL TOPC FLUD/PAR PROCNG & SEP

Minimum Credits: 3
Maximum Credits: 3
The course will first provide a short review of the fundamentals of fluid/particle systems, including particle characterization and interfacial phenomena. This will be followed by in-depth discussions of selected topics in fluid/ particle processing and separation, with a particular emphasis on industrial applications, such as particle formation, pneumatic/slurry transport, filtration, ultrafiltration, membrane separation, agglomeration and foam separation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CHE 1940 - PROCESS INTENSIFICATION

Minimum Credits: 3
Maximum Credits: 3
This course will provide students with a basic understanding of process intensification (pi) from a chemical engineering perspective. Pi has developed as a major trend in the chemical, pharmaceutical, and process industries over the past two decades, equally driven by economic as well as environmental pressures. Pi's main purpose is hence the development of safer, cleaner, and more efficient process alternatives to existing processes. We will introduce the guiding principles of process intensification, and then discuss micro-reaction technology and multifunctional reactor concepts

as the two main directions in state-of-the-art pi technoloogy. A major focus will be on how the interplay between reaction kinetics, reactor design, and transport phenomena can be utilized in pi design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CHE 0400 (MIN GRAD: B+); PROG: Swanson School of Engineering

Chemistry

CHEM 0100 - PREPARATION GENERAL CHEMISTRY

Minimum Credits: 3
Maximum Credits: 3
This course is designed for those students who intend to take chemistry 0110 and 0120, but whose science and mathematical backgrounds are judged by their advisors to be relatively weak. The course emphasizes stoichiometry (chemical calculations), chemical equations, gas laws, elementary atomic structure and periodic properties of elements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0110 - GENERAL CHEMISTRY 1

Minimum Credits: 4
Maximum Credits: 4
Chemistry 0110 and 0120 comprise a two-term introduction to the fundamental properties of matter. The courses emphasize applications to industrial and environmental chemistry and biochemistry. CHEM 0110 covers stoichiometry, the properties of solids, liquids and gases, thermochemistry and the electronic structure of atoms and molecules.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: College in High School - UGRD - students only.

CHEM 0120 - GENERAL CHEMISTRY 2

Minimum Credits: 4
Maximum Credits: 4
Chemistry 0110 and 0120 comprise a two-term introduction to the fundamental properties of matter. The courses emphasize applications to industrial and environmental chemistry and biochemistry. CHEM 0110 covers stoichiometry, the properties of solids, liquids and gases, thermochemistry and the electronic structure of atoms and molecules.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CHEM 0110 or 0710 or 0760 or 0960 or 0101) or (CHEM 0410 and 0430) or (CHEM 0111 and 0113)

CHEM 0250 - INTRO ANALYTICAL CHEMISTRY

Minimum Credits: 3
Maximum Credits: 3
This course is concerned with the rigorous treatment of equilibria that are of analytical importance and with an introduction into electroanalytical methods, emission and absorption spectrophotometry, and modern separation methods, particularly chromatography.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0120 or 0720 or 0770 or 0970 or 0102 or (CHEM 0112 and 0114)

CHEM 0260 - INTRO ANALYTICAL CHEMISTRY LAB

Minimum Credits: 1
Maximum Credits: 1
The primary objectives of this course are to introduce the student to current analytical methods and to cultivate sound experimental technique. Laboratory work includes ion exchange separations, complexometric and potentiometric acid-base titrations, and absorption spectrophotometry.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: CHEM 0250 or 0201 or 0325

CHEM 0310 - ORGANIC CHEMISTRY 1

Minimum Credits: 3
Maximum Credits: 3
An introduction to theory and practice of organic chemistry through study of structural principles, reaction mechanisms, and synthesis leading toward end of second term, when complex molecules of biological interest are discussed. Basic goals of course are to develop appreciation and skill in

methods of molecular analysis which have made organic chemistry such a powerful intellectual discipline. Course will prepare student for work in advanced topics of organic chemistry, biochemistry, chemical engineering and health related sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CHEM 0120 or 0720 or 0770 or 0970 or 0102 or CHEM 0420) or (CHEM 0112 and 0114)

CHEM 0320 - ORGANIC CHEMISTRY 2

Minimum Credits: 3
Maximum Credits: 3
An introduction to theory and practice of organic chemistry through study of structural principles, reaction mechanisms, and synthesis leading toward end of second term, when complex molecules of biological interest are discussed. Basic goals of course are to develop appreciation and skill in methods of molecular analysis which have made organic chemistry such a powerful intellectual discipline. Course will prepare student for work in advanced topics of organic chemistry, biochemistry, chemical engineering and health related sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0310 or 0730 or 0206 or 0231

CHEM 0330 - ORGANIC CHEMISTRY LABORATORY 1

Minimum Credits: 1
Maximum Credits: 1
Chemistry 0330 is devoted to the purification, characterization, and identification of organic molecules using the techniques of recrystallization, distillation, thin-layer, column and gas-liquid chromatography, melting point determination, and infrared and nuclear magnetic resonance spectroscopy.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: CHEM 0310 or 0730 or 0206 or 0231

CHEM 0340 - ORGANIC CHEMISTRY LABORATORY 2

Minimum Credits: 1
Maximum Credits: 1
Chemistry 0340 provides an opportunity to carryout important synthetic reactions discussed in the lecture course along with an introduction to the use of the chemical literature. Reactions are analyzed and products characterized using the skills learned in chemistry 0330.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0330 or 0207 or 0233; CREQ: CHEM 0320 or 0740 or 0208 or 0232

CHEM 0345 - ORGANIC LABORATORY

Minimum Credits: 2
Maximum Credits: 2
This single semester two-credit Organic Laboratory course will provide an introduction to modern organic laboratory techniques used routinely in both industry and academics. The lab will emphasize practical applications of the reactions covered in the Organic 1 and Organic 2 lectures. The goals of the course are to provide students with practical experience in executing and analyzing organic transformations as well as practical experience in modern laboratory techniques.
Academic Career: UGRD
Course Component: Credit Lab
Grade Component: LG/SU3
Course Requirements: PREQ: CHEM 0310 or CHEM 0730; CREQ: CHEM 0740 or CHEM 0320

CHEM 0350 - PRINCIPLES OF ORGANIC CHEMSTRY

Minimum Credits: 3
Maximum Credits: 3
The goal of the first semester of this two-semester sequence will be to emphasize the tools of organic chemistry. The content of this one semester will be similar to the most important 50% of the topics treated in the traditional year long course. Some traditional topics will not be covered, not that they are unimportant in organic chemistry but due to their reduced importance in biological sciences-oriented careers. This course will not be less rigorous than the traditional sophomore organic chemistry course, but will focus on a different subset of introductory material.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [CHEM 0120 or 0720 or 0770 or 0970 or (0112 and 0114)] and BIOSC 0150

CHEM 0360 - ORGANIC CHEMISTRY OF LIFE

Minimum Credits: 3
Maximum Credits: 3
The purpose of the second semester of this two semester sequence will be to extend and to apply the basic tenents introduced in the first semester to the fundamental organic chemistry occurring in living systems and to illustrate such material with examples drawn from bioorganic, medicinal and agricultural chemistry. The course will continue to develop general organic principles by focusing on matters specifically relevant to biochemistry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0410 - GENERAL CHEMISTRY 1

Minimum Credits: 3
Maximum Credits: 3
See chemistry 0110. This course is for students who need to take lecture without lab.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0420 - GENERAL CHEMISTRY 2

Minimum Credits: 3
Maximum Credits: 3
See chemistry 0120. This course is for students who must take lecture without lab.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0430 - GENERAL CHEMISTRY 1 LABORATORY

Minimum Credits: 4
Maximum Credits: 4
Chemistry 0710 and 0720 comprise a two-term introduction to the fundamental properties of matter. The courses emphasize the fundamental principles of chemistry as exemplified by applications to industrial and environmental chemistry. Chemistry 0710 covers stoichiometry, electronic structure of atoms and molecules, periodic behavior, theories of bonding, and spectroscopy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0440 - GENERAL CHEMISTRY 2 LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Laboratory that accompanies chemistry 0120.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

CHEM 0710 - UHC GENERAL CHEMISTRY 1

Minimum Credits: 4
Maximum Credits: 4
Chemistry 0710 and CHEM 0720 comprise a two-term introduction to the fundamental properties of matter. The courses emphasize the fundamental principles of chemistry as exemplified by applications to industrial and environmental chemistry. Chemistry 0710 covers stoichiometry, electronic structure of atoms and molecules, periodic behavior, theories of bonding, and spectroscopy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0720 - UHC GENERAL CHEMISTRY 2

Minimum Credits: 4
Maximum Credits: 4
Chemistry 0710 and 0720 comprise a two-term introduction to the fundamental properties of matter. The courses emphasize the fundamental principles of chemistry as exemplified by applications to industrial and environmental chemistry. CHEM 0720 covers the properties of solids, liquids and gases, chemical dynamics and chemical kinetics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CHEM 0110 or 0710 or 0760 or 0960 or 0101) or (CHEM 0410 and 0430) or (CHEM 0111 and 0113)

CHEM 0730 - UHC ORGANIC CHEMISTRY 1

Minimum Credits: 3
Maximum Credits: 3
An introduction to theory and practice of organic chemistry through study of structural principles, reaction mechanisms, and synthesis leading toward end of second term, when complex molecules of biological interest are discussed. Basic goals of course are to develop appreciation and skill in methods of molecular analysis which have made organic chemistry such a powerful intellectual discipline. Course will prepare student for work in advanced topics of organic chemistry, biochemistry, chemical engineering and health related sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0740 - UHC ORGANIC CHEMISTRY 2

Minimum Credits: 3
Maximum Credits: 3
An introduction to theory and practice of organic chemistry through study of structural principles, reaction mechanisms, and synthesis leading toward end of second term, when complex molecules of biological interest are discussed. Basic goals of course are to develop appreciation and skill in methods of molecular analysis which have made organic chemistry such a powerful intellectual discipline. Course will prepare student for work in advanced topics of organic chemistry, biochemistry, chemical engineering and health related sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0310 or 0730 or 0206 or 0231

CHEM 0750 - UHC ORGANIC LABORATORY

Minimum Credits: 2
Maximum Credits: 2
Chemistry 0750 provides an opportunity to carryout important synthetic reactions discussed in the lecture course along with an introduction to the use of the chemical literature. Reactions are analyzed and products characterized using the skills learned in chemistry 0740.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0310 or 0730; CREQ: CHEM 0320 or 0740 or 0208 or 0232

CHEM 0760 - UHC GENERAL CHEM FOR ENGINRS 1

Minimum Credits: 3
Maximum Credits: 3
Chemistry 0760 and 0770 comprise a two-term introduction to the fundamental properties of matter. The courses emphasize the fundamental principles of chemistry as exemplified by applications to industrial and environmental chemistry. Chemistry 0760 covers stoichiometry, electronic structure of atoms and molecules, periodic behavior, theories of bonding, and spectroscopy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0765 - MATERIALS CHEMISTRY 1

Minimum Credits: 3
Maximum Credits: 3
This course develops the usual chemical principles governing the structure of matter and its changes with more emphasis placed on the solid state and polymeric materials. Furthermore, a special emphasis will be placed on relating atomic and molecular structure and bonding to the macroscopic properties of functional matter-engineering materials-such as metals, ceramics, polymers and semiconductors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CHEM 0770 - UHC GENERAL CHEM FOR ENGINRS 2

Minimum Credits: 4
Maximum Credits: 4
Chemistry 0760 and 0770 comprise a two-term introduction to the fundamental properties of matter. The courses emphasize the fundamental principles of chemistry as exemplified by applications to industrial and environmental chemistry. CHEM 0770 covers the properties of solids, liquids and gases, chemical dynamics and chemical kinetics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CHEM 0110 or 0710 or 0760 or 0960 or 0101) or (CHEM 0410 and 0430) or (CHEM 0111 and 0113)

CHEM 0775 - MATERIALS CHEMISTRY 2

Minimum Credits: 4
Maximum Credits: 4

Includes: phases of matter, phase diagrams, concepts of chemical equilibrium, applications to equilibrium in solid materials and aqueous solutions, synthesis of modern, nano structured ceramics, metals and alloys; principles of electrochemistry: applications to solid state ionics, solid oxide fuel cells, solid state sensors, corrosion mechanisms, prevention of corrosion. Chemical kinetics, reaction mechanisms, reactions between solids. Chemistry of transition metals, transition metal oxides including perovskites, and superconductors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CHEM 0800 - CHEMISTRY FOR NONSCIENTISTS

Minimum Credits: 3
Maximum Credits: 3
This course offers a general introduction to chemistry with an emphasis on basic chemical concepts. It starts by describing how atoms and molecules were discovered and how their properties are understood. Next the process of a chemical reaction is described. Emphasis is on understanding principles, rather than on mathematical theory or calculations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0810 - CONTEM ISS IMPCT PUBLIC POLICY

Minimum Credits: 3
Maximum Credits: 3
This course examines problems facing society where chemistry has immediate impact. Topics include such issues as environmental pollution, new vs. Old sources of energy, new sources of raw materials, nuclear energy and associated problems, and development of new pharmaceuticals, drugs and future needs in medicine, and the synthesis of new life forms. Controversial issues are presented and include debates between experts of competing viewpoints. The emphasis is scientific and the topics serve to increase the scientific depth of the students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0850 - SCIENCE OF EVERYDAY LIFE - 1

Minimum Credits: 3
Maximum Credits: 3
This 2-semester course will present non-science majors with a comprehensive picture of the natural world. Topics will include: the solar system; laws of motion; energy; structure of matter; the earth; cosmology; the science of living things; the living cell, genetics; evolution. Emphasis will be on fundamental concepts that underlie our present understanding. Connections will be made to historical developments and to scientific and technological issues that impact individuals and society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0851 - SCIENCE OF EVERYDAY LIFE - 2

Minimum Credits: 3
Maximum Credits: 3
This 2-semester course will present non-science majors with a comprehensive picture of the natural world. Topics will include: the solar system; laws of motion; energy; structure of matter; the earth; cosmology; the science of living things; the living cell; genetics; evolution. Emphasis will be on fundamental concepts that underlie our present understanding. Connections will be made to historical developments and to scientific and technological issues that impact individuals and society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0910 - CHEMCL PRINCPL HEALTH PROFESSN

Minimum Credits: 4
Maximum Credits: 4
This is a one term course covering general and biological chemistry designed primarily for students enrolled in the school of nursing or preparing for health related professions. The course covers aspects of general chemistry including atomic structure and bonding and equilibria. A brief introduction to organic chemistry including physical properties and representative reactions of common functional groups and finally the chemistry of the major classes biomolecules and metabolism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Nursing students only.

CHEM 0960 - GENERAL CHEM FOR ENGINEERS 1

Minimum Credits: 3
Maximum Credits: 3

Essentially the same as CHEM 0110, but a total of 3 credits only and has no lab. Enrollment limited to school of engineering students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 0970 - GENERAL CHEM FOR ENGINEERS 2

Minimum Credits: 3
Maximum Credits: 3
Essentially the same as CHEM 0120, but a total of 3 credits only. Has lab, but only two lectures per week in contrast to CHEM 0120, which has 3. Enrollment limited to school of engineering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0110 or 0410 or 0710 or 0760 or 0960 or 0101 or (CHEM 0111 and 0113)

CHEM 0980 - GENERAL CHEMISTRY 2

Minimum Credits: 4
Maximum Credits: 4
Essentially the same as CHEM 0120. Enrollment limited to school of engineering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1000 - MATHEMATICS FOR CHEMISTRY

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: MATH 0230

CHEM 1130 - INORGANIC CHEMISTRY

Minimum Credits: 3
Maximum Credits: 3
Modern bonding theories are developed to the level that permits some understanding of the effects of structure and bonding on chemical properties. Periodic relationships are discussed and applied to selected families of elements. Emphasis is placed on those aspects of structure, bonding and periodic relationships that are helpful in unifying a large body of chemical knowledge. Selected topics of current interest in inorganic chemistry are discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 1410 or 1301 or 1341

CHEM 1140 - ADVANCED INORGANIC LABORATORY

Minimum Credits: 2
Maximum Credits: 2
Introduces practical techniques for the synthesis and characterization of inorganic and organometallic complexes and materials. Special emphasis on the preparation and characterization of air- and water-sensitive compounds.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: CHEM 1130 or 1131 or 1401

CHEM 1210 - DIGITAL ELECTRONICS

Minimum Credits: 2
Maximum Credits: 2
This basic course investigates digital electronics and applications of small computers in labs. The emphasis will be a hands-on" lab in conjunction with lecture. The introduction to digital electronics includes basics of digital logic systems and implementation using integrated circuits. Labs utilize circuits in simple experiments designed to demonstrate various parameters associated with building blocks of digital systems. Second half of course covers microcomputer architecture and hardware, peripherals, software and interfacing. Experiments allow students to interface."
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

CHEM 1250 - INSTRUMENTAL ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
The basic principles and instrumentation of important methods and their application to analysis and research problems. The coverage includes spectroscopic and electrochemical methods and chromatography. Equilibrium and dynamic aspects of each are considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0250 or 0201 or 0325

CHEM 1255 - INSTRUMENTAL ANALYSIS LAB

Minimum Credits: 1
Maximum Credits: 1
The laboratory component of CHEM 1250. Students will be introduced to state of the art instrumentation being used in contemporary analytical chemistry.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0260; CREQ: CHEM 1250

CHEM 1260 - INTERMEDT ANALYTICAL CHEMISTRY

Minimum Credits: 2
Maximum Credits: 2
This course is about becoming a professional. Students read the current scientific literature on a topic of current interest in analytical chemistry or a related area (spectroscopy, separations, electrochemistry, sensors...). They teach the class about a scientific area, and the class will discuss this area. Finally, we will attend public scientific lectures of famous scientists.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 1250 or 1305 or 1327

CHEM 1270 - SPEC TOPIC INSTRUMENTAL ANAL 1

Minimum Credits: 2
Maximum Credits: 2
This course provides hands-on experience with the essential and sophisticated methods used by analytical, physical, and organic chemists. These include FT-IR, NMR, EPR, X-Ray Fluorescence, esca, and other spectroscopic techniques, as well as thermal analysis and chemo metrics. Emphasis is placed on the analysis of real-world" samples, such as polymers, micelles, oligopeptides, and catalysts."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1280 - SPEC TOPICS INSTRUMNTAL ANAL 2

Minimum Credits: 1
Maximum Credits: 1
This course is a continuation of CHEM 1270. Providing additional experience with frontier methods in chemical analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1281 - INSTRUMNTAL ANAL WRITING PRACT

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

CHEM 1310 - SYNTHETIC ORGANIC CHEMISTRY

Minimum Credits: 2
Maximum Credits: 2
This advanced undergraduate course builds onto sophomore organic I and II courses by applying the learned principles to the synthesis of FDA-approved drug molecules. The emphasis of the course will be on analyzing the molecular structures of drugs in a retrosynthetic fashion, followed by developing suitable synthetic routes to these molecules. The reaction mechanisms of key steps of theses syntheses will be discussed in detail. Further discussion will include fundamental functional group interconversions, chemoselectivity, and protecting group use, enantioselective synthesis, and organometallic chemistry. Students will learn about the complexities of modern drug molecules, how their structures can be analyzed, and how they are synthesized.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0320 or 0740 or 0232 or CHEM 0208

CHEM 1380 - TECHNIQUES OF ORGANIC RESEARCH

Minimum Credits: 2
Maximum Credits: 2
A course which serves as a guide to the interpretation of ultraviolet, infrared, nuclear magnetic resonance and mass spectra of organic compounds.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0320 or 0740 or 0208 or 0232

CHEM 1410 - PHYSICAL CHEMISTRY 1

Minimum Credits: 3
Maximum Credits: 3
Basic lecture course dealing with quantum theory, atomic and molecular structure, symmetry, spectroscopy and diffraction methods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [CHEM 0120 or 0720 or 0770 or 0970 or (0112 and 0114)] and (PHYS 0175 or 0111 or 0476) and (MATH 0240 or 0201 or 0241 or CHEM 1000)

CHEM 1420 - PHYSICAL CHEMISTRY 2

Minimum Credits: 3
Maximum Credits: 3
Basic lecture course dealing with gases, kinetic theory, chemical thermodynamics, equilibria, and chemical kinetics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 1410 or 1302 or 1342

CHEM 1430 - PHYSICAL CHEMSTRY LABORATORY 1

Minimum Credits: 1
Maximum Credits: 1
Approximately 8 experiments are performed during the term. Experiments are selected to illustrate important principles of physical chemistry and to make the student familiar with important experimental methods. The course is intended to make the student think critically about reliability of experimental results and to attempt to interpret them in the light of his previous chemical experience.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 1302 or 1342 or 1410 or 1480

CHEM 1431 - TOPCS IN PHYSCL CHEM WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
This course provides an opportunity for students to explore a current physical chemistry research topic and create a journal ready" manuscript. The research topic will be chosen during the first two weeks of classes in consultation with the professor. A comprehensive outline and first draft will be prepared then reviewed with the professor. The paper is revised at least once before final submission and is a minimum of 15 pages. Conferences will be by appointment."
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

CHEM 1440 - PHYSICAL CHEMSTRY LABORATORY 2

Minimum Credits: 1
Maximum Credits: 1
This course has one four hour lab each week. Approximately 7 experiments are performed during the term, with an emphasis on the macroscopic properties of matter. The course is designed to expand upon the principles and techniques covered in Chem 1430 as well as to introduce the student to other scientific methods for investigating properties of materials. There is a lab fee.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CHEM 1420 and 1430) or 1301 or (CHEM 1341 and 1343) or CHEM 1480

CHEM 1450 - MOLECULAR MODELING & GRAPHICS

Minimum Credits: 3
Maximum Credits: 3
This course will introduce the student to computational methods to determine molecular structures and stabilities, Monte Carlo and Molecular Dynamics Simulation Methods, and the use of graphics for displaying structures, charge densities, and other properties. Use will be made of both microcomputers and the Cray X-MP at the Pittsburgh Super Computing Center.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1460 - INTRO MODERN COMPUTATIONAL SCI

Minimum Credits: 3
Maximum Credits: 3
This course will emphasize the application of microcomputers and numerical methods for solving problems of importance in chemistry. Methods to be studied include solving systems of linear and differential equations, lEast squares fitting, eigenvalue problems, solution of nonlinear equations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1470 - PHOTONICS 1

Minimum Credits: 3
Maximum Credits: 3
The overall aim of the two-course series is to present the essential theory of modern photonics methods as actually used in industry and research labs today. CHEM 1470 (photonics 1) will focus on the basic theory of optics in anisotropic and nonlinear media and the basic methods of modulating and controlling light, while CHEM 1472 (photonics 2) will focus on the application of photonics techniques to modern devices and materials characterization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1472 - PHOTONICS 2

Minimum Credits: 3
Maximum Credits: 3
The overall aim of the two-grade series is to present the essential theory of modern photonics methods as actually used in industry and research labs today. CHEM 1472 (photonics 2) will focus on the application of photonics techniques to modern devices and materials characterization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 1470

CHEM 1480 - INTERMEDIATE PHYSICAL CHEMSTRY

Minimum Credits: 3
Maximum Credits: 3
A lecture course emphasizing application of principles of thermodynamics to solutions of electrolytes and non-electrolytes, electrochemical cells, physical chemistry of surfaces and macromolecules.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (MATH 0240 or 0201 or 0241) and (PHYS 0111 or 0175 or 0476 or 0102 or 0202 or 0152 or 0200) and (CHEM 0120 or 0970 or 0102 or 0112 or 0420)

CHEM 1540 - INTRO TO MASS SPECTROMETRY

Minimum Credits: 3
Maximum Credits: 3
A basic, yet comprehensive, introductory course in mass spectrometry will be offered. The material will include a summary of instrumentation, special interpretation procedures and data handling. The interpretation of spectra of compounds of specific interest in geology and chemistry will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1550 - INTRO TO MAGNETIC RESONANCE

Minimum Credits: 3
Maximum Credits: 3
An introduction to the fields of nuclear magnetic resonance and electron parametic resonance spectroscopy for persons with no previous experience in these fields.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1560 - INTPT MASS SPECTR ORGN MOLECR

Minimum Credits: 2
Maximum Credits: 2
Advanced topics in mass spectrometry will be discussed including tandem mass spectrometry, Fourier Transform Mass Spectrometry, Advanced Interpretation of Mass Spectra of Organic Molecules and Newer types of ion sources. Each student will be assisted in exploring a mass spectrometry topic of specific interest.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CHEM 1590 - MOLECULAR BIOPHYSICS

Minimum Credits: 2
Maximum Credits: 2
This is an advanced level course that introduces students to the physical chemistry of biological macromolecules and the methods used to study their structure, interactions, and function. Concepts of positional and structural information will be integrated with those of thermodynamics, statistical mechanics, and kinetics. We will focus on the enzyme rnase-a, a paradigm for the study of the physico-chemical properties and mechanism of function of proteins.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1595 - MOLECULAR BIOPHYSC LABORATORY

Minimum Credits: 3
Maximum Credits: 3
This is an advanced level laboratory course that introduces students to modern techniques such as x-ray crystallography, NMR and CD spectroscopy, calorimetry, and molecular dynamics simulations for the study of the structure, interactions, and function of biological macromolecules. Experiments will use the enzyme rnase-a, a paradigm for the study of the physico-chemical properties and mechanisms of function of proteins.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

CHEM 1600 - SYNTHESIS & CHARCTRZTN POLYMRS

Minimum Credits: 3
Maximum Credits: 3
Synthesis and characterization of polymers is focus of course. Current methods of polymer synthesis will be surveyed, practical implementation of reactions and kinetic consequences of reaction strategies in homopolymer, copolymer and block copolymer synthesis. Techniques for characterization of polymer molecular weight, chemical composition, and stereochemistry (Ft-IR, NMR, other spectroscopic and chemical methods) will be discussed. Brief treatment of polymer solution thermodynamics and selected topics in polymer chemistry will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CHEM 0320 or 0740 or 0208 or 0232) and (CHEM 1420 or 1480 or 1302 or 1342)

CHEM 1605 - SYNTH & CHARCTRZTN POLYMRS LAB

Minimum Credits: 1
Maximum Credits: 1
This course is the laboratory component of CHEM 1600. Students will gain practical experience in the synthesis of polymers and the use of modern techniques used in the characterization of the polymers they synthesize.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0320 or 0740 or 0340 or 0750; CREQ: CHEM 1600

CHEM 1620 - ATOMS, MOLECULES AND MATERIALS

Minimum Credits: 3
Maximum Credits: 3
This course will use qualitative molecular orbital theory to understand the design and performance of new materials. A link will be made between "small molecule" intuition and the solid-state perspective on large molecules. Clusters and solids.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1630 - FOUNDATIONS OF NANOSCIENCE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1700 - UNDERGRADUATE RESEARCH SEMINAR

Minimum Credits: 1
Maximum Credits: 1
Seminar given by faculty on undergraduate research opportunities in chemistry. Open to all students regardless of departmental affiliation, but is designed especially to help those students who may take chemistry 1710 in their selection of a research project.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

CHEM 1701 - UNDERGRAD RES SEMINR WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
This course, in conjunction with chemistry 1700, will allow students to write a major research paper based on a seminar given by a departmental faculty member. Extensive library work will be required. At lEast one revision of the paper will also be expected. This course will fulfill the CAS Departmental Writing requirement.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: CREQ: CHEM 1700

CHEM 1710 - UNDERGRADUATE RESEARCH

Minimum Credits: 1
Maximum Credits: 6
This is an elective course where a research project is carried out under the direction of a member of the chemistry faculty. It is for the serious student who wishes to expand his scholarly interests. Approximately four hours research per week per credit; usually no more than three credits per term.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

CHEM 1711 - UNDGR RESEARCH WRITING PRACTCM

Minimum Credits: 1
Maximum Credits: 1
Chem 1711 will require the student to write a report in the form of a major research paper and will include a historical background to the project, an experimental or methods sections and a discussion of the results and their meaning.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

CHEM 1720 - UNDERGRAD TEACHING EXPERIENCE

Minimum Credits: 1
Maximum Credits: 4
Students can gain teaching experience by serving as instructors in one of the undergraduate chemistry lab courses.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

CHEM 1730 - RESEARCH IN NANOTECHNOLOGY

Minimum Credits: 1
Maximum Credits: 6
Research in nanotechnology
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

CHEM 1750 - PHOTONICS SEMINAR

Minimum Credits: 1
Maximum Credits: 1
The overall aim of the course is to expose students to work on the cutting edge of photonics.
Academic Career: UGRD

Course Component: Seminar
Grade Component: Satisfactory/No Credit

CHEM 1810 - CHEMICAL BIOLOGY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0320 and BIOSC 1610

CHEM 1902 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 6
Directed study in a specific area of chemistry to enhance preparation for undergraduate research.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

CHEM 1970 - POLYMER STRUCTURE & PROPERTIES
Minimum Credits: 3
Maximum Credits: 3
This is an introductory lecture course which describes the microstructure of chain molecules, molecular weight distribution and determination, statistical thermo dynamics of polymer solutions, glass formation and the crystalline state, polymer chain conformation, thermo dynamics of rubberlike elasticity, elastomers, viscous flow, and viscoelastic behavior.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHEM 1980 - POLMERIZATION ENGINEERING
Minimum Credits: 3
Maximum Credits: 3
Historical development of the synthetic polymer industry. Economics and chemical development. Molecular architecture. Polymerization reactions. Mechanisms and kinetics. Commercial processes. Reactors. New polymers. Property-chemical structure correlations. Thermal stability. Degradation, uses and applications of polymers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Civil & Environmental Engineer

CEE 0085 - SOPHOMORE SEMINAR
Minimum Credits: 0
Maximum Credits: 0
Required of all new students in their first year after transferring into the civil and environmental engineering department from freshman engineering or other colleges, the sophomore seminar acquaints the students with the departmental programs in the various civil engineering sub disciplines. It is conducted on weeks alternating with the departmental seminar.
Academic Career: UGRD
Course Component: Colloquium
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

CEE 0109 - COMPUTER METH IN CIVIL ENGRG 1
Minimum Credits: 3
Maximum Credits: 3
This course emphasizes the mathematics and problem-solving skills necessary to be an intelligent user of a variety of computational tools for engineering analysis. The first portion of the course focuses on linear algebra within the context of engineering problems. Concepts of numerical linear algebra are then introduced, followed by a brief introduction to additional discrete analysis tools such as numerical approximation and signal processing. Lastly, through the introduction of cad software and an individual term project, students are taught how to independently gain familiarity and confidence with engineering software.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: (ENGR 0012 or 0712 or 0715 or 0718 or 0016 or ET 0023) and MATH 0240 or 0201 or 0241; PROG: Swanson School of Engineering

CEE 0119 - COMPUTER METH IN CIVIL ENGRG 2

Minimum Credits: 3
Maximum Credits: 3
Application of numerical methods for truss analysis, beam deflection, buckling load of column, and dynamics of vibration. Introduction to linear programming and finite difference solution to groundwater flows are also included.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CEE 1085 - DEPARTMENTAL SEMINAR

Minimum Credits: 0
Maximum Credits: 0
The departmental seminars are designed to acquaint the student with aspects of the civil engineering profession which are not normally encountered in classes and school activities.
Academic Career: UGRD
Course Component: Colloquium
Grade Component: H/S/U Basis
Course Requirements: PREQ: CEE 0085; PROG: Swanson School of Engineering

CEE 1086 - HONORS SEMINAR

Minimum Credits: 0
Maximum Credits: 0
The honors seminars are designed for advanced junior and senior civil engineering students to acquaint them with state-of-the-art thought in the field of civil engineering. Advanced analysis and design techniques will be emphasized, with particular attention to research and literature study. Attendance is by invitation only.
Academic Career: UGRD
Course Component: Colloquium
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

CEE 1102 - PROBLTY CONCPS CVL & ENV ENGRG

Minimum Credits: 3
Maximum Credits: 3
A basic course in probability and statistics. Topics covered include: data analysis, probability, random variables, discrete and continuous probability distributions, estimation, hypothesis testing, regression analysis, and quality control. Theory is applied to solutions of water resources, transportation, construction, geotechnical, environmental, and structural engineering problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CEE 1105 - MATERIALS OF CONSTRUCTION

Minimum Credits: 3
Maximum Credits: 3
The nature, physical properties, including environmental aspects of civil engineering construction materials are discussed. Experimentation, where applicable, is utilized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: ENGR 0141 or 0145 or ET 0051 or 0052; PROG: Swanson School of Engineering

CEE 1116 - CIVIL ENGRNG SYSTEMS ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Students are introduced to systems and their elements, system approach to problem solving, modelling and optimization, and systems analysis. Several optimization techniques including linear, integer and dynamic programming are covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CEE 1200 - CONSTRUCTION MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
This course introduces undergraduates to the construction management processes including planning, financing, contract administration, and project

scheduling and controlling. It is a practical course that provides a broad knowledge of managerial decision-making for young engineers. This is the basic course for all follow-on construction courses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CEE 1201 - CONSTRUCTN INFORMATION SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to the management of information which is used, communicated, analyzed, and stored for construction projects. The first half of the course focuses on techniques, tools, and technology. The second half focuses on application in managerial decision making.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: CEE 1200 or CET 1152; PROG: Swanson School of Engineering

CEE 1202 - CONSTRUCTION SCHEDULING

Minimum Credits: 3
Maximum Credits: 3
This course teaches the student the theory and practice of planning, scheduling, and controlling the time and cost of construction projects. The course covers various advanced techniques such as cost duration analysis, critical resource analysis, stochastic modeling, and cost control. The course teaches the use of contemporary computerized software systems with hands-on application.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1200; PROG: Swanson School of Engineering

CEE 1203 - CONSTRUCT PROFSSN DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
This course teaches the student how construction-related organizations (owner, designer, contractor) are organized and managed. The course covers such topics as marketing, TGM, ethics, risk management, and personnel management. The course emphasizes a professional perspective to the practice of construction management and incorporates lectures by practitioners of various professions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1200 or CET 1152; PROG: Swanson School of Engineering

CEE 1204 - CONSTRCT LAW & RISK MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to the legal and risk management issues in construction. The course covers the principles of contract law and various legal areas affecting construction such as environmental regulations, insurance, bonds, tort liability, dispute resolution, and professional services
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1200; PROG: Swanson School of Engineering

CEE 1205 - CONSTRCT & FINANC COST CONTROL

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to the company level financial and accounting systems which are used in the construction industry, and to project control systems which are used to manage cost and time. The course includes such topics as financial accounting, cost accounting, financial statements, and variance analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1206 - CONSTRCT & COST OF ELEC SUPPLY

Minimum Credits: 3
Maximum Credits: 3
This course teaches basic construction and cost estimating methodologies for single and three-phase electrical distribution systems that include wiring, power, and controls. The course uses commercial estimating systems and the national electrical code.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1207 - CONSTRCT COST MECHL SYMS

Minimum Credits: 3
Maximum Credits: 3
This course teaches the student how to plan, organize, and execute mechanical construction operations; and the methodologies for estimating their costs. The course covers mechanical systems such as water (supply and waste), HVAC, fire protection, and their controls.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1209 - LIFE CYCLE ASSMNT METH & TOOLS

Minimum Credits: 3
Maximum Credits: 3
This class will introduce students to life cycle thinking and provide engineers with tools to assess the sustainability and environmental impact of a product, process, or activity. Life cycle assessment (lca) principles, methods, tools, and challenges will be explored throughout the course. Topics include material and energy flow analysis, environmental indicators and metrics for sustainability, case studies of lca applications, and impact assessment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0220 or 0140 or 0221; PROG: School of Engineering

CEE 1210 - ENGR & SUSTAINABLE DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
This course is intended as an introductory interdisciplinary engineering course. Topics include principles of sustainable design in engineering, manufacturing, infrastructure, communications, and community development; overview of environmental issues for engineers; design for the environment; models of environmental processes; introduction to the use of life cycle assessment; and case studies examining the relationship of green design and the field of engineering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CEE 1211 - RESORC USE ENV QUALT CONSTRCT

Minimum Credits: 3
Maximum Credits: 3
Green building construction class that addresses issues of quantifying and estimating mass and energy flows during the life cycle of buildings, including tools and methods for calculation and analysis of the resource (mass and energy) flows in constructing, operating, and maintaining the built environment. The course will include an introduction to sustainability, green materials and processes, calculation of resource flows, and software tools for modeling resource flows.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CEE 1212 - ENVIRONMENTAL MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Management issues and practices concerning environmental protection are examined. The course surveys current U.S. Environmental laws and regulations as well as international issues such as multilateral environmental protection treaties, ISO 14000, and environmental protection under NAFTA.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1214 - BUILDING ECONOMICS

Minimum Credits: 2
Maximum Credits: 2
This course investigates the feasibility of a building construction project, simultaneously focusing on financial, cost, and design considerations. Its

primary objectives are twofold: to provide students with quantitative skills for analyzing the economic implications of their decisions and to foster development of a critical perspective in making these decisions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CEE 1216 - SOLAR DESIGN AND FABRICATION

Minimum Credits: 3
Maximum Credits: 3
A technical elective course covering residential solar design and fabrication. Students in this course will work on a team to design and construct an off-grid home whose heating, cooling, and lighting systems are primarily solar powered. The course will involve research, design, and hands-on application of innovative building systems. The end product of the team's work in this course is a functional home.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1217 - GREEN BUILDING DSGN & CONSTRCT

Minimum Credits: 3
Maximum Credits: 3
Understanding the design and construction of green buildings are key elements in green and sustainable engineering. This course teaches all of the major aspects of green building design and construction, including sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, innovation, and design process. The United States green building council's leadership in energy and environmental design green building rating system is used to demonstrate one possible green building rating system. Life cycle thinking will be discussed to expand the focus from not only design and construction, but also use, operations, and decommissioning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1218 - DESIGN FOR THE ENVIRONMENT

Minimum Credits: 3
Maximum Credits: 3
DESIGN FOR THE ENVIRONMENT (DFE) IS A SPECIFIC SET OF DESIGN PRACTICES AIMED AT CREATING ECO-EFFICIENT PRODUCTS AND PROCESSES. INCORPORATING SUSTAINABILITY INTO PRODUCT AND PROCESS DESIGN AS A DESIGN CONSTRAINT IS CLEARLY A NECESSITY, AS ALL ENGINEERS MUST UNDERSTAND THE LIMITS ON NATURAL RESOURCES. STUDENTS WILL BE INTRODUCED TO THE DFE TOOLBOX WHICH INCLUDES DESIGN FOR DEMANUFACTURE, LIFE CYCLE ASSESSMENT, AND ECOFRIENDLY MATERIALS SELECTION. STUDENTS WILL ALSO BE EXPOSED TO REAL WORLD INDUSTRY SUSTAINABILITY CHALLENGES AND HANDS ON LAB EXPERIENCES DESIGNED IN CONJUNCTION WITH LOCAL INDUSTRY AND ORGANIZATION PARTNERS. THE COURSE IS ALSO INTENDED TO BE INTER-DISCIPLINARY BETWEEN ENGINEERING AND BUSINESS STUDENTS TO FOSTER A BALANCE BETWEEN SUSTAINABILITY DESIGN EFFORTS AND BUSINESS PLANS AND STRATEGIES. STUDENTS CAN EXPECT THAT LABS WILL CONSIST OF A MIX OF FIELD TRIPS TO PARTNER COMPANIES AND LABS AT THE UNIVERSITY. A MAJOR ASPECT TO THE COURSE WILL INVOLVE STUDENT PARTNERSHIPS WITH LOCAL COMPANIES; STUDENTS WILL BE CHALLENGED TO APPLY THEIR DFE SKILLS TO PROJECTS THAT ADDRESS SUSTAINABILITY CHALLENGES. ADDITIONALLY, STUDENTS WILL HAVE THE OPPORTUNITY TO PARTICIPATE IN A SUMMER RESIDENCY TO IMPLEMENT THEIR PROJECT WITH THEIR SPONSOR COMPANY AT THE END OF THE COURSE.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1220 - ENERGY TECHNOLOGIES ENVRN

Minimum Credits: 3
Maximum Credits: 3
This course covers the basic principles and concepts underlying energy production, use, and environmental impacts with a focus on selected traditional fossil fuel based technologies and low carbon advanced energy technologies. Topics covered include world's energy resources, principles and processes behind natural resource extraction, energy generation technologies, laws of thermodynamics, current and anticipated world energy use, resource constraints, and environmental sustainability issues of present and future energy technologies. Special emphasis is placed on the life cycle environmental impacts of different energy technologies and challenges and opportunities for sustainable development of emerging energy technologies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1221 - CONSTRUCTION COST ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
This course teaches the methodology for estimating construction costs. The course covers all types of costs and all types of construction. The student is introduced to standard reference materials and to computerized estimating systems. The course teaches methods and procedures for developing accurate estimates and the basis for follow-on cost control
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1200; PROG: Swanson School of Engineering

CEE 1230 - BUILDING INFORMATION MODELING

Minimum Credits: 3
Maximum Credits: 3
The goal of this course is to introduce the students to building information modeling (BIM) and other new and evolving technologies which are revolutionizing the building and horizontal infrastructure construction industry. Students will learn how BMI and other innovative technologies are being adopted currently by progressive builders to streamline the construction process through enhanced coordination, visualization, logistical planning, cost estimation and analysis. They will also learn how these new tools are enabling (and in some instances requiring) new highly integrated processes that are redefining architecture, engineering, construction and operations (AECO) business relationships and delivery contracts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CEE 1200; PROG: Swanson School of Engineering

CEE 1233 - CONSTRUCTION DESIGN PROJECT

Minimum Credits: 3
Maximum Credits: 3
Consists of comprehensive projects with emphasis on the nature of engineering problem solving and creative aspects of design in managerial decision-making of construction in such areas as estimating, scheduling, methods, risk management, and finance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1200 or CET 1152; PROG: Swanson School of Engineering

CEE 1330 - INTRO TO STRUCTURAL ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
An introduction to linear analysis of statistically determinate, and indeterminate, elastic structural systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (MATH 0250 or 0290 or 0202 or 1035) and (ENGR 0141 or 0145 or ET 0053); PROG: Swanson School of Engineering

CEE 1331 - MATRIX STRUCTURAL ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Theory and application of matrix stiffness and flexibility methods for analysis of framed structures. Computer implementation for the solution of two- and three-dimensional frames, trusses, and grid systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CEE 1330 or CET 1111) and (MATH 0250 or 0290 or 1035 or 0202); PROG: Swanson School of Engineering

CEE 1333 - STRUCTURAL DESIGN PROJECT

Minimum Credits: 3
Maximum Credits: 3
Comprehensive (capstone) structural design project for a building or a bridge, emphasizing conceptual design, design of footings and superstructure, and preparation of cad drawings, a final written and a final oral report.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (CEE 1340 or 1341) or (CET 1111 or 1112) and (ENGR 0151); PROG: Swanson School of Engineering

CEE 1340 - CONCRETE STRUCTURES 1

Minimum Credits: 3
Maximum Credits: 3
An introductory concrete design course based on the ACI 318 code. Fundamental topics relating to behavior, strength and design of reinforced concrete beams, one-way slabs, short columns, and footings are presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CEE 1105 or CET 1151) and (CEE 1330 or CET 1111); PROG: Swanson School of Engineering

CEE 1341 - STEEL STRUCTURES 1

Minimum Credits: 3
Maximum Credits: 3
An introductory steel design course based on the load and resistance factor design philosophy. Fundamental topics related behavior, strength and design of tension members, columns, beams, beam-column and simple connections are treated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CEE 1105 or CET 1151) and (CEE 1330 or CET 1111); PROG:Swanson School of Engineering

CEE 1370 - INTRO NDE STRUCL HLTH MONTRG

Minimum Credits: 3
Maximum Credits: 3
The course aims at providing an overview of the different techniques for the nondestructive evaluation (NDE) and the structural health monitoring (SHM) of civil and aerospace structures. Techniques such as electrical resistance strain gauges, fiber optic sensing and ultrasonics will be described within the framework of the NDE. Applications to materials characterization and defect detection will be discussed with emphasis on steel and composite structures. Global and local methods for SHM will be introduced with emphasis on vibration and ultrasonic methods, respectively. The course will also provide the essential tools necessary for the digital signal processing of ultrasonic data. Matlab and laboratory exercises on recent researches will be investigated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

CEE 1401 - OPEN CHANNEL HYDRAULICS

Minimum Credits: 3
Maximum Credits: 3
Basic theories and principles of open channel flows (including flows in rivers and streams). Methods of calculating uniform flow, gradually varied flow, rapidly varied flow, and unsteady flow. Design of open channels.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1402 and CEE 1412; PROG:Swanson School of Engineering

CEE 1402 - FLUID MECHANICS

Minimum Credits: 3
Maximum Credits: 3
A first course in fluid mechanics discussing basic principles and methods for studying static and dynamic behaviors of fluids. In the laboratory the students conduct experiments on fluid flow in pipes and open channels.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGR 0141 and MATH 0290; LVL: Jr or Sr; PROG: Swanson School of Engineering (UENGR)

CEE 1410 - WATER RESOURCES ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
This course addresses fundamental and practical issues of water resources engineering. The increasing demand for sufficient water quantity and quality that is distributed in time and space forces engineers and policy makers to develop more comprehensive, complex, and ambitious plans for environmental and water systems. This course emphasizes understanding, formulating, and approaches of solving problems of water resources engineering. Quantitative overview of the water resources development, water resources problems, impacts of climate variability and global warming on water resources, and the fundamental principles and basic tools to solve these problems will be covered. Topics to be discussed also include introduction to basic concepts of hydrology, GIS (geographic information systems) applications, theory of unit hydrograph, frequency analysis, flood routing through reservoirs and rivers, introduction to rainfall-runoff analyses, and watershed modeling.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: (CEE 1402 and CEE 1412) or (CET 1140); PROG: Scool of Engineering

CEE 1412 - INTRODUCTION TO HYDROLOGY

Minimum Credits: 3
Maximum Credits: 3
Hydrologic cycle, precipitation, infiltration, evaporation, runoff, flood routing, groundwater hydrology, well hydraulics, statistical analysis of hydrologic data, reservoirs, dams, and hydraulic structures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CEE 1102 or 1105 or ENGR 0020 or MATH 1153) and (CEE 1402 or CET 1140); PROG: Swanson School of Engineering

CEE 1433 - WATER RESOURCES DESIGN PROJECT

Minimum Credits: 3
Maximum Credits: 3
Consists of comprehensive projects with emphasis on the nature of engineering problem solving and the creative aspects of design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CEE 1401 or 1410 or 2400 or 2401 or 2405 or 2410; PROG: Swanson School of Engineering

CEE 1503 - INTRO TO ENVIRONMENTAL ENGRNG

Minimum Credits: 3
Maximum Credits: 3
Fundamentals of environmental science and engineering as applied to water and wastewater treatment, air quality control, and solid and hazardous waste management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0102 or 0112 or 0120 or 0420 or 0720 or 0770 or 0970; PROG: Swanson School of Engineering

CEE 1505 - WATR TRETMNT & DISTB SYS DESGN

Minimum Credits: 3
Maximum Credits: 3
Stepwise development and process design, equipment selection, economic evaluation, layout, and operating guidelines for water treatment, storage and distribution systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CEE 1503 and CEE 1402) or CET 1141; PROG: School of Engineering

CEE 1507 - INDUSTRIAL WASTE MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Problems and approaches to industrial waste treatment and disposal, pollution prevention and sustainability, waste minimization, process selection, control, and resource recovery.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CEE 1503 or CET 1141; PROG: School of Engineering

CEE 1511 - ENVIRONMENTAL ENGR PROCESS LAB

Minimum Credits: 3
Maximum Credits: 3
Chemical and biological laboratory procedures and techniques for instrumental analysis applied to evaluation of liquids and gases for environmental assessment and operation and control of environmental quality control systems
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CEE 1503; PROG: Swanson School of Engineering

CEE 1513 - ENVIRONMENTAL ENGRNG PROCESSES

Minimum Credits: 3
Maximum Credits: 3

Introduction to basic design concepts applied to water and wastewater treatment, air quality control, and solid and hazardous waste management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1503 or CET 1141; PROG: Swanson School of Engineering

CEE 1514 - ENVIRONMENTAL IMPACT ASSESSMNT

Minimum Credits: 3
Maximum Credits: 3
Technical and procedural aspects of environmental impact analysis and assessment with emphasis on regulatory framework, characterization of impacts and their remediation, and the decision process when applied to engineering systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1503 or CET 1141; PROG: School of Engineering

CEE 1515 - WASWTR COLLC & TRMNT PLNT DSGN

Minimum Credits: 3
Maximum Credits: 3
Stepwise development and process design, equipment selection, economic evaluation, layout, and operating guidelines for wastewater collection and treatment systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CEE 1503 and CEE 1402) or CET 1141; PROG: School of Engineering

CEE 1520 - MATERIAL AND ENERGY BALANCES IN ENVIRONMENTAL ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
Introduces students to engineering calculations involving material and energy balances around environmental and chemical processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Chemical Engineering; PREQ: CEE 1503 and MATH 0240 and CHEM 0970

CEE 1522 - FATE AND TRANSPORT IN ENVIRONMENTAL ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
An introduction to the thermodynamic and kinetic drivers of chemical fate in the environment. Processes governing the diffusion, advection and transformation of chemicals in air, water and soil. Inter-media exchange, environmental degradation and uptake into biotic systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CEE 1503 ; PROG: Swanson School of Engineering

CEE 1523 - ENVIRONMENTAL ENGINEERING LAB

Minimum Credits: 3
Maximum Credits: 3
Chemical and biological laboratory procedures for environmental assessment and operation and control of environmental quality control systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1503 or CET 1141; PROG: Swanson School of Engineering

CEE 1533 - ENVRL ENGR DESIGN PROJECT

Minimum Credits: 3
Maximum Credits: 3
Group design of an engineered system for environmental quality control.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CEE 1505 or 1507 or 1513 or 1515 or (CET 1141 and 1142); PROG: School of Engineering

CEE 1609 - LIFE CYCL ASSMNT METHODS TOOLS

Minimum Credits: 3
Maximum Credits: 3

This class will introduce students to life cycle thinking and provide engineers with tools to assess the sustainability and environmental impact of a product, process, or activity. Life cycle assessment (LCA) principles, methods, tools, and challenges will be explored throughout the course. Topics include material and energy flow analysis, environmental indicators and metrics for sustainability, case studies of LCA applications, and impact assessment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0140 or MATH 0220 or 0221; PROG: Swanson School of Engineering

CEE 1610 - ENGR SUSTAINABLE DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
This course is intended as an introductory interdisciplinary engineering course. Topics include principles of sustainable design in engineering, manufacturing, infrastructure, communications, and community development; overview of environmental issues for engineers; design for the environment; models of environmental processes; introduction to the use of life cycle assessment; and case studies examining the relationship of green design and the field of engineering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CEE 1618 - DESIGN FOR THE ENVIRONMENT

Minimum Credits: 3
Maximum Credits: 3
Design for the Environment (DFE) is a specific set of design practices aimed at creating eco-efficient products and processes. Incorporating sustainability into product and process design as a design constraint is clearly a necessity, as all engineers must understand the limits on natural resources. Students will be introduced to the DFE toolbox which includes design for de-manufacture, life cycle assessment, and ecofriendly materials selection. Students will also be exposed to real world industry sustainability challenges and hands on lab experiences designed in conjunction with local industry and organization partners. The course is also intended to be inter-disciplinary between engineering and business students to foster a balance between sustainability design efforts and business plans and strategies. Students can expect that labs will consist of a mix of field trips to partner companies and labs at the University. A major aspect to the course will involve student partnerships with local companies; students will be challenged to apply their DFE skills to projects that address sustainability challenges. Additionally, students will have the opportunity to participate in a summer residency to implement their project with their sponsor company at the end of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1700 - TRAFFIC MGMNT AND OPERATIONS

Minimum Credits: 3
Maximum Credits: 3
Introduction to traffic flow theory and characteristics. Highway capacity analysis. Basic traffic management and control.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1703 - TRANSPORTATION ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
Introduction to the design, planning, operation, management, and maintenance of transportation systems. Transportation planning inter-modal transportation systems (highway, air, rails, etc.). Transportation planning of highways, airports, and railroads with traffic flow models, capacity analysis, and safety. Concepts for designing facilities and systems area study with life cycle costing procedures and criteria for optimization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: MATH 0240 or 0201 or 0241; PROG: Swanson School of Engineering

CEE 1710 - TRANSPORTATION SYSTEMS ANAL 1

Minimum Credits: 3
Maximum Credits: 3
A range of traffic control systems including the analysis and design of traffic signals are discussed along with traffic signal systems and freeway control systems. Other topics covered include data collection for traffic control systems, optimization software and models; traffic signal hardware design; high occupancy vehicle lanes and systems selection and design and implementation.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1713 - HIGHWAY ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
Analysis of factors in developing highway transportation facility; traffic estimates and assignment; problems of highway geometrics and horizontal and vertical alignments and design standards; planning and location principles; earthwork and mass haul computations; surface drainage design; and concepts of highway administration and finance. Highway design project.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1703 OR CET 1123; PROG: Swanson School of Engineering

CEE 1714 - PAVEMENT DESIGN AND ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Concepts and principles in the structural design of pavements for highways and airfields including: traffic loads, climatic factors, soil and material characterization. Application of current pavement design practices and procedures. Economic evaluation of highway and airport pavements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1105 and 1811; PROG: Swanson School of Engineering

CEE 1715 - PAVEMENT MAINTENANCE AND REHAB

Minimum Credits: 3
Maximum Credits: 3
Engineering concepts and information needed to maintain and rehabilitate pavements. Project evaluation, testing and analysis. Design of rigid and flexible overlays, and other methods of rehabilitation. Selection of rehabilitation alternatives. Analysis of the effects of maintenance activities on pavement performance. Initial and life cycle cost analysis of various rehabilitation alternatives.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1105 or CET 1151; PROG: Swanson School of Engineering

CEE 1717 - CMPNTS, PROPRTS & DSGN OF PCC

Minimum Credits: 3
Maximum Credits: 3
Examines the influence of constituent materials (cements, aggregates and admixtures) on the properties of fresh and hardened concrete, mix design handling and placement of concrete; and behavior of concrete under various types of loading and environment; test methods, designing concrete mixes for specific applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CEE 1105 or CET 1151; PROG: Swanson School of Engineering

CEE 1718 - ADV CONSTRUCTION & BITUM MATLS

Minimum Credits: 3
Maximum Credits: 3
Advanced construction and bituminous materials soils, soil stabilization, aggregates, bituminous materials and mixtures. Advanced topics in selection and design of bituminous materials. Asphalt cement, rheology, emulsions, chip seals, hot-mix asphalt design, visco-elasticity characterization
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1105 or CET 1151; PROG: School of Engineering

CEE 1720 - URBAN TRANSPORTATION PLANNING

Minimum Credits: 3
Maximum Credits: 3
All aspects of the transportation planning process including transportation planning and decision making, transportation modeling, demand and supply analysis, transportation studies, environmental issues and project implementation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1703; PROG: Swanson School of Engineering

CEE 1725 - PUBLIC TRANSPORTATION SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
This course is designed to give seniors and graduate students a basic background in the planning, operations and development of public transportation systems within the context of the overall transportation system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CEE 1703; PROG: Swanson School of Engineering

CEE 1730 - HIGHWAY ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
Highway administration, classification, planning and programming. Geometric design of highways. Traffic characteristics and capacity analyses. Traffic operations and control. Highway design project.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 1703; PROG: Swanson School of Engineering

CEE 1733 - TRANSPORTATION DESIGN PROJECT

Minimum Credits: 3
Maximum Credits: 3
Consists of comprehensive projects with emphasis on the nature of engineering problem solving and the creative aspects of design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CEE 2700; PROG: Swanson School of Engineering

CEE 1750 - PROJECT DVLP & IMPLEMENTATION

Minimum Credits: 3
Maximum Credits: 3
Project development and implementation - 3 credits: this course provides overview of the process used in project programming and planning, design, construction and operation. The course will emphasize the process used for implementation of major projects with emphasis on construction management and how that task interfaces with other aspects of project development. Students will be involved in a team effort to conceptualize the project, plan alternatives, determine the environmental impact, examine design alternatives, prepare the project for construction documents, recommend award of the contract, manage the contract during construction and determine operational needs of the project.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CEE 1703; PROG: Swanson School of Engineering

CEE 1800 - ENGINEERING GEOLOGY

Minimum Credits: 3
Maximum Credits: 3
Review of basic geologic principles with emphasis on the importance and influence of geology and geologic processes on engineering projects such as dam sites, foundations, tunnels, mine subsidence, landslides, highways, groundwater problems, and seismic studies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

CEE 1809 - HYDRAULIC FRACTURING MECHANICS

Minimum Credits: 3
Maximum Credits: 3
This class will prepare students to wisely and critically design hydraulic fracturing treatments as well as make informed recommendations to employers, governments, and communities about the risks and benefits of hydraulic fracturing methods. Upon completion of this course, students will be equipped to use engineering formulae to estimate hydraulic fracture dimensions, evaluate strengths and weaknesses of various modeling approaches, characterize subsurface conditions from wellbore pressure analysis, make sound recommendations for monitoring, and compare and contrast approaches and risks for a range of application domains.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CEE 1330 and CEE 1402; PROG: Swanson School of Engineering

CEE 1811 - PRINCIPLES OF SOIL MECHANICS

Minimum Credits: 3
Maximum Credits: 3
Basic soil properties, permeability, capillarity and frost action, compaction, stresses in soil masses, two-dimensional seepage, compressibility, stress-strain-time behavior, and shear strength.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGR 0141 or 0145 or ET 0053; PROG: Swanson School of Engineering

CEE 1821 - FOUNDATION ENGINEERING
Minimum Credits: 3
Maximum Credits: 3
Application of the principles of soil mechanics to the analysis and design of foundations, the stability of slopes and retaining structures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CEE 1811 or CET 1131) and CEE 1330; PROG: School of Engineering

CEE 1833 - GEOTECHNICAL DESIGN PROJECT
Minimum Credits: 3
Maximum Credits: 3
Consists of comprehensive projects with emphasis on the nature of engineering problem solving and the creative aspects of design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CEE 1714 or 1715 or 1821 or 2814 or CET 1124 or 1131; PROG: Swanson School of Engineering

CEE 1996 - SPECIAL PROJECTS
Minimum Credits: 1
Maximum Credits: 4
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

CEE 1999 - INDIVIDUAL DESIGN PROJECT
Minimum Credits: 3
Maximum Credits: 3
Individual or small group laboratory or analytical investigation. Intended for students inclined to a research or development career.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

CEE 2507 - INDUSTRIAL WASTE MANAGEMENT
Minimum Credits: 3
Maximum Credits: 3
Problems and approaches to industrial waste treatment and disposal, pollution prevention and sustainability, waste minimization, process selection, control, and resource recovery.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad Letter Grade
Course Requirements: PROG: Graduate School of Engineering

CEE 2513 - ENVIRONMENTAL IMPACT ASSESSMNT
Minimum Credits: 3
Maximum Credits: 3
Technical and procedural aspects of environmental impact analysis and assessment with emphasis on regulatory framework, characterization of impacts and their remediation, and the decision process when applied to engineering systems.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad LG/SNC Basis
Course Requirements: PROG: Graduate School of Engineering

Classics

CLASS 0010 - GREEK CIVILIZATION

Minimum Credits: 3
Maximum Credits: 3
A general introduction to the culture and society of Ancient Greece, with emphasis on the Archaic Period and the fifth and fourth centuries B.C.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 0020 - ROMAN CIVILIZATION

Minimum Credits: 3
Maximum Credits: 3
A general introduction to the culture and society of the Roman world, with emphasis on the period of the republic and the early empire.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 0030 - MYTHOLOGY IN THE ANCIENT WORLD

Minimum Credits: 3
Maximum Credits: 3
This course examines in cultural context the traditional stories--myth, legend, and folktale--of the ancient Greeks and Romans. Theories drawn from various disciplines are critically evaluated. Attention to connections with ritual practice and to expression in daily life, art, architecture, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 0032 - ATHLETICS OF THE ANCIENT WORLD

Minimum Credits: 3
Maximum Credits: 3
This course examines athletic competition, popular games, gladiatorial and other exhibitions of the ancient Greeks and Romans. Much emphasis on the social/cultural context and underlying values. Attention to relevant artistic archaeological, and historical settings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CLASS 0034 - WOMEN & MEN IN ANCNT MEDIT

Minimum Credits: 3
Maximum Credits: 3
An examination of ancient Mediterranean society, particularly that of Greece and Rome, from the perspective of male and female gender roles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 0035 - WOMEN MEN ANCT MEDT/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking class 0034 as a writing course.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

CLASS 0037 - MYTH IN ANCNT WORLD/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking class 0030 as a writing course.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

CLASS 0100 - MASTERPIECES GREEK & ROMAN LIT

Minimum Credits: 3
Maximum Credits: 3
An introduction to the critical analysis of literary works through the medium of selected masterpieces of Greek and Roman literature in English translation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 0300 - HISTORY OF ANCIENT PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
The aim of this course is to introduce students to some of the main achievements and leading ideas of Greek philosophy up to classical times. Emphasis will be on understanding and evaluating the arguments and ideas of the Greek philosophical tradition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 0301 - HISTORY OF ANCIENT PHIL/REC

Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course history of ancient philosophy"."
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

CLASS 0302 - HISTORY ANCIENT PHIL/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
The aim of this course is to introduce students to some of the main achievements and leading ideas of Greek philosophy up to classical times. Emphasis will be on understanding and evaluating the arguments and ideas of the Greek philosophical tradition. Special writing component for CLASS 0300, History of Ancient Philosophy"."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 0330 - MYTH AND SCIENCE

Minimum Credits: 3
Maximum Credits: 3
The Greeks in the sixth to fourth century B.C. Initiated forms of thinking we have from then on called scientific" and "philosophical". This course examines the question of how science is distinguished from "non-science" by studying the role of myth and science in ancient Greece. The aim is to understand what distinguishes the ideas of the first scientists and philosophers from those earlier beliefs called myth."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 0400 - ANCIENT EMPIRES

Minimum Credits: 3
Maximum Credits: 3
Empires dominate and control resources over broad geographical areas, establishing systems (administrative, religious, and intellectual) to perpetuate and justify that control. The course will survey the archaeological remains of the principal empires of the ancient near East and Mediterranean, emphasizing both the modes of control and the themes or messages used to justify it.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 0500 - ANCIENT ART

Minimum Credits: 3
Maximum Credits: 3
The Mediterranean Sea is a lake and its shores have produced many important cultures and artistic traditions. The course will survey the artistic traditions of Turkey and the near east, Egypt, Greece and Rome. Special attention will be paid to (1) the relationship between the artistic traditions of individual areas and the societies which produced them, and (2) the way in which influences from one culture were transformed by another.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1022 - THE AUGUSTAN AGE

Minimum Credits: 3
Maximum Credits: 3
A survey of the political, intellectual, literary, and artistic achievements of Rome in the time of Augustus.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CLASS 0020 or CLASS 1220

CLASS 1050 - COMPUTER METHODS IN HUMANITIES

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the use of computational modeling and programming to conduct the text-based research in the humanities. Course goals include 1) learning how to identify research questions in the humanities that are amenable to computational systems to explore those questions. No prior programming experience or knowledge of foreign languages required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CLASS 1060 - GREEK & LATIN ELEMENTS IN ENG

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the semantic elements which have come into English from the classical languages, Greek and Latin. In addition, it provides a general introduction to the history of English and its relationship to other Indo-European languages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CLASS 1090 - TOPICS IN CLASSICAL CULTURE

Minimum Credits: 3
Maximum Credits: 3
Study of selected topics in Greco-Roman culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CLASS 1092 - SPECIAL TOPICS IN RHETORIC

Minimum Credits: 3
Maximum Credits: 3
This course covers a specialized topic in rhetoric. Topics vary every semester.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1130 - CLASSICAL MYTHOLOGY & LIT

Minimum Credits: 3
Maximum Credits: 3
This course examines how authors of classical antiquity used the traditional figures and stories of their culture's mythology as material for works of literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1140 - GREEK TRAGEDY

Minimum Credits: 3
Maximum Credits: 3
Study of representative plays by the three great tragic dramatists of ancient Greece; Aeschylus, Sophocles, and Euripides. All readings are in English translation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1142 - ANCIENT EPIC

Minimum Credits: 3
Maximum Credits: 3
Study of selected Greek and Roman epics in English translation. Among the works that may be read are Homer's Iliad and Odyssey, Apollonius' Argonautica, Virgil's Aeneid, and Ovid's metamorphoses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1144 - GREEK AND ROMAN LYRIC POETRY

Minimum Credits: 3
Maximum Credits: 3

Study of selected poems and fragments of the Greek and Roman lyric poets in English translation. Among the poets that may be read are Archilochus, Sappho, Pindar, Catullus, and Horace.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1146 - GREEK AND ROMAN HISTORIANS

Minimum Credits: 3
Maximum Credits: 3
Study of selected works by Greek and Roman historians in English translation. Among the authors that may be read are Herodotus, Thucydides, Polybius, Sallust, levy, and Tacitus.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1151 - DEATH IN MEDITERRANEAN WORLD

Minimum Credits: 3
Maximum Credits: 3
In many cultures, people sometimes ask fundamental questions about their existence, including, "what happens after we die?" This course will focus on the evolution of beliefs and rituals related to death and the afterlife in and around the ancient Mediterranean basin, including egyptian, greek, etruscan, and roman cultures. Using an interdisciplinary approach, we will combine methodologies from anthropology, classics, history, and religious studies. Topics to be covered include myths of the afterlife, books of the dead, magic and death rituals, funeral practices and paraphernalia (disposal of the dead), cults of the dead, divinization, heaven and hell, judgment, and the impact of christianization on the ancient understanding of death.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CLASS 1160 - GREEK TRAGEDY AND NOH DRAMA

Minimum Credits: 3
Maximum Credits: 3
A comparative study of selected Greek tragedies and Japanese Noh plays in the context of Greek and Japanese theories of drama.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1162 - THE CLASSICAL TRADITION

Minimum Credits: 3
Maximum Credits: 3
This course deals with the continuity of literary forms and themes between classical antiquity and later periods of Western culture. The focus is usually on one particular genre, e.G. The epic. All texts are read in English translation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1190 - TOPICS IN CLASSICAL LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Study of selected topics in Greek and Roman literature. All readings are in English translation.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

CLASS 1210 - GREEK HISTORY

Minimum Credits: 3
Maximum Credits: 3
A survey of the history of ancient Greece, with special emphasis on political and social developments during the fifth century B.C.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1212 - GREEK HISTORY/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking class 1210 as a writing course.
Academic Career: UGRD

Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

CLASS 1216 - ALEXANDER & HELLENISTIC AGE

Minimum Credits: 3
Maximum Credits: 3
This course deals both with the career of Alexander the Great and with political, social, and intellectual developments in the several successor states into which Alexander's empire dissolved after his death.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1220 - ROMAN HISTORY

Minimum Credits: 3
Maximum Credits: 3
A survey of the history of Rome from the earliest times through the late empire, with particular emphasis on political and social developments during the late republic and early empire.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1222 - ROMAN HISTORY/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking class 1220 as a writing course.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

CLASS 1230 - EMERG OF GRECO-ROMAN CIVILZTN

Minimum Credits: 3
Maximum Credits: 3
This course attempts to isolate those elements which are particularly characteristic of Greco-Roman civilization, to identify the components out of which each characteristic element grew, and to understand the process of its evolution in light of various models and explanatory hypotheses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1231 - EMERG GRECO-ROMAN/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking class 1230 as a writing course.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

CLASS 1250 - LAW & SOCIETY IN GREECE & ROME

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course examines the legal systems of ancient Greece and Rome with particular attention to interrelations with contemporary society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1290 - TOPICS IN ANCIENT HISTORY

Minimum Credits: 3
Maximum Credits: 3
Study of selected topics in Greek and Roman history. All readings are in English translation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CLASS 0020 or CLASS 1220 or HIST 1781

CLASS 1310 - PRESOCRATIC PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course is a survey of major figures in Greek philosophy before Socrates and Plato.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1312 - PLATO

Minimum Credits: 3
Maximum Credits: 3
This is an advanced undergraduate course examining Plato's main views both in their historical context, and as they influence our own thinking today; the relations between Socrates and the sophists are also studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CLASS 0300 or PHIL 0200

CLASS 1314 - ARISTOTLE

Minimum Credits: 3
Maximum Credits: 3
This course will examine the basic concepts of Aristotle's metaphysics, physics, ethics, and logic.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1316 - HELLENISTIC PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
An examination, at the advanced undergraduate level, of the three major schools of the Hellenistic age - the stoics, epicureans, and skeptics - and their views about ethics, epistemology, and the nature of reality.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1370 - MEDIEVAL PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course examines selected major figures in European philosophy during the middle ages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1390 - TOPICS IN ANCIENT PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
Study of selected topics in ancient philosophy. All readings are in English translation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1402 - GRECO-ROMAN RELIGIONS

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to religious texts and traditions in a formative era of Western civilization and culture. Our focus will be on the variety of religious expression in Greco-Roman culture, which flourished in the geographical area of the Mediterranean basin during the first five centuries of the common era. By considering such topics as debates about the nature of the gods and access to them (through oracles, ritual and magic), the emergence of the idea of the holy person, and a variety of religious traditions as expressed in prayer, ritual and art, students will encounter a rich religious imagination that is truly different from contemporary understandings of religion and yet strangely familiar as well. We will also explore the complete integration between religion politics in the ancient world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CLASS 1430 - ORIGINS OF CHRISTIANITY

Minimum Credits: 3
Maximum Credits: 3

This course presents a historical-critical investigation of Christian origins. Special attention is paid to varieties of 1st century Hellenistic and Palestinian Judaism within the Greco-Roman world. Primary readings include selected Biblical passages and apocrypha, 1st century historians and philosophers (Josephus, Tacitus, Suetonius, and Philo), the New Testament corpus (including Paul and the Pastorals), and selected readings from the Dead Sea Scrolls. In addition there will be assignments from various modern New Testament critics, historians, and theologians.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1432 - VARIETIES OF EARLY CHRISTNITY

Minimum Credits: 3
Maximum Credits: 3
An examination of the diverse strands of Christianity as developed both in the Christian bible and outside of it.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1434 - DUALISM IN THE ANCIENT WORLD

Minimum Credits: 3
Maximum Credits: 3
An examination of the development of dualism in ancient Western religions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1436 - BODY & SOCIETY LATE ANTIQUITY

Minimum Credits: 3
Maximum Credits: 3
An investigation of the Christian view of the body as the locus of both sin and salvation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1450 - JEWS & JUDAISM IN ANCNT WORLD

Minimum Credits: 3
Maximum Credits: 3
Judaism in the Hellenistic/roman period is examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1510 - GREEK ART

Minimum Credits: 3
Maximum Credits: 3
The study of Greek art begins ca. 3000 B.C. In the so-called age of bronze" and traditionally ends in 30 B.C. With the completion of the roman conquest of the eastern Mediterranean. The course will trace the development of architecture, sculpture and painting in mainland Greece and to a lesser extent in the Greek colonies of Asia minor and Italy, emphasizing the changes in style and taste which took place over this period."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1520 - ROMAN ART

Minimum Credits: 3
Maximum Credits: 3
Roman art served as the funnel through which the principles of Greek art passed into European culture, but the principles were transformed in the process of transmission. The course will trace the beginnings and subsequent development of the arts of painting, sculpture, and architecture in Italy from the period of the kings, and the middle years of the empire (ca. 150 A.D.).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1522 - ROMAN SCULPTURE

Minimum Credits: 3
Maximum Credits: 3
The Romans were influenced throughout their history, by Greek models in relief and sculpture in the round. Nevertheless, they chose their models selectively and according to tastes and social needs which were distinctly Italian or Roman. The course will examine the development of the sculptural arts in Italy from the regal period to the middle empire (ca. 150 A.D.), Emphasizing the problems involved in the reconstruction of this

development as a continuous history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1524 - ROMAN ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3
The course will examine the development of Roman architecture from its origins in Etruria and central Italy to the middle empire (ca. 150 A.D.). Special attention will be given to the relationship of architectural forms, types and functions to changes in Roman politics and society and the significance of materials and outside influences on the development of local Italian traditions and forms. The interaction between roman architectural forms and local traditions in the provinces to create a Roman imperial koine", will be treated only in passing."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1710 - SANSKRIT 1

Minimum Credits: 3
Maximum Credits: 3
An introduction to the basic structure and vocabulary of Sanskrit. Approximately half of the course is devoted to an intensive survey of Sanskrit grammar and half to the reading of a selection from the Mahabharata.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1720 - SANSKRIT 2

Minimum Credits: 3
Maximum Credits: 3
A continuation of Sanskrit 1, this course is devoted to the reading of selected Sanskrit texts. Grammar presented in Sanskrit 1 is reviewed as necessary and some additional grammatical material is introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1730 - SANSKRIT 3

Minimum Credits: 3
Maximum Credits: 3
A continuation of Sanskrit 2, this course is an introduction to Vedic Sanskrit and to the reading of selected hymns from the Rig-Veda.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CLASS 1720

CLASS 1740 - SANSKRIT 4

Minimum Credits: 3
Maximum Credits: 3
In this course, a continuation of Sanskrit 3, students read selected portions of Kaladana's play Sakuntala.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CLASS 1790 - TOPICS IN SANSKRIT

Minimum Credits: 3
Maximum Credits: 3
Study of selected topics in Sanskrit language and literature.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

CLASS 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 9
In this course a student undertakes independent study in the field of classical civilization in consultation with a member of the faculty.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

CLASS 1902 - DIRECTED STUDY FOR UNDERGRADS
Minimum Credits: 1
Maximum Credits: 9
In this course a student undertakes directed study in the field of classical civilization under the close guidance of a member of the faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

CLASS 1903 - DIRECTED RSRCH FOR UNDERGRADS
Minimum Credits: 1
Maximum Credits: 9
In this course a student undertakes directed research in the field of classical civilization under the close guidance of a member of the faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

CLASS 1908 - DIRECTED WRITING FOR MAJORS
Minimum Credits: 1
Maximum Credits: 1
In addition to whatever written assignments are required of those enrolled in the course, this directed writing-practicum provides students with an opportunity to contribute writing designed in terms of the intellectual strategies of the course.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

Co-Ed Physical Education

PEDC 0001 - BEGINNING SWIMMING
Minimum Credits: 1
Maximum Credits: 1
For students who are unable to swim or who can swim very little. Opportunities are presented to learn basic functional aquatic skills and basic strokes. Students are permitted to set their own achievement goals. Instruction is on an individual basis.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0002 - INTERMEDIATE SWIMMING
Minimum Credits: 1
Maximum Credits: 1
For students who have learned the mechanics of basic aquatic strokes and are interested in the development of proper rhythm and timing necessary for good performance in swimming. Students are permitted to set their own achievement goals. Instruction is on an individual basis.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0003 - DIVING AND TRAMPOLINE
Minimum Credits: 1
Maximum Credits: 1
For the intermediate level swimmer who wishes to improve their skill and knowledge of springboard diving. Diving skills are prescribed on an individual basis after the student's abilities and needs are assessed. Beginners as well as advanced divers welcome. Dives are taught from the five basic groups (front, back, inward, reverse, and twisting). Most of the dives are performed from the one meter spring board. The three meter, platform, and trampoline will be used as the student's skills progress.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0004 - SCUBA 1
Minimum Credits: 2
Maximum Credits: 2
Provides naui or padi openwater instruction and certification for the beginning student who wishes to learn safe scubadiving techniques. Pool, classroom, and openwater training are required for certification.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0005 - SCUBA 2
Minimum Credits: 1
Maximum Credits: 1
Provides padi advanced openwater and certification for the certified diver who wishes to gain specialized diving experience. Activities include instruction and supervision in advanced navigation, search and recovery, night diving, and deep diving.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0008 - LIFE GUARDING
Minimum Credits: 2
Maximum Credits: 2
For the intermediate level or above swimmer who wishes to gain national red cross lifeguard certification. Training is specially designed to prepare enrollers for lifeguarding pools and openwater beaches. Advanced lifesaving, cpr, and first aid certifications are required if not already obtain ed before course completion.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0009 - SCUBA 3
Minimum Credits: 1
Maximum Credits: 1
This upper level course provides padi rescue diver instruction and certification for the experienced diver. Pool, classroom, and openwater training are required.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0010 - WATER AEROBICS
Minimum Credits: 1
Maximum Credits: 1
Improve your fitness in the enjoyable aquatic environment. This program is designed for all ages. Each enrollee will be permitted to participate at their own level gradually improving their muscle tone, cardiac, and respiratory fitness levels. This program will be conducted in shallow water so that the non-swimmer may participate.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0012 - SCUBA 4
Minimum Credits: 1
Maximum Credits: 1
This leadership level course provides the experienced diver with the experience and knowledge necessary to assume the role of scuba divemaster. This course can qualify one for divemaster certification.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0015 - KAYAK PADDLING
Minimum Credits: 1
Maximum Credits: 1
Instruction for the beginning kayaker in basic strokes and rolls. This course offers aca certification for basic kayak paddling, pool practice sessions, and an openwater trip.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0021 - PERSONAL FITNESS 1
Minimum Credits: 1
Maximum Credits: 1
An organized approach to health related fitness with diagnostic and prescriptive assessment, and cognitive input to include the variables modifiable by activity, techniques of training, and relaxation. The emphasis is on an individual self-designed program based on scientific principles with the goal of personal improvement and fitness knowledge of primary importance.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0022 - AEROBIC DANCE
Minimum Credits: 1
Maximum Credits: 1
Improve your fitness levels with this aerobic dance to music course. One of America's most popular ways to exercise. This program is for all ages. Each enrollee will be permitted to participate at his/her own level, gradually improving muscle tone, cardiac, and respiratory fitness.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0023 - WEIGHT TRAINING
Minimum Credits: 1
Maximum Credits: 1
A coeducational class designed to provide the student with the opportunity to develop and practice basic weight training techniques. With the guidance of the instructor, the student will be encouraged to develop an individualized self-designed program. The emphasis of this course will be placed on progressive-resistive exercises.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0025 - AEROBICS-CROSS COUNTRY RUNNING
Minimum Credits: 1
Maximum Credits: 1
Primarily involves a training program of light to moderate intensity with increased cardiovascular fitness and improved quality of life as a goal. In support of the instruction on cross-country running, students will receive some background information on aerobics in the form of handouts and mini lectures.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0026 - AQUATIC CONDITIONING
Minimum Credits: 1
Maximum Credits: 1
Good swimmers who want to learn how to use swimming to maintain or improve their physical fitness should register for this course. Students may determine their capacity for exercise, and they may learn how to apply this effort in the water.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0031 - MODERN DANCE 1
Minimum Credits: 1
Maximum Credits: 1
Introduces the college student to modern dance as a point of view, rather than a particular technique. There will be exercises to increase strength, and flexibility, as well as to teach techniques of movement, exploration and improvisation. Emphasis is on developing a sensitive awareness of one's own body movement in time and space.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0032 - MODERN DANCE 2
Minimum Credits: 1
Maximum Credits: 1
This course is designed for those students who have mastered beginning dance technique and wish to gain more advanced skills. Advanced technique and compositional work is stressed. Course objectives include increased technical skills, awareness and appreciation of modern dance as an art form, ease in phrasing rhythmical movement and skill in improvisational movement.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0033 - BALLET 1
Minimum Credits: 1
Maximum Credits: 1
For absolute beginners introducing them to basic fundamentals of the classic ballet technique.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0034 - BALLET 2
Minimum Credits: 1
Maximum Credits: 1
An intermediate class, taught as a continuation of ballet 1. Also a class for students who may have some ballet training before coming to college. Audition for class eligibility at the first class session or permission of instructor.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0035 - SOCIAL DANCE
Minimum Credits: 1
Maximum Credits: 1
Beginners course, the college substitute for Arthur Murray, emphasis on couple dances, such as: tango, waltz, rhumba, meringue, and fad dances--old and new.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0036 - TAP DANCE
Minimum Credits: 1
Maximum Credits: 1
This course will introduce the basic fundamentals of tap dance movements. It is designed for the beginner who wishes to explore the rhythmic movements involved in tap dancing.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0037 - MUSICAL THEATRE DANCE
Minimum Credits: 1
Maximum Credits: 1
Students will learn popular dance routines from famous musicals and movies. Learn line dancing, unison group performances to music from chorus line, 42nd street and cats. The class finishes with a dance show.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0038 - TAI CHI
Minimum Credits: 1
Maximum Credits: 1
T'ai chi ch'uan is a form of non-competitive exercise which has been practiced in china for hundreds of years. Also called Chinese long boxing it is a martial art form which develops the internal strength of the body while minimizing the external force of the muscles. The slow, circular movements are beneficial for body alignment, circulation, re lease of muscle tension, suppleness, improved concentration, breathing, mental attitude, and awareness.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0039 - MOVEMENT IMPROVISATION
Minimum Credits: 1
Maximum Credits: 1
This course fuses creativity with movement. The performer simultaneously originates and performs the movement without preplanning. Students will be guided through the improvisational process and will be expected to perform in-class projects concluding with a final performance.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0040 - CHOREOGRAPHY
Minimum Credits: 1
Maximum Credits: 1
The art of making dances. Studies dealing with timing, grouping, energy, quality, etc., Lead to the creation of dances. Designed for students who wish to explore the creative process or for those wanting more advanced dance training.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0041 - JAZZ 1
Minimum Credits: 1
Maximum Credits: 1
Fundamentals of jazz dance for beginning dance students. Class includes warm-up, center floor, and cross floor movement combinations, contemporary jazz and pop music is emphasized.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0042 - JAZZ 2
Minimum Credits: 1
Maximum Credits: 1
A continuation of the basic fundamentals learned in jazz 1. More emphasis is placed on longer routines and more complicated movement sequences. It is an intermediate jazz class.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0043 - HIP-HOP DANCE
Minimum Credits: 1
Maximum Credits: 1
This is an introductory class focusing on the various styles of hip-hop such as pop and lock, breakdance, house dance, pop, crump and step. In addition to learning various styles, the class will provide students with a historical context from which to view hip-hop dance as an urban mode of creative expression. Using various media, the students will also learn how to view and critique the dance form.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0044 - DANCE PRODUCTION
Minimum Credits: 2
Maximum Credits: 2
This course is designed to familiarize students with both the technical and production aspects of dance and to increase appreciation of dance in all its forms.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

PEDC 0045 - TENNIS 1
Minimum Credits: 1
Maximum Credits: 1
This course is primarily designed for beginning tennis players. The course will emphasize an introduction to all of the basic tennis shots. Students will be taught how and when to use each shot and playing and scorekeeping will be explained. A small amount of strategy will be stressed for playing singles and doubles. The overall goal is to facilitate enjoyment of the game of tennis as a lifetime sport.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0046 - TENNIS 2
Minimum Credits: 1
Maximum Credits: 1
This course is designed for intermediate to advanced tennis players. The course will stress a refinement of tennis strokes with special emphasis on using spin to hit the ball harder and be more consistent. Conditioning for tennis will be developed, along with better agility through drills. Students will be taught strategy on how to compete in singles and doubles. Several tournaments for student participation will occur. The overall goal is to increase power, consistency and game strategy.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0047 - SQUASH 1
Minimum Credits: 1
Maximum Credits: 1
An intriguing international four-wall racquet game. A good conditioner for out-of-season tennis players.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0048 - RACQUETBALL 1
Minimum Credits: 1
Maximum Credits: 1
This course is designed to introduce the beginner to the significant components of racquetball. Three types of racquetball games, singles, doubles, and cut throat, will be introduced in conjunction with individual skill development. The grip, ready position, racquet swing, service, return of service, and shot making will be covered. Game strategies and rules and regulations will be reviewed.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0049 - BADMINTON
Minimum Credits: 1
Maximum Credits: 1
This course is designed to introduce the beginner to the significant components of badminton. The following basic strokes will be presented in class; forehand and backhand, overhead clear, high singles service, low doubles service, smash and drop. Rules and regulations and strategies for doubles and singles games will be presented.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0050 - RACQUETBALL 2
Minimum Credits: 1
Maximum Credits: 1
This course provides basic stroke mechanics, practice drills, and winning strategies for advanced players with a knowledge of the game of racquetball. Class time will deal in depth with the drive, lob, overhead z-serves, serve returns, back wall play, and training aids. Developing strategies for winning in singles and doubles will be dealt with extensively in class.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0051 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 6
If a student is interested in developing a program independently, or if a student is interested in a program not offered formally by this department, he or she may develop a contract with an instructor in a specific area and present this contract for approval to the program coordinator.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

PEDC 0052 - ADAPTIVE PHYSICAL EDUC 1
Minimum Credits: 1
Maximum Credits: 1
An adapted physical education, individualized programs of activity designed for students who, because of special needs of a permanent or temporary nature, cannot successfully participate in other physical education courses offered. The student health service and/or the student's personal physician(s) are included in course planning where appropriate.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0053 - ADAPTIVE PHYSICAL EDUC 2
Minimum Credits: 1
Maximum Credits: 1
An adapted physical education, individualized program of activity designed for students who, because of special needs of a permanent or temporary nature, cannot successfully participate in other offered physical education courses. The student health service and/or the student's personal physician(s) are included in course planning where appropriate.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0054 - ADAPTIVE PHYSICAL EDUC 3
Minimum Credits: 1
Maximum Credits: 1
An adapted physical education, individualized program of activity designed for students who, because of special needs of a permanent or temporary nature, cannot successfully participate in other offered physical education courses. The student health service and/or the student's personal physician(s) are included in course planning where appropriate.
Academic Career: UGRD

Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0055 - ADAPTIVE PHYSICAL EDUC 4

Minimum Credits: 1
Maximum Credits: 1
An adapted physical education, individualized program of activity designed for students who, because of special needs of a permanent or temporary nature, cannot success fully participate in other physical education courses offered. The student health service and/or the student's personal physician(s) are included in course planning where appropriate.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0056 - SOCCER

Minimum Credits: 1
Maximum Credits: 1
For the beginners who wish to develop competence in the skills, rules, and strategies required for participation in soccer. The course also covers the history and development of soccer as an international sport.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0057 - BASKETBALL 1-MEN

Minimum Credits: 1
Maximum Credits: 1
Supervised competition follows a conditioning period in which individual skills and team strategy are stressed. Opportunity to improve on previously acquired skills and become a team member is provided. Players measured by individual improvement and contribution to the team.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0058 - BASKETBALL 2-MEN

Minimum Credits: 1
Maximum Credits: 1
Continuation of basketball 1-men.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0062 - TOUCH FOOTBALL

Minimum Credits: 1
Maximum Credits: 1
A co-educational course designed to provide the student with the opportunity to develop the fundamental skills of football, along with experiencing organized competition in touch football games. Students are encouraged to develop offensive plays and defensive strategies and are given opportunities to evaluate their ideas under practice and competitive conditions.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0065 - VOLLEYBALL

Minimum Credits: 1
Maximum Credits: 1
This course is designed to introduce the beginner to the significant components of volleyball. Basic skills to be taught will include the overhead volley, forearm pass, service, spike, individual block and defensive recovery skills. A 4-2 right-side-setter offensive system will be introduced with a 6-back and a 6-up defensive system. All rules and regulations will be reviewed during the course.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0066 - TRACK AND FIELD

Minimum Credits: 1
Maximum Credits: 1
An opportunity to understand and perhaps learn to perform all the events which comprise track and field competition. Open to all students on all skill performance levels.
Academic Career: UGRD

Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0067 - KARATE

Minimum Credits: 1
Maximum Credits: 1
Introduction to the principles and techniques of traditional shotokan karate. Commencing with physical conditioning and basic blocking, stroking, punching, and kicking techniques-- training progresses through traditional formal exercise (kata), sparring, and self-defense methods. A karate club is available for those who wish to continue their study of karate beyond the scope of this course.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0068 - JUDO 1

Minimum Credits: 1
Maximum Credits: 1
An intensive study of the basic physics and principles governing the art of judo. It is no longer an oriental mystique. Today, judo is practiced worldwide by men and women of all ages. The "judoka" (student) will acquire confidence as well as improved physical endurance. In addition to this, the student will begin to grasp the true meaning of judo and find how it can apply to life in general. Judo gi is required
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0069 - JUDO 2

Minimum Credits: 1
Maximum Credits: 1
A continuation of Judo 1 including mat techniques such as strangle, joint lock, and pinning. New students must have a yellow belt.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0070 - WRESTLING

Minimum Credits: 1
Maximum Credits: 1
For the beginner who wishes to develop competence in the skills, rules and strategies required for participation in wrestling.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0073 - GYMNASTICS 1-WOMEN

Minimum Credits: 1
Maximum Credits: 1
Provides instruction on the beginner ability level. The areas of vault, uneven bars, balance beam, floor exercise and trampoline are covered with an emphasis on basic tumbling progressions and safety on skills and learning spotting techniques.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0074 - GYMNASTICS 1-MEN

Minimum Credits: 1
Maximum Credits: 1
For the beginning and intermediate student. Skills and exercises are done as part of an individually prescribed program in which the needs of the student are considered. A student could perform in any of the following events: free exercise, trampoline, side horse, rings, horizontal bar, parallel bars, rope climbing, tumbling, and mini trampoline. Grading is according to the student's own individualized program.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0077 - SKIING

Minimum Credits: 1
Maximum Credits: 1
Instruction is given on all ability levels. Instruction and skiing are provided at Seven Springs Resort, Champion, PA. Lessons will be conducted by certified PSIA instructors and staff.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0078 - LA CROSSE
Minimum Credits: 1
Maximum Credits: 1
This team sport provides the student with the opportunity to learn the unique skills offered in the sport of lacrosse. The course will be conducted totally indoors requiring no additional equipment other than that provided.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0079 - ICE SKATING
Minimum Credits: 1
Maximum Credits: 1
Beginners may learn to skate and skaters may learn to skate better. Figure skating is the basic program. Some introduction to understanding of ice hockey.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0080 - RIFLE-PISTOL MARKSMANSHIP
Minimum Credits: 1
Maximum Credits: 1
Provides the basic fundamentals in practical application of the proper techniques utilized for recreation, target and competition shooting.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0081 - GOLF 1
Minimum Credits: 1
Maximum Credits: 1
For the beginner who wishes to learn and improve their driving, putting, pitching, and chipping skills. Golf fundamentals will be stressed along with the rules of the game.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0086 - CERTIFIED POOL & SPA OPERATOR
Minimum Credits: 1
Maximum Credits: 1
A practical course dealing with the sanitation, circulation and filtration of swimming pool water. An excellent course for students who are interested in employment as a swimming pool manager or custodian.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PEDC 0087 - PERSONAL DEFENSE
Minimum Credits: 1
Maximum Credits: 1
Offers physical conditioning and self-defense through the application of judo. Emergency self-defense from various attacks will be taught utilizing basic throwing, grappling, and striking techniques. Students develop a deep respect for others, inner security, and self-confidence. The purpose of this course is to defeat an opponent through the most efficient use of mind and body, but doing so on the principle of "giving away" under his attack or effort.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0090 - VARSITY SPORTS 1
Minimum Credits: 1
Maximum Credits: 1
Students may earn four credits in physical education by participating in a varsity sport. One credit only per term. Student must be a varsity athlete.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: STDNT GRP: Student Athlete or Cheer / Dance

PEDC 0091 - VARSITY SPORTS 2
Minimum Credits: 1
Maximum Credits: 1
Students may earn one credit in physical education by participation in a varsity sport for his/her second term.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: PREQ: PEDC 0090; STDNT GRP: Student Athlete or Cheer / Dance

PEDC 0092 - TENSION CONTROL
Minimum Credits: 1
Maximum Credits: 1
A first course in efficiency and accomplishment through conservation of personal energy. This simple self-help technique, of value throughout life, is based on the scientific principles and practice of neuromuscular (progressive) relaxation. Students will learn to practice physical skill with concomitant benefits of improved attention, learning and memory, along with prevention of energy depleting tension states.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0096 - WINTER CAMPING
Minimum Credits: 1
Maximum Credits: 1
A weekend course designed to provide the student with backpacking experience and the knowledge necessary to extend his outdoor enjoyment to four seasons. All weather equipment including backpacks, sleeping bags, pads, tents, and stoves will be provided to students needing gear. Although ski touring is part of this course, experience is not required and necessary skills may be quickly learned.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0099 - BASIC ROCK CLIMBING
Minimum Credits: 1
Maximum Credits: 1
Beginning with bouldering, the course will deal primarily with rope handling and moving on vertical rock planes in a safe manner. Covered in this course are bouldering, friction and balance climbing, 3-point suspension, use of ropes, knot craft, body rappelling, free rigging climbs, mountain safety, basic belaying, use of webbing (slings and harnesses), chinmey techniques and natural protection.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0127 - AEROBIC EXERCISE-NC
Minimum Credits: 0
Maximum Credits: 0
Improve your fitness levels with aerobic exercise to music one of America's most popular ways to exercise. This program is for all ages. Each person will be permitted to participate at his/her own level, gradually improving muscle tone, cardiac and respiratory fitness.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0128 - BODY SCULPTING
Minimum Credits: 1
Maximum Credits: 1
A non-impact class designed to develop muscular definition, firming, toning, and strength. Weights and other resistive devices will be incorporated into workout routines to music.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0129 - BODY SCULPTING-NC
Minimum Credits: 0
Maximum Credits: 0
Exercise to music in this non-impact class designed to develop muscular definition, firming, toning and strength. Weights and other resistive devices will be incorporated into workout routines.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0131 - RACQUETBALL 2/SQUASH 1
Minimum Credits: 1
Maximum Credits: 1
This course provides 7 weeks of practice drills, and winning strategies for advanced players with a knowledge of the game of racquetball. Class time will deal in depth with the drive, lob, overhead z-serves, serve returns and back wall play. Seven weeks of squash. An intriguing international four-wall racquet game. A good conditioner for out-of-season tennis players.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0132 - SCUBA 1
Minimum Credits: 1
Maximum Credits: 1
Provides padi open water 1 instruction and certification for the beginning student who wishes to learn safe scuba diving techniques. The student does not provide personal diving gear. Pool, classroom, and open water training are required for certification. The student must provide all of the equipment necessary for open water training (which may be rented).
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0133 - LIFE GUARDING 1
Minimum Credits: 1
Maximum Credits: 1
For the intermediate level or above swimmer who wishes to gain national red cross lifeguard certification. Training is specifically designed to prepare enrollers for lifeguarding pools and openwater beaches. Advanced lifesaving, community first aid, and CPR certifications are required if not already obtained before course completion.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0134 - SOFTBALL
Minimum Credits: 1
Maximum Credits: 1
This course is designed to help students advance their skills in softball. Skills include: throwing, catching, fielding, pitching, hitting, and game strategy rules, regulations and umpiring are covered.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0135 - BASKETBALL 1 - CO-EDUCATIONAL
Minimum Credits: 1
Maximum Credits: 1
Supervised competition follows a conditioning period in which individual skills and team strategy are stressed. Opportunity to improve on previously acquired skills and become a team member is provided.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0136 - AEROBIC DANCE 1
Minimum Credits: 0
Maximum Credits: 0
Improve your fitness levels with aerobic exercise to music. One of America's most popular ways to exercise. This program is for all ages. Each person will be permitted to participate at his/her own level, gradually improving muscle tone, cardiac, and respiratory fitness.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0137 - TRIATHLON TRAINING
Minimum Credits: 1
Maximum Credits: 1
This course is geared toward people interested in competing in a triathlon. The instruction and training will be at the beginner to intermediate level, with an emphasis on the fundamentals of triathlon training and racing. Students should have a good swimming background, access to a bicycle, and some running experience. The class will show the student how to weight train and stretch for endurance competition. Students will learn principles of a healthy nutritional regimen followed by many athletes. Some classroom instruction coupled with indoor/outdoor training sessions.
Academic Career: UGRD

Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0138 - STEP AEROBICS

Minimum Credits: 1
Maximum Credits: 1
Step aerobics is low-impact aerobic exercise. Improve your fitness level with step aerobics to music. This program is for all ages. Every student will be permitted to participate at his/her own level. The course will gradually improve your muscle tone, cardiac output and respiratory fitness levels.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0139 - FOOTBALL OFFICIATING

Minimum Credits: 1
Maximum Credits: 1
The course in football officiating includes: classroom instruction and hands-on officiating experience in the intramural football program. Instruction includes: rule knowledge, officiating techniques, field coverage and evaluation of performance.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0140 - BASKETBALL OFFICIATING

Minimum Credits: 1
Maximum Credits: 1
The course in basketball officiating includes: classroom instruction and hands on officiating experiences in the intramural basketball program. Instruction includes: rule knowledge, officiating techniques, methods of scoring, court coverage and evaluation of performance.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0141 - DISCOVER SCUBA-NC

Minimum Credits: 0
Maximum Credits: 0
Ever since you were a kid you probably wanted to scuba dive. We will introduce you to the relaxing adventure of the underwater world. This 2 hour session includes a slide presentation and in pool experience.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0142 - BODY BUILDING-MEN

Minimum Credits: 1
Maximum Credits: 1
Learn the techniques of body building. How to develop specific muscle groups through exercise and nutrition. This is not a class for beginners. You will learn posing techniques, develop routines to music, and be involved in class competition.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0143 - BODY BUILDING-WOMEN

Minimum Credits: 1
Maximum Credits: 1
Learn the techniques of body building. How to develop specific muscle groups through exercise and nutrition. You will learn posing techniques, develop routines to music, and compete in class competition. This is not a class for beginners.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0144 - SCUBA 2-NC

Minimum Credits: 0
Maximum Credits: 0
Provides instruction for the certified open water scuba diver in advanced diving techniques. One two hour classroom and openwater dive training activities are required for the advanced openwater certification.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0145 - TENNIS-NC
Minimum Credits: 0
Maximum Credits: 0
This course is designed for beginner and intermediate tennis players. The course will emphasize all tennis shots. Students will be taught how and when to use each shot and playing strategies. Singles and doubles will be played.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0146 - FIRST AID AND CPR
Minimum Credits: 1
Maximum Credits: 1
A laboratory-lecture course in which American red cross techniques of cardiopulmonary resuscitation (CPR) and standard first aid are presented. All students who meet the American red cross standards will receive American red cross certification.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0147 - WATER SAFETY INSTRUCTOR
Minimum Credits: 2
Maximum Credits: 2
The water safety instructor course is designed to earn certification to teach American red cross swimming and water safety courses. The course focuses on planning, organizing, sequencing, skill development, and red cross operational policies and procedures.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0148 - RACQUETBALL-NC
Minimum Credits: 0
Maximum Credits: 0
This course is designed to teach the basic components of racquetball. Three types of racquetball games will be taught singles, doubles and cut-throat. Individual skill development and strategies will be taught. Eye protection is required.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0149 - BODY AWARENESS IN SPORTS
Minimum Credits: 1
Maximum Credits: 1
The student will improve sports performance by learning body awareness through movement. Applying body awareness through a variety of movements will enhance performance in activities such as: football, basketball, baseball, track and field, soccer, volleyball, wrestling, tennis and general gross motor activities. Students will learn the benefits of intensive unique stretching, the use of external energies to improve power, understanding motor imagery to increase agility, the use of directional and spatial energies, internally and externally to enhance dynamic balance.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0150 - POWERLIFTING & OLYMPIC LIFTING
Minimum Credits: 1
Maximum Credits: 1
Introduction to the sports of powerlifting and olympic lifting. We will examine the distinction and benefits of the two barbell sports. Powerlifting is a national and international sport that consists of three barbell lifts: squat, bench press and deadlift. Olympic lifting is a national, international, and olympic sport that consists of two traditional overhead barbell lifts: snatch, and clean and jerk. Emphasis will be placed on learning proper lifting techniques and development of individual training programs.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0153 - VARSITY SPORTS 3
Minimum Credits: 1
Maximum Credits: 1
Students may earn one credit in physical education by participation in a varsity sport for his/her third term.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PREQ: PEDC 0091; STDNT GRP: Student Athlete or Cheer / Dance

PEDC 0154 - VARSITY SPORTS 4
Minimum Credits: 1
Maximum Credits: 1
Students may earn one credit in physical education by participation in a varsity sport for his/her fourth term.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PREQ: PEDC 0153; STDNT GRP: Student Athlete or Cheer / Dance

PEDC 0158 - WEIGHT TRAINING 1
Minimum Credits: 1
Maximum Credits: 1
A coeducational class designed to provide the student with the opportunity to develop and practice basic weight training techniques. With the guidance of the instructor, the student will be encouraged to develop an individualized self-designed program. The emphasis of this course will be placed on progressive-resistive exercises.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0159 - FLEXIBILITY AND ALIGNMENT
Minimum Credits: 1
Maximum Credits: 1
A class for those who want to increase their flexibility and improve their alignment. Gentle exercises for flexibility in addition to a plan for individualized, bio-mechanically efficient alignment to make movement tension free. Visual imagery is incorporated to reinforce the "mind-body" connection for improved efficiency of movement and augment flexibility.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0160 - DANCE IN FILM AND VIDEO
Minimum Credits: 1
Maximum Credits: 1
A class for the film and video dance fan. Discussion, movement and viewing of all genres of dance are included. Theory of movement, movement for video, and the image of dance through history of film is the basis for discussion. Early films from 1894 to present day and the treatment of dance as an art form is included.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0162 - DANCE BASICS
Minimum Credits: 1
Maximum Credits: 1
For those people who always had a desire to learn to dance but were intimidated by a formal class. Break your own stereotype! If increasing your flexibility, strength, coordination and rhythmic awareness is a goal, you can do it in an enjoyable atmosphere of sound and movement. Learn dance fundamentals that are used in ballet, jazz, and modern dance. Some social dance and folk dance movements are included. Barre and floor warm-up and movement sequences are contained in each class.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 0163 - YOGA
Minimum Credits: 1
Maximum Credits: 1
An elementary course on the practice and theory of basic principles of yoga. For tension control and mind-body connections this class will provide each student with a plan to focus on their particular body's strengths and weaknesses and increase flexibility.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0164 - PARTY DANCE
Minimum Credits: 1
Maximum Credits: 1
This class will focus on generic dance movements that you can use in social dance situations. Hip-hop, line dances like electric slide and achey-breaky, and free form styles will be highlighted. Understanding rhythm and moving rhythmically will also be included. Learn how to learn dance so you can feel confident at weddings, house parties and clubs. This is strictly for non-dancers that want to become dance confident.

Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0165 - VOLLEYBALL-NC

Minimum Credits: 0
Maximum Credits: 0
This course is designed to improve the major components of volleyball. Skills to be taught will include overhead volley passing, serving, setting, blocking and spiking. Rules and regulations will be reviewed. Various defensive systems will be taught.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0166 - CREATIVE MOVEMENT

Minimum Credits: 1
Maximum Credits: 1
A course to bring out the creativity inherent in all individuals. In class the exercises and structured improvisations are guaranteed to bring out all creative impulses. Props, costumes, art, music and literature are used as catalysts for creating movement in a failure-free environment. Special attention will be focused on small-group interaction, brain-storming and cooperative games to make creativity seem effortless.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0167 - KARATE-NC

Minimum Credits: 0
Maximum Credits: 0
Principles and techniques of shotokan karate. Commencing with physical conditioning and basic blocking, striking, punching, and kicking techniques -- training progresses through traditional formal exercise (kata), sparring and self-defense methods.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0168 - JUDO-NC

Minimum Credits: 0
Maximum Credits: 0
A study of the basic physics and principles governing the art of judo. The "judoka" (student) will acquire confidence and improve physical endurance. The student will learn how to fall, defend and throw opponents.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0170 - AEROBIC MEDLEY

Minimum Credits: 1
Maximum Credits: 1
This course is a heterogeneous mixture of aerobic exercise, conditioning and body development classes. Classes during this will vary daily and include the following: step aerobics, a low impact aerobic program that involves stepping onto a bench while simultaneously performing a series of upper body movements. Interval bench, a moderate intensity class that combines aerobic bench stepping with body sculpting. High-low impact aerobics, a moderate to high intensity aerobic dance class that combines both high and low impact moves. Abdominal work is included in all classes.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0171 - FITNESS KICK BOXING

Minimum Credits: 1
Maximum Credits: 1
Our exercise program is based on the concepts of boxing, karate, muay thai kick boxing, and total fitness accompanied by rhythmatic music. Conditioning is focused on the areas of endurance, strength, and flexibility; all of which can bring about positive physical changes in participating students. Aerobic and anaerobic power training with speed bay and heavy bag is part of the training module.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0173 - SNOBOARDING

Minimum Credits: 1
Maximum Credits: 1
Instruction is given on all ability levels. Three-5 hour sessions of instruction and boarding plus one-5 hour session of boarding are provided at seven

springs ski resort.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 0175 - AEROBIC FITNESS BOXING

Minimum Credits: 1
Maximum Credits: 1
Our exercise program is based on the concepts of boxing, karate, muay thai kick boxing, and total fitness accompanied by rhythmatic music. Conditioning is focused on the areas of endurance, strength, and flexibility; all of which can bring about positive physical changes in participating students. Aerobic and power training are a part of the enduring comprehensive training module.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0180 - VOLLEYBALL 1

Minimum Credits: 1
Maximum Credits: 1
This course is designed to introduce the beginner to the significant components of volleyball. Basic skills to be taught will include the overhead volley, forearm pass, service spike, individual block and defensive recovery skills. A 4-2 right-side-setter offensive system will be introduced with a 6-back and a 6-up defensive system. All rules and regulations will be reviewed during the course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0192 - TENSION CONTROL-NC

Minimum Credits: 0
Maximum Credits: 0
A first course in efficiency and accomplishment through conservation of personal energy. This simple self-help technique will be of value throughout life, and is based on the scientific principles and practice of neuromuscular progressive relaxation. Students will learn to practice physical skill with concomitant benefits of improved attention, learning memory, along with prevention of energy depleting tension states.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0193 - PERSONAL FITNESS

Minimum Credits: 1
Maximum Credits: 1
An organized approach to health related fitness with diagnostic and prescriptive assessment. The emphasis is on an individual, self-designed program based on scientific principles with the goal of personal improvement and fitness knowledge of primary importance. Various types of exercise will be incorporated into class times.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0194 - SPORTS CONDITIONING

Minimum Credits: 1
Maximum Credits: 1
This course includes sport specific training for a multitude of sports including plyometric, speed and agility training, resistance training and will incorporate different modes of aerobic training. This course focuses on how to train different types of athletes and how each specific type of training is related to the sport/event involved. This is a high intensity exercise course and should not be taken if the student is not apparently healthy and has not already had at least some experience in sport and/or fitness related fields.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0196 - FIRST AID AND CPR

Minimum Credits: 2
Maximum Credits: 2
A 2-credit lab/lecture discussion course in which American red cross techniques of cardiopulmonary resuscitation (CPR) for the professional rescuer and community first aid and safety are presented. In addition to these skills, current methods of management and treatment of emergency illnesses and injuries are also taught. American red cross certification available to all students who meet the standards.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0197 - BOOTCAMP FITNESS
Minimum Credits: 1
Maximum Credits: 1
If you want to increase your fitness level, burn fat, look great and feel fantastic, then take your workout to the next level in boot camp fitness! A typical class will include cardio exercise such as jump rope, jumping jacks, jogging as well as muscular endurance exercises such as push-ups, squats, lunges, etc. Everyone will be encouraged to excel to their very best but will not be pushed to the point of injury or pain. All exercises can be modified to suit each participant's needs.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0206 - BODY SCULPTING 1
Minimum Credits: 1
Maximum Credits: 1
Exercise to music in this non-impact class designed to develop muscular definition, firming, toning, and strength. Weights and other resistive devices will be incorporated into workout routines.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0207 - PILATES
Minimum Credits: 1
Maximum Credits: 1
The pilates method of body conditioning strengthens and tones muscles, improves posture, provides flexibility and balance, unites body and mind, and creates a more stream lined shape. Pilates is great for people of all ages and fitness levels, as it uses your body's own natural resistance to define and elongate the muscles.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0208 - "STEP IT UP" (ADVANCED STEP)
Minimum Credits: 1
Maximum Credits: 1
Geared towards the advanced fitness enthusiast, "step it up" is a high intensity workout that incorporates creative combinations and challenging patterns on a step platform.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0209 - "ON THE BALL"
Minimum Credits: 1
Maximum Credits: 1
A 60 minute resistance training workout using stability balls, hand weights, and resistance tubing. This class will focus on increasing core strength, as well as overall muscle tone, balance, and coordination. A nice compliment to your cardio workout!
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0210 - WATER AEROBICS-NC
Minimum Credits: 0
Maximum Credits: 0
Improve your fitness levels with water aerobics to music. One of America's most popular ways to exercise. No swimming ability needed. Includes warm-up, aerobic activity to keep heart rate in target range, and stretching. Abdominal and lower back toning included.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0211 - WATER AEROBICS 1
Minimum Credits: 1
Maximum Credits: 1
Improve your fitness in an enjoyable environment! This program is designed for all ages allowing the student to participate at his or her own level. Students will gradually improve muscle tone and cardiac fitness levels. The program is conducted in shallow water so that non-swimmers may participate.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0221 - PERSONAL FITNESS TRAINING-NC

Minimum Credits: 0
Maximum Credits: 0
Design your own personal fitness training program. Learn the basics of cardiovascular fitness, strength conditioning, proper warm-up and stretching program to reduce soreness, increase flexibility and reduce the severity of injury. Learn about body composition, weight control, diet and nutritional principles as they pertain to sport and fitness.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0222 - CYCLE EXERCISE

Minimum Credits: 1
Maximum Credits: 1
This class if for anyone that wants a killer cardiovascular workout without being bored on a traditional cardio machine. Spinning bikes simulate an outside ride by allowing you to change positions on the bike as well as resistance to simulate hills. This class will incorporate sprints, seated climbs, standing climbs, jumps and more for an anything-but-boring workout! During the class, you can work at your own intensity level whether it is light to moderate or vigorous. Spinning is great for anyone and everyone including cyclists as well as those of you that aren't the best of cyclists. No bike riding experience is necessary for this class.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0225 - BUDO

Minimum Credits: 1
Maximum Credits: 1
An overview of martial arts which combines the practice of kobudo, ancient weaponry-bo (long stick), jo (short stick), sia, aiki, sumo jujitsu & karate do. Class will incorporate the use of ancient weaponry and the art of ju-jitsu, which is composed of falling, throwing, pressure points, disarming skills against the weapon, the art of restraining, and ground grappling. This course will cover the history and philosophy of these activities and also physically using tactical application. Budo will provide student insight on how different disciplines are combined and used.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0226 - FITNESS BOXING 1

Minimum Credits: 1
Maximum Credits: 1
For students who want a high level of fitness achieved through learning various beginning, non-contact boxing skills and techniques. Skills include: shadow boxing, defensive techniques, non-contact sparring, heavy bag workout, speed bag techniques, rope jumping, and strength and conditioning exercises.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0227 - FITNESS BOXING - NC

Minimum Credits: 0
Maximum Credits: 0
This course is a continuation course and is open to students who have taken fitness boxing for credit previously.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0231 - SOCCER 1

Minimum Credits: 1
Maximum Credits: 1
For the beginner who wishes to develop competence in the skills, rules, and strategies required for participation in soccer.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0232 - TOUCH FOOTBALL 1

Minimum Credits: 1
Maximum Credits: 1
A co-educational course designed to provide the student with an opportunity to develop the fundamental skills of football, along with experimenting with organized competition in touch football games.
Academic Career: UGRD

Course Component: Practicum
Grade Component: Letter Grade

PEDC 0235 - AEROBICS: LOW IMPCT HIGH ENRGY

Minimum Credits: 1
Maximum Credits: 1
This class is great for individuals of all fitness levels. Cardiovascular exercise including dance and step aerobics is combined with resistance training using hand weights, resistance bands and/or weighted bars. Abdominal and core work is also included.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0236 - AEROBIC MIX

Minimum Credits: 1
Maximum Credits: 1
This is a great class for anyone who loves variety! This course provides a mixture of various types of cardiovascular exercise including, but not limited to, hi-lo floor aerobics, step aerobics and cardio kickboxing. In addition, resistance training, yoga and/or pilates may be incorporated into the exercise sessions. Classes will vary at the instructor's discretion.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0237 - AEROBIC EXERCISE

Minimum Credits: 1
Maximum Credits: 1
This class is for those who prefer floor aerobics to step aerobics. The class will include predominantly hi-lo floor aerobics. Other forms of exercise may include resistance training, yoga and pilates.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0238 - STEP AEROBICS-NC

Minimum Credits: 0
Maximum Credits: 0
Step aerobics is low-impact aerobic exercise. Improve your fitness level with step aerobics to music. This program is for males and females. This course will gradually improve your muscle tone, cardiac output and respiratory fitness levels.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PEDC 0239 - STEP AEROBICS 1

Minimum Credits: 1
Maximum Credits: 1
Step aerobics is a low-impact aerobic exercise. Improve your fitness level with step aerobics to music. This program is for all ages. Every student will be permitted to participate at his/her own level. This course will gradually improve your muscle tone, cardiac output, and respiratory fitness levels.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0240 - AEROBICS FOR INSTRUCTORS

Minimum Credits: 2
Maximum Credits: 2
This course will prepare the student to teach various components of aerobic exercise, i.e., Aerobic fitness boxing (tae bo), hi-low impact, step aerobics, circuit training, interval bench, water aerobics, and the like. The course will not certify instructors, however, it will prepare the student to obtain certification from national organizations with written and practical exams.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0241 - FITNESS FOR INSTRUCTORS

Minimum Credits: 3
Maximum Credits: 3
Fitness for instructors will teach the student the major elements of fitness. How to assess fitness levels, deter mine fitness goals, design fitness programs and facilities. The course will be a combination of classroom, exercise, and practical experiences.
Academic Career: UGRD

Course Component: Practicum
Grade Component: Letter Grade

PEDC 0242 - AMER RED CROS LIFEGUARD INSTRC

Minimum Credits: 2
Maximum Credits: 2
American red cross lifeguard training for instructors will certify the student to teach various components of American red cross classes, i.e. Lifeguard training, adult and child, CPR for the professional rescuer, and community first aid and safety classes. This certification enables students to teach the above mentioned classes in any state authorized by the American red cross.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0243 - AMER RED CROS FIRST/CPR INSTRC

Minimum Credits: 2
Maximum Credits: 2
American red cross standard first aid and CPR for instructors will certify the student to teach various components of American red cross classes, i.e. Adult, infant and child, and CPR for the professional rescuer, as well as community first aid and safety classes. This certification enables students to teach the above mentioned classes in any state authorized by the American red cross.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0244 - DANCE PRODUCTION 2

Minimum Credits: 2
Maximum Credits: 2
This course is designed to familiarize students with both the technical and production aspects of dance in all its forms. The students will have experiences with lighting, costume, choreography, public relations, and stage management.
Academic Career: UGRD
Course Component: Workshop
Grade Component: Letter Grade

PEDC 0245 - COUNTRY WESTERN DANCE

Minimum Credits: 1
Maximum Credits: 1
Enjoy a great social event. Learn the latest country Western dances. This course includes the Texas two-step, achey-breakey, boot-scoot boogie and other favorites.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis

PEDC 0246 - POOL OPERATIONS/EVENT MGMNT

Minimum Credits: 1
Maximum Credits: 3
Course will cover all aspects of pool operations including safety requirements, scheduling, emergency action plan, lifeguard rotations and filtration. Section on event management will include scheduling, set up and break down of competition pool including lane ropes, touchpads, flags, blocks, and timing system. Attendance at pre-determined pool events will be required. Total number of credits earn ed will be based on minimum number of hours worked.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0262 - YOGA 1

Minimum Credits: 1
Maximum Credits: 1
An elementary course on the practice and theory of the basic principles of yoga. This class will provide students with a plan to focus on their particular bodies' strengths and weaknesses plus increase flexibility.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0263 - YOGA 2

Minimum Credits: 1
Maximum Credits: 1
An intermediate level course on the theory of basic principles of yoga.
Academic Career: UGRD

Course Component: Credit Laboratory
Grade Component: Letter Grade

PEDC 0264 - POWER YOGA

Minimum Credits: 1
Maximum Credits: 1
This class is for anyone that has some previous yoga experience and would like a physical challenge, and doesn't mind breaking a sweat! Power yoga is a form of Ashtanga yoga that emphasizes strength and flexibility. This class is not a gentle form of yoga; however, participants will be encouraged to progress at their own levels and will be given modifications for difficult movements.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0265 - YOGA AND PILATES

Minimum Credits: 1
Maximum Credits: 1
Take the best of yoga and Pilates and gain the streamlined body you've always dreamed of. Yoga and Pilates is a fresh and exciting approach targeting specific parts of the body with four separate workouts and concentrating on problems areas. Combined, these workouts offer a solution to weight loss while promoting relaxation from stress!
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0266 - PILATES FUSION

Minimum Credits: 1
Maximum Credits: 1
Pilates fusion is based on the Pilates system, but is more movement centered, as we transition from one form to the next through movement stretches taken from release methods. These release methods are designed to lengthen and to soften the muscles. The movements are constant, so there is flow and connection rather than a static approach. There is a focus on proper form, finding center through the pelvis, core strengthening and its relation to the back. Techniques from yoga practice are also incorporated into this class.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0267 - BEGINNING KARATE

Minimum Credits: 1
Maximum Credits: 1
An introduction on the principles and techniques of traditional shotokan karate. Students will begin training with physical conditioning and basic blocking, striking, punching, and kicking techniques.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0277 - MIXED MARTIAL ARTS

Minimum Credits: 1
Maximum Credits: 1
This course will provide students with a basic understanding of the most common techniques and training methods involved in sport mixed martial arts. The curriculum will include stand-up fighting techniques such as boxing and Muay Thai kickboxing, along with ground fighting techniques, including Jiu Jitsu and wrestling. The course will also focus on conditioning, specifically in the areas of strength, endurance, and flexibility, all of which will contribute to total fitness and improved martial art technique.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade

PEDC 0287 - PERSONAL DEFENSE 1

Minimum Credits: 1
Maximum Credits: 1
The purpose of this course is to teach students how to defeat an opponent through the most efficient use of mind and body, but doing so on the principle of "giving away" under his/her attack or effort. Emergency self-defense from various attacks will be taught utilizing basic judo techniques and the "byam" method.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0300 - INTRODUCTION TO MASSAGE

Minimum Credits: 1
Maximum Credits: 1
This course is designed to acquaint students with the general techniques of massage and with the health benefits of massage therapy. Included are physiological and psychological effects of massage, anatomy and physiology of massage, massage for special populations, contraindications for massage, passive stretching and joint mobilization techniques, accupressure and trigger point therapy. In addition, students will learn to demonstrate the basic massage techniques of effleurage, petrissage, friction, vibration, tapotement and compression.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0302 - INTRODUCTION TO SPORTS MASSAGE

Minimum Credits: 1
Maximum Credits: 1
This course will include sport specific training for a multitude of sports and focus on how to train many different types of athletes and how each specific type of training is related to the sport/event involved. Topics included: plyometric, speed and agility training, resistance training, different modes of aerobic training, etc. This is a high intensity exercise course and should be taken by healthy students who have some experience in sport and/or fitness related fields.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0338 - TAI CHI 2

Minimum Credits: 1
Maximum Credits: 1
Taijiquan (tai chi chuan) translates into English as grand ultimate boxing. Taken from the texts of the tao te ching, taijiquan uses softness to overcome the strong. With an emphasis on relaxation and sensitivity, taijiquan has gained great popularity. Although viewed alongside many new age holistic therapies, taiji and baguazhang have been developed as internal martial arts on china's ancient wu tang moun tain. They are first and foremost martial arts, and as in all nei gong (internal skill) training, a way to inner peace, harmony and a balanced lifestyle.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0340 - KETTLE BELL AND CONDITIONING

Minimum Credits: 1
Maximum Credits: 1
This class is designed to provide the student with a total body strength and cardiovascular workout utilizing kettle bell equipment and various strength conditioning techniques. Emphasis is on circuit style or continuous training with the goal of progressively increasing the intensity and difficulty of the workout throughout the semester.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0360 - BELLY DANCING

Minimum Credits: 1
Maximum Credits: 1
In this course you will learn the history of the dance form and of the cultures that practice it, basic move instruction, and the study of choreography to culminate in an end of the semester performance. Great exercise!
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0361 - FITNESS DANCE

Minimum Credits: 1
Maximum Credits: 1
This class, set to contemporary music, is designed to get your moving while learning fun and exciting dance movements! The class begins with a warm-up consisting of fundamental dance principles and techniques that will prepare you to move into dance phrases and choreographed movement. The class cools down with a series of stretches and muscle relaxing exercises. No previous dance training is required.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0362 - TOTAL BODY FUSION

Minimum Credits: 1
Maximum Credits: 1
This class is for anyone looking to increase cardiovascular fitness, firm and tone muscles, increase flexibility and de-stress. A typical class starts with cardiovascular exercise such as step aerobics, kickboxing and/or hi-lo aerobics, moves to body sculpting using free weights, bands and balls and

finishes up with core work and stretching exercises. If you like a little of everything, this is definitely the class for you!
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0363 - ZUMBA

Minimum Credits: 1
Maximum Credits: 1
Zumba is a one of kind combination of dance and exercise, designed to put "Fun" back into fitness. The zumba workout maximizes caloric output, fat burning, and total body toning. The routines feature aerobic interval training with a combination of fast and slow rhythms that tone and sculpt the body. Exotic and explosive Latin rhythms create a party like atmosphere that delivers results, as well as a "Feel happy" workout. No previous experience in dance is needed to have fun with zumba.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0366 - INTRODUCTION TO DANCE

Minimum Credits: 3
Maximum Credits: 3
A comprehensive overview of dance as an art form and physical activity, covering the history and philosophy of dance. Dance will be examined as a means of communication and expression, and its relationship to other art forms. A particular emphasis will be placed on Western dance forms and its multicultural roots.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PEDC 0367 - BALLROOM 1

Minimum Credits: 1
Maximum Credits: 1
Beginners course: professional instruction in the smooth dances: waltz, fox-trot, tango and Viennese and Latin dances, cha cha, rumba, samba, mambo, etc.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0368 - LATIN RHYTHM AND SWING

Minimum Credits: 1
Maximum Credits: 1
Call it mambo, call it rock-n-roll.....Beginner, learn the basic footwork, turns and combination figures to these fiery dances. Learn to lead a partner. And partner, learn to follow the leader. Leading and following emphasized. Floor craft and dance etiquette will be taught. Styling and technique added to complete all dances. Also, special attention to timing and music recognition.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0375 - HIP-HOP AEROBICS

Minimum Credits: 1
Maximum Credits: 1
This is an aerobic dance and fitness class designed to provide an exercise opportunity for students to improve their fitness. This course will incorporate various styles of hip-hop such as pop and lock, breakdance, house dance, pop, crump and step into an aerobic fitness class.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0380 - CARDIO PILATES

Minimum Credits: 1
Maximum Credits: 1
This class begins with aerobic exercise of various formats including: hi-lo, step and kickboxing to get your heart rate elevated and body moving. It then progresses to a short cool-down period and finishes with pilates mat exercises to sculpt your muscles and stretch your body. This class is great for anyone looking to increase cardiovascular fitness as well as strengthen, stretch and tone the muscles.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0381 - PILATES WITH PROPS

Minimum Credits: 1
Maximum Credits: 1
This course is designed to build and progress from the fundamental pilates exercise system. This class will incorporate props such as exercise balls and bands to further enhance the effects of a beginner level pilates class. This course focuses on strengthening the core, encouraging proper spinal alignment, lengthening and toning muscles and increasing flexibility. Previous pilates experience is recommended, but not required.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0383 - CARDIO GROOVE

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0384 - CARDIO-FITNESS 360

Minimum Credits: 1
Maximum Credits: 1
This course is designed to introduce the student to various modes of aerobic activity. This course will include fitness assessments, jogging, aquatic activities and other types of aerobic activity. This course is designed to emphasize the importance of aerobic activity and overall physical fitness throughout a person's life.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0400 - INTRODUCTION TO ROCK CLIMBING

Minimum Credits: 1
Maximum Credits: 1
This is a beginner's course for students who want to learn basic rock climbing skills and safety. Student will show mastery with climbing equipment, knot tying, belaying, rappelling, and certain climbing techniques. This course will occur on the indoor rock climbing wall in trees hall. Outdoor trips will occur after indoor practice.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0401 - SPORT CLIMBING

Minimum Credits: 1
Maximum Credits: 1
A continuation of climbing techniques learned from intro to rock climbing. The focus of this course will be emphasized on advanced climbing techniques while sport climbing. Students will learn how to sport climb, belay a leader and clean sport routes safely. An emphasis of the class will be learning the skills to climb any sport route anywhere in the world. Some alpine techniques and multi-pitch skills will be taught. A weekend sport climbing outing will occur after indoor practice.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0402 - ROCK CLIMBING TRAINING FITNESS

Minimum Credits: 1
Maximum Credits: 1
This course is intended for students who wish to improve their climbing ability. It contains a hand's on portion that consists of actually training climbing movement with coaching and a theoretical portion that will explore the rationale behind the training approaches. Students should leave the class with an understanding of the physiology of climbing and the ability to design training programs for themselves. All students taking this class must be able to tie in and belay comfortably and safely.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0405 - FLY FISHING

Minimum Credits: 1
Maximum Credits: 1
This is a beginner's class designed to give you the basics in tying flies, casting, reading the water, and tying the knots. The skills and techniques will enable you to use the flies that you create to catch fish. Field experiences will follow classroom sessions.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 0408 - KAYAKING
Minimum Credits: 1
Maximum Credits: 1
Learn practical skills like rescue and re-entry, bracing, maneuvering, rolls, and much more in both sea kayaks and whitewater boats. This class offers not only indoor practice but outdoor trips as well. Student is responsible for transportation to local outdoor trip locations.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1001 - HORSEMANSHIP
Minimum Credits: 2
Maximum Credits: 2
This course gives the student basic exposure to the horse from the ground as well as from the horse's back. Students learn the basics of caring for a horse and elementary principles of horse training and management. Students will be given the opportunity to practice the principles of hunt-seat equitation through actual riding experience provided by a local riding academy. Initial riding experience will occur on a lounge line with the opportunity for individualized progression to jumping, etc.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PEDC 1002 - TAE KWON DO 1
Minimum Credits: 1
Maximum Credits: 1
An ancient Korean martial art that is a free-fighting, self-defense sport in which the athlete's entire body is a weapon. Tae kwon do requires physical training, coordination, and a high degree of mental discipline.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1003 - TAE KWON DO 2
Minimum Credits: 1
Maximum Credits: 1
A continuation for students in Tae Kwan Do 1. Learn to compete olympic style. Competition and advanced style defense techniques will be taught. New students must have a yellow belt.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1004 - HORSEMANSHIP 1
Minimum Credits: 1
Maximum Credits: 1
This course gives the student basic exposure to the horse from the ground as well as from the horse's back. Students learn the basics of caring for a horse and elementary principles of horse training and management. Students will be given the opportunity to practice the principles of hunt seat equitation through actual riding experience provided by a local riding academy. Initial riding experience will occur on a lounge line with the opportunity for individualized progression to jumping, etc.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 1006 - JIU JITSU
Minimum Credits: 1
Maximum Credits: 1
Jiu jitsu is a method of defense without weapons using hand, foot, and hip techniques combined with grappling and choke holds designed to render your attacker helpless and to help you gain more self-confidence. Jiu jitsu is not a contest of muscular strength. When practiced properly a smaller person can easily defend themselves against a larger person.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1038 - TAI CHI 2
Minimum Credits: 1
Maximum Credits: 1
Continuation of tai chi 1. Students should take tai chi 1 before advancing to tai chi 2.
Academic Career: UGRD

Course Component: Practicum
Grade Component: Letter Grade

PEDC 1141 - FITNESS FOR INSTRUCTORS

Minimum Credits: 2
Maximum Credits: 2
Fitness for instructors will teach the student the major elements of fitness. How to assess fitness levels, deter mine fitness goals, design fitness programs and facilities. The course will be a combination of classroom, exercise, and practical experiences.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1142 - PILATES FOR INSTRUCTORS

Minimum Credits: 2
Maximum Credits: 2
This course is for anyone interested in becoming an instructor of Pilates. The course will consist mostly of hands-on learning experience as well as a basic understanding of Pilate's theory. Upon successful completion of the course, the student will possess the basic knowledge needed to become a competent Pilate's instructor.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1143 - TEACHING MIND/BODY EXERCISE

Minimum Credits: 2
Maximum Credits: 2
This is a course designed to prepare students to become instructors for mind/body classes including pilates and yoga. The course will begin with a brief overview of the history behind various mind/body formats and then move to practical application. Students will learn basic anatomy related to exercise as well as how to properly teach exercises and breathing techniques. Upon completion of the course, students should be capable of instructing pilates and yoga classes, as well as have a comprehensive understanding of the theories and principles behind the disciplines. No prior instructing experience is necessary.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1211 - ATHLETIC INJURY PREVENTION

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide the student with an introduction to the athletic training profession. Topics include medical terminology, mechanisms of injury, and recognition and treatment of common athletic injuries to major body parts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PEDC 1212 - ATHLETIC INJURY PREVENTION LAB

Minimum Credits: 1
Maximum Credits: 1
An introduction to basic taping techniques and injury evaluation techniques used in the profession of athletic training. Basic supportive strappings and paddings for immediate care and competition are presented as well as basic joint evaluation procedures, massage, and crutch fitting.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade

PEDC 1233 - PRIN OF STRENGTH & CONDITNING

Minimum Credits: 2
Maximum Credits: 2
Instruction is provided describing the principles for development of pre-season, in-season and off-season strength and conditioning programs. Laboratory experiences will include the theory and techniques of operating strength training equipment.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1240 - AEROBICS FOR INSTRUCTORS

Minimum Credits: 2
Maximum Credits: 2
This course will prepare the student to teach various components of aerobic exercise, i.e., Aerobic fitness boxing (tae bo), hi-low impact, step aerobics, circuit training, interval bench, water aerobics, and the like. The course will not certify instructors, however, it will prepare the student to

obtain certification from national organizations with written and practical exams.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1300 - NUTRITION IN EXERCISE & SPORT

Minimum Credits: 1
Maximum Credits: 1
This course will provide the student with basic nutritional information as it pertains to sport and exercise performance. Topics of discussion include weight reduction and management, nutritional requirements for athletic performance and maintenance of a healthy lifestyle, proper eating habits, diet fads, disordered eating, and supplementation.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1302 - BASKETBALL SKILL ANALYSIS

Minimum Credits: 1
Maximum Credits: 1
The student will learn to analyze skills in basketball. Skills will include ball handling, shooting, rebounding, offensive moves, inside game, individual defense, and fast break games.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1303 - BASKETBALL COACHING

Minimum Credits: 1
Maximum Credits: 1
The student will learn the fundamentals of coaching basketball. Topics will include off-season and pre-season training, practice planning, scouting opponents, team offense and defense, team and practice rules and conduct, film break down, and bench coaching.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1304 - SOCCER SKILL ANALYSIS

Minimum Credits: 1
Maximum Credits: 1
The student will learn to analyze skills in soccer. Skills will include passing, receiving, individual ball possession, heading, shooting, kicking, throw-ins, goalkeeping, and technical development.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1305 - SOCCER COACHING

Minimum Credits: 1
Maximum Credits: 1
The student will learn the fundamentals of coaching soccer. Topics will include foundations, team management, conditioning, attack and defense tactics, systems of play, and laws of the game.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1306 - SWIMMING SKILL ANALYSIS

Minimum Credits: 1
Maximum Credits: 1
The student will learn to analyze skills in swimming. Skills will include hydrodynamic principles, freestyle, backstroke, breaststroke, butterfly, racing starts and turns, and swim meet skills.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PEDC 1307 - SWIM COACHING

Minimum Credits: 1
Maximum Credits: 1
The student will learn the fundamentals of coaching swimming. Topics will include PIAA rules and regulations, swim season planning, physiology of training, coaching techniques, the psychology and strategies of coaching, building a championship team, coaching administration, and professional certifications.

Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1308 - BASEBALL SKILL ANALYSIS

Minimum Credits: 1
Maximum Credits: 1
The student will learn to analyze skills in baseball. Skills will include pitching, hitting, playing infield and outfield, catching, base running, relays, rundowns, and pickoffs.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1309 - BASEBALL COACHING

Minimum Credits: 1
Maximum Credits: 1
The student will learn the fundamentals of coaching baseball. Topics will include pitching game plans, getting the most out of the players, offensive strategy, pitching analysis, game decisions, scouting opponents, and planning practices.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1310 - FOOTBALL SKILL ANALYSIS

Minimum Credits: 1
Maximum Credits: 1
The student will learn to analyze skills and formations in football. Topics will include defensive lines, linebackers, defensive backs, offensive lines, receivers, running backs, quarterbacks, and kickers.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1311 - FOOTBALL COACHING

Minimum Credits: 1
Maximum Credits: 1
The student will learn the fundamentals of coaching football. Topics will include off-season training, preseason programs, scouting opponents, offensive and defensive game plans, game decisions, game analysis, and practice plans.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1312 - WRESTLING SKILL ANALYSIS

Minimum Credits: 1
Maximum Credits: 1
The student will learn to analyze skills in wrestling. Skills will include the seven basic skills of wrestling, takedowns, mat wrestling, and miscellaneous techniques.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1313 - WRESTLING COACHING

Minimum Credits: 1
Maximum Credits: 1
The student will learn the fundamentals of coaching wrest ling. Topics will include foundations of coaching, practice organization, weight management, strength and conditioning, mental skills, drills, and officiating.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1314 - VOLLEYBALL SKILL ANALYSIS

Minimum Credits: 1
Maximum Credits: 1
The student will learn to analyze skills in volleyball. Skills will include forearm passing, setting, attacking, blocking, serving, individual defense, team drills, and team play.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1315 - VOLLEYBALL COACHING
Minimum Credits: 1
Maximum Credits: 1
The student will learn the fundamentals of coaching volley ball. Topics will include creating a volleyball team, creating effective practices, team serve receive, team defense, rules/officiating, off-season training, scouting opponents, and post-match analysis.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PEDC 1488 - WEIGHT MGT & PHYSICAL ACTIVITY
Minimum Credits: 2
Maximum Credits: 2
This course is designed for students who meet the clinical criteria for being overweight (body mass index > 25 kg/m2) and who desire to lose weight, improve their nutrition, and increase their exercise. This course will combine instruction on behavioral techniques to lose and maintain weight loss along with supervised cardiovascular and resistance exercise. Students will be assessed at the beginning and end of the course to monitor changes in weight, body composition, fitness and other factors.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

College of General Studies

CGS 0092 - MASTERING THE UNIVERSITY
Minimum Credits: 1
Maximum Credits: 1
This course is the first of a two course series aimed at helping students develop both academically and professionally. In this first course, students will explore strategies, techniques, and processes aimed at improving their critical thinking and communication skills, which ultimately will serve them well in both academic and professional environments. Additionally, students will examine elements of university culture and university policies with the aim of providing them with perspectives that can enhance their academic success and build their on-campus network. Ideal for transfer students and anyone looking to boost their academic performance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

CGS 0093 - FROM CLASSROOM TO CAREER
Minimum Credits: 1
Maximum Credits: 1
As the second course of a two course series on academic and professional development, this course asks students to further examine the ways that their academic plans and career goals align. Students will identify their current competencies and those they still need to acquire in order to succeed in identified careers. Building on their new understanding of their competencies and interests, students will develop strategies to reach their identified career goals, such as obtaining the internships, informational interviews, and job shadowing experiences necessary to attract prospective career opportunities and build their professional network. Ideal for career launchers and career changers, no prerequisites needed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

CGS 0094 - ENTREPRENEURIAL CONC & PLNNG
Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to assist students who are interested in starting a business by providing mentorship and realistic nurturing of their concepts. The college of general studies recognizes that entrepreneurship is a legitimate alternative to classical job searching. CGS students are uniquely qualified to be successful business leaders because of their maturity, well-rounded educational background and drive and initiative. This will be an online class, primarily taught using the blackboard system. Students will be required to not only prepare and submit relevant documents such as marketing plans and sales strategies on a weekly basis, but also to comment on submissions by fellow students. At the completion of this class, the successful student will have refined a business concept prior to developing a full-blown business plan.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CGS 0095 - CAPSTONE COURSE
Minimum Credits: 1
Maximum Credits: 1
This is primarily an on-line course, requiring weekly on-line participation, in addition to three in-person workshops. This course will provide students the opportunity to connect their academic competencies with their career goals. Students will utilize professional communication skills in order to effectively position themselves for appropriate career opportunities. Students will master career development techniques such as: practicing

interviewing skills, writing professional documents, developing networking contacts, identifying job/graduate school opportunities and compiling a professional career plan, in order to conduct a well-organized job search or prepare for graduate school.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

CGS 0100 - SERVICE-LEARNING IN BRAZIL
Minimum Credits: 6
Maximum Credits: 6
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

CGS 0101 - SERVICE-LEARNING IN BOLIVIA
Minimum Credits: 6
Maximum Credits: 6
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

CGS 0102 - SERVICE-LEARNING IN JAMAICA
Minimum Credits: 6
Maximum Credits: 6
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

CGS 1124 - FIELD STUDY: NORTHERN IRELAND
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

CGS 1124IS - FIELD STUDY: N IRELAND - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

CGS 1124OS - FIELD STUDY: N IRELAND -OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

CGS 1900 - CHOOSING YOUR PATH: INTERNSHIP
Minimum Credits: 1
Maximum Credits: 6
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

CGS 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
Allows advanced students to pursue topics and research of special interest which are not otherwise available.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

Comm Science and Disorders

CSD 1020 - NATURE OF LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
This course provides an overview of linguistics and psycholinguistics including phonologic, morphologic, syntactic, semantic, and pragmatic aspects of linguistic theory and behavior. Topics may also include neurolinguistics, developmental psycholinguistics, and the relationship between cognition and language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: PSY 0010

CSD 1021 - LANGUAGE DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
Students in this course become acquainted with current models and empirical evidence concerning the process of language acquisition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CSD 1020 or LING 1000; PLAN: Communication Science (BA, BPH) or Not Candidate for Degree CDS

CSD 1022 - TRANSCRIPTION PHONETICS

Minimum Credits: 3
Maximum Credits: 3
The study of the phonemics of American English and of broad and narrow phonetic transcription, utilizing the international phonetic alphabet. Attention will also be paid to the transcription of abnormal speech patterns.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Communication Science (BA, BPH)

CSD 1023 - ANATMY & PHYSIOLOGY OF SPEECH

Minimum Credits: 3
Maximum Credits: 3
An overview of the anatomy and physiology of the craniofacial complex and of structures involved in speech production including respiration, phonation, articulation and resonation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Communication Science (BA, BPH)

CSD 1024 - ANATMY & PHYSIOLOGY OF HEARING

Minimum Credits: 3
Maximum Credits: 3
Study of the anatomy of the outer and middle ears, the middle ear transformer action, and acoustic reflex. Review of cochlear anatomy and theories of the transducer function of the inner ear. Study of central auditory pathways and binatural hearing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: CSD 1024

CSD 1025 - HEARING SCIENCE

Minimum Credits: 1
Maximum Credits: 1
This is a one credit required experience for all students enrolled in the Anatomy and Physiology of Hearing" course (1024)."
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: CREQ: 1024

CSD 1026 - SPEECH SCIENCE

Minimum Credits: 3
Maximum Credits: 3
An introduction to speech physiology, acoustics, perception, models of speech production, research methodology and current topics in the area of speech science.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CSD 1023 and CSD 1027; PLAN: Communication Science (BA, BPH) or Not Candidate for Degree CDS

CSD 1027 - LAB IN ANAT/PHYSIOLGY OF SPCH

Minimum Credits: 1
Maximum Credits: 1
This is a one credit required experience for all students enrolled in the Anatomy and Physiology of Speech" course (1023)."
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: CREQ: 1023

CSD 1028 - LAB IN HEARING SCIENCE

Minimum Credits: 1
Maximum Credits: 1
This is a one credit required experience for all students enrolled in Hearing Science"."
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: PREQ: CSD 1024 and 1029; CREQ: CSD 1025; PLAN: Communication Science (BA, BPH) or Not Candidate for Degree CDS

CSD 1029 - LAB IN ANAT/PHYSLGY OF HEARNG

Minimum Credits: 1
Maximum Credits: 1
This is a one credit required experience for all students enrolled in the "anatomy and physiology of hearing" course (1024).
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: CREQ: 1024

CSD 1030 - LAB IN SPEECH SCIENCE

Minimum Credits: 1
Maximum Credits: 1
An introduction to speech physiology, acoustics, perception, models of speech production, research methodology and current topics in the area of speech science.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: PLAN: Communication Science (BA,BPH)

CSD 1089 - UNDERGRADUATE SPECIAL TOPICS

Minimum Credits: 1
Maximum Credits: 4
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

CSD 1099 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
Provides advanced students an opportunity to explore in depth an area of particular interest to them. It is the student's responsibility to find a faculty member willing to undertake such a tutorial.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

CSD 1101 - INTRO TO CLINICAL PROCESSES

Minimum Credits: 3
Maximum Credits: 3
This course overviews the clinical processes employed in the diagnosis and treatment of speech, language and hearing disorders. Videotaped observations of clinical sessions will be reviewed and discussed, with students preparing detailed observational reports.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: CSD 1232; CREQ: CSD 1230

CSD 1230 - INTRO SPEECH LANG PATHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to the field of communication disorders, by acquainting them with the major disorder types as well as the major activities conducted by speech-language pathologists.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CSD 1231 - EVAL TREATMNT COMMNCTN DISEAS

Minimum Credits: 3
Maximum Credits: 3
This course provides students with information concerning identification, assessment, and treatment of clients exhibiting various communication disorders.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Communication Science (BA, BPH)

CSD 1232 - INTRODUCTION TO AUDIOLOGY

Minimum Credits: 3
Maximum Credits: 3
A pre-professional course that introduces elements of the basic audiometric/impedance test battery, advanced tests of diagnostic utility, evaluation of special populations, and the role of the clinical audiologist in aural rehabilitation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CSD 1233 - INTRODUCTION TO RESEARCH

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to research methods in speech, language, and hearing sciences and communicative disorders. Students will learn how to read and critique research articles more effectively. They will also learn to generate research questions and to develop strategies for collecting data and evaluating experimental effects.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Communication Science (BA, BPH)

CSD 1234 - WRIT PRAC FOR EVAL & TREATMENT

Minimum Credits: 1
Maximum Credits: 1
A one-hour recitation section will be held weekly that will be dedicated to developing writing skills. Students will be required to produce samples of writing in many formats (article summaries and reviews, diagnostic reports, progress reports, and research reports) to prepare them to be effective communicators in the field of communication science and disorders. Students will be required to critique their own products as well as those of their peers.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Communication Science (BA, BPH)

CSD 1902 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 3
This course is designed to enable students to explore an area of particular interest in depth. The student(s) and instructor agree on the topic area, method of study, requirements and evaluation procedure at the outset of the course.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

CSD 1903 - IRELAND: HISTORY & HEALTHCARE

Minimum Credits: 1
Maximum Credits: 1

This a required course for students who have been offered a place in the summer SHRS multi-disciplinary study abroad program in Ireland, CSD 1904. In this seminar-based course, students will explore the history of ireland and the political and economic structure of Northern Ireland and the Republic of Ireland. This will serve as a foundation for further study of the health, educational and social service polices of each country and a basis for comparison with the US. Students will also review the medical, rehabilitation and educational sites to be visited during the summer program and become familiar with the conditions and disorders of the individuals served at each of these facilities.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

CSD 1904 - SHRS STUDY ABROAD IN IRELAND
Minimum Credits: 6
Maximum Credits: 6
This is an interdisciplinary study abroad opportunity offered through the department of communication science and disorders.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CSD 1903

CSD 1904IS - SHRS STUDY ABROAD IRELAND - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

CSD 1904OS - SHRS STUDY ABROAD IRELAND - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

CSD 1905 - SOCIAL HLTH ISSUES EAST AFRICA
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

Communications

COMMRC 0300 - COMMUNICATION PROCESS
Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to basic theories, models, and concepts in interpersonal, small group, organizational and intercultural communication.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 0310 - RHETORICAL PROCESS
Minimum Credits: 3
Maximum Credits: 3
This is an introductory course designed to give students a sense of the role rhetoric plays in the construction of our social, political, and cultural worlds, and to introduce students to traditional and contemporary approaches to the analysis of rhetorical discourse. Students will prepare a series of short performances for presentation in the recitation sections.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 0311 - RHETRCL PROCESS HONORS REC
Minimum Credits: 1
Maximum Credits: 1
The honors recitation section is an extension of the COMMRC rhetorical process course, with special emphasis on 1) the formulation of productive questions, 2) deliberate, informed invention, and 3) the conception of student-driven projects that leverage students' academic expertise and lived

experience for the generation of collaborative analyses and solutions to social, political, economic, and cultural problems. In pursuing these goals, students will examine and, through their individual coursework, enact the dialectic of Aristotelian and sophistic understandings of rhetoric: the discernment of the means of persuasion available to them and the capturing of possibilities in opportune moments.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

COMMRC 0320 - MASS COMMUNICATION PROCESS

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to the basic concepts of mass communication research and to the history and development of various media (TV., Radio, newspapers, magazines, etc.).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 0500 - ARGUMENT

Minimum Credits: 3
Maximum Credits: 3
This course is designed to acquaint students with fundamental principles of argumentation through the use of elementary debating techniques and strategies. Students will participate in several in-class debates on a question of policy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: College in High School - UGRD - students only.

COMMRC 0501 - ARGUMENT HONORS RECITATION

Minimum Credits: 1
Maximum Credits: 1
Students taking the three-credit COMMRC Argument 0500 course in fall term 2014 can enroll in this supplemental one-credit honors section that will meet separately for 75 minutes each week. The honors sidecar will provide high-achieving and motivated students the opportunity to explore class content in extra depth, through seminar-style discussions and assignments, such as public debate and advocacy projects, designed to cultivate and apply advanced argumentation skills and develop capacity for independent critical thinking. The one-credit sidecar is open to students with honors course eligibility (3.25 GPA or instructor permission).
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

COMMRC 0510 - DEBATE

Minimum Credits: 3
Maximum Credits: 3
This course offers academic credit for preparation for, and participation in, intercollegiate debate.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 0520 - PUBLIC SPEAKING

Minimum Credits: 3
Maximum Credits: 3
This course is designed to help students develop increased skill in public speaking by means of theory and practice. This course covers research, organization, style, delivery, and criticism of informative, deliberative, and ceremonial speeches.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 0530 - INTERPERSONAL COMMUNICATION

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to introduce students to theories and models of human communication in the face-to-face communication context. Focus of learning is on skill development; lecture, discussion, and practice of communication skills are used to facilitate student learning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 0540 - DISCUSSION

Minimum Credits: 3
Maximum Credits: 3
This course is designed to increase skills in critical thinking, decision making, and small group discussion. Students are introduced to theories of group process and practice step-by-step group problem solving related to contemporary issues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 0550 - SPEECH COMPOSITION

Minimum Credits: 3
Maximum Credits: 3
The course deals with the theory and practice of preparing manuscript speeches. Students will focus on several principles of speech composition, including stages of speech development, general analysis of the occasion, maintaining attention, sources of persuasion through argument and qualities of effective style.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 1070 - UNDERGRAD RESEARCH PROSEMINAR

Minimum Credits: 3
Maximum Credits: 3
The Undergraduate research experience opens horizons for students to envision pursuing scholarship as a profession. What does it mean to be a professional scholar? How have such conceptions changed through time, and what might the future hold for those who aspire to a 'life of the mind'? The academic research profession increasingly calls on scholars to explain their work to researchers from other fields, frame their research findings as useful contributions to society, and interact with public audiences. Hence a communication-based perspective provides a useful point of departure for students from the natural sciences, social sciences, and humanities alike to explore these opportunities and challenges in a collaborative, interdisciplinary seminar setting.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

COMMRC 1101 - EVIDENCE

Minimum Credits: 3
Maximum Credits: 3
This course examines the nature and structure of evidence and reason-giving in everyday discourse. Students develop critical skills in evaluating argument and reasoning by examining the evidential requirements of argument in specific rhetorical contexts; science, philosophy, and politics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 1102 - ORGANIZATIONAL COMMUNICATION

Minimum Credits: 3
Maximum Credits: 3
Students in this course are provided with an overview of the relationship between communication and organizing processes. The course emphasizes theories, principles, and concepts of organizational communication. Students learn to analyze the communication which occurs in organizations to recognize sources of communication breakdown and develop an awareness of strategies for prevention and/or resolution of communication on breakdown.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0300 or 0030 or 0100 or 0101 or 7300) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1103 - RHETORIC AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course explores the constitutive role that rhetoric plays in the formation of culture. Cultural texts and events will be examined both as reflecting and signifying practices. The course focuses on rhetoric's relation to ideology, power, and desire, as well as to class formations and sexual divisions. Selecting two of the above perspectives, students will examine how cultural practices constitute and are constituted by rhetoric.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0320 or 0081 or COMM 0102) and [Engcmp 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1104 - POLITICAL COMMUNICATION

Minimum Credits: 3
Maximum Credits: 3
This course examines the way methods of symbol use are employed in the political arena. Persuasive techniques will be studied as they are used in public debates over issues of policy. Rhetorical criticism will be the primary mode of analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0320 or 0081 or COMM 0102) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1105 - TELEVISION AND SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This course explores the relationship between television and society. It familiarizes students with the history of the broadcast industry along with related legal, political, and economic issues. The course focuses on analyzing various television programs as constitutive of and constituted by social relations (class, gender, and race).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0320 or COMM 0102) and [ENGCMP 0200 or(ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1106 - SMALL GROUP COMMUNICATION

Minimum Credits: 3
Maximum Credits: 3
Principles of small group communication are examined in this course. In particular, the examination will reveal the principles of group entry, group formation, group cohesiveness, group verbal and nonverbal message exchanges, group leadership, group problem solving and discussion, and group performance and satisfaction. Individual beliefs, attitudes and behaviors will be compared and contrasted with group beliefs, attitudes and behaviors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0300 or 0030 or 0100 or 7300 or COMM 0101) and [ENGCMP 200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1109 - NONVERBAL COMMUNICATION

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to examine the ways we communicate nonverbally. By nonverbal communication is meant that form of communication wherein messages are sent by virtue of an agent's physical characteristics, adornment, eye behavior, design and selection of environment, spatial relationships, utilization of time, touching behavior, body movements, the choice of objects to fill space, and vocal behavior. Principles and applications of nonverbal communication are discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0300 or 0030 or 7300 or COMM 0101) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1110 - THEORIES OF INTERPERSONAL COM

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to introduce students to the ways in which researchers conceptualize and study interpersonal communication. Emphasis is upon the various issues which different conceptualizations raise in the study of human relationships. Students will have the opportunity to test the relevancy of insights each conceptualization provides for understanding the communication practices found in natural interactions and personal experience.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0300 or 0030 or 0100 or 7300 or COMM 0101) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1111 - THEORIES OF PERSUASION

Minimum Credits: 3
Maximum Credits: 3
This course surveys theories of persuasion that have been articulated during the twentieth century. It seeks to compare and contrast research about how the spoken word and the visual image influence public belief and action.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0320 or 0081 or COMM 0102) and (COMMRC 0520 or 0052 or COMM 0104) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1112 - THEORIES OF RHETORIC

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to introduce students to major theories of rhetoric ranging from the sophists to some modern theorists.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0081) and (COMMRC 0520 or 0052 or COMM 0104) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1113 - AFRCN AMERICANS AND MASS MEDIA

Minimum Credits: 3
Maximum Credits: 3
This course is a critical analysis of mass media ownership, effects and content as they relate to African Americans. The primary media are newspapers, radio, and television. For comparative purposes, media content related to children, other women are used.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 1114 - FREEDOM OF SPEECH AND PRESS

Minimum Credits: 3
Maximum Credits: 3
The purpose of the course is to provide students with a critical understanding of the historical themes and contemporary issues involved in the debate over free speech. This course examines philosophies of expression from Plato through the most recent supreme court decisions. Study focuses on cases, major doctrines, and competing interpretations of the first amendment to explore the freedoms and limits of individual expression and regulation of communication industries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0320 or 0081 or COMM 0102) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1115 - AFRICAN AMERICAN RHETORIC

Minimum Credits: 3
Maximum Credits: 3
The purposes of this course are; a historical-critical re view of scholarship in African American rhetoric; and a theoretical-conceptual framework for the study of African American rhetoric. This course places considerable emphasis on the African roots of African American rhetoric, but the ultimate concern is with African Americans' behavior. The course covers consequences of African and European inter actions in America, factors that forged the distinctive aspects of African American rhetoric. The effects of culture, racism, colonialism, and social class on communication.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 1116 - RHET OF AMER COUNTRCULT

Minimum Credits: 3
Maximum Credits: 3
This course is concerned with social protest and the modern conception of the outsider, people and groups who choose to separate themselves, or are unwillingly separated, philosophically and ideologically from the society within which they live. One of the most recognizable examples of living the life of the outsider was embodied in the beat generation of the 1940's and 1950's, who embraced self-indulgence as well as literary themes of disenchantment and disengagement. A second example is the counterculture of the 1960's, the hippie generation, who tended to express themselves more in mass countercultural themes like student anti-war activism, popular, socially activist music, and film. Requirements include: discussion participation, 3 short papers (3 pages), 3 longer papers (8 pages), and one class presentation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 1117 - 21ST CENTURY PUBLIC ARGUMENT

Minimum Credits: 3
Maximum Credits: 3
The course examines selected moments in American public rhetoric in the 21st century by examining artifacts, speakers and social movements that characterize the U.S. During this period.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0320 or 0081 or COMM 0102) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1118 - PRESIDENTIAL RHETORIC 1

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the rhetorical analysis of presidential addresses as well the communication styles and methods of U.S. Presidents from George Washington through and including Harry Truman. It is important to understand that while the primary focus of the course is on the analysis of political communication style of the presidents, in order to be able to analyze and evaluate the complex nature of both style and content of the addresses and comments, it is necessary to have an awareness of the background, history and events of the day as each may have impacted and/or precipitated the addresses /comments. Thus, an overview of those critical areas as well as basic communication theory and audience analysis will be an integral part of the course. Course components will include two written projects `speech analyses, one of which will serve as the basis for an individual oral presentation; one group project, a midterm and a final exam.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0320 or 0081 or COMM 0102) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1119 - PRESIDENTIAL RHETORIC 2

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the rhetorical analysis of presidential addresses as well the communication styles and methods of U.S. Presidents from Dwight Eisenhower through and including George W. Bush it is important to understand that while the primary focus of the course is on the analysis of the political communication style of the presidents, in order to be able to analyze and evaluate the complex nature of both style and content of the addresses and comments, it is necessary to have an awareness of the background, history and events of the day as each may have impacted and/or precipitated the addresses/comments. Thus, an overview of those critical areas as well as basic communication theory and audience analysis will be an integral part of the course. Course components will include two written projects, speech analyses, one of which will serve as the basis for an individual oral presentation; one group project, a midterm and a final exam.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0320 or 0081 or COMM 0102) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1120 - RHETORIC OF COLD WAR

Minimum Credits: 3
Maximum Credits: 3
Course examines selected moments in rhetorical aspects of the cold war with a focus on language, perceptions, arguments and the formation of public policy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0320 or 0081 or COMM 0102) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1121 - HISTORY OF MASS MEDIA

Minimum Credits: 3
Maximum Credits: 3
This course provides an in-depth historical examination of U.S. Media (newspapers, magazines, radio, television and/or advertising). Emphasis is placed on the media's technological, political and cultural impact. Topics may vary depending on the particular historical period to be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0320 or COMM 0102) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1122 - MEDIA CRITICISM

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to major trends in media criticism (e.G., Psychoanalysis, genre analysis, feminist theory, and cultural studies). Course readings and discussions will focus primarily on television texts.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0320 or COMM 0102) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1123 - RHETORICAL CRITICISM

Minimum Credits: 3
Maximum Credits: 3
The course on rhetorical criticism focuses on the history, methods, and practice of rhetorical criticism in American universities during the twentieth century. The course has been designed to help the student become acquainted with contemporary methods of rhetorical criticism through a combination of lectures, discussions, and practical applications. In addition, the course has been designed to help the student improve his or her writing abilities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0520 or 0052 or 0081 or COMM 0104) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1125 - MEDIA THEORY

Minimum Credits: 3
Maximum Credits: 3
This course examines the major theoretical approaches in contemporary media studies. Emphasis is placed on understanding the basic tenets of these theoretical models and how they are applied in analyses of media texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0320 or COMM 0102) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1126 - MEDIA AND CONSUMER CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course will examine consumer culture in the twentieth and twenty-first century us. It examines advertising, the rise of the brand, and their roles in the commercialization of mass media. Of particular importance will be the role that race, class, and gender have played in shaping consumer culture (and vice versa), as well as the significance of the shift from a society based on an understanding of citizens based on democratic practices to one based on consumerist practices.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0320 or COMM 0102) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1142 - THEORIES OF MODERN RHETORIC

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to examine modern theoretical orientation in rhetorical studies. Each orientation will be approached in terms of a) the assumptions it makes about speakers/writers, speeches/texts, and listeners/readers; b) the issues it raises about the production and critique of discourse; c) the larger cultural context within which it was articulated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0081) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1143 - KNOWLEDGE, POWER, & DESIRE

Minimum Credits: 3
Maximum Credits: 3
This course examines issues of power, desire and knowledge in the work of Michel Foucault, and contrasts them with ideas of knowledge production in contemporary Anglo-American philosophy of science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0081) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1145 - THE HISTORY OF RHETORIC

Minimum Credits: 3
Maximum Credits: 3
This course surveys the 2500 year history of rhetoric, beginning with the Greek sophists and ending with contemporary post-structuralist theorists. Four main problems tradition ally associated with the ambiguous role of rhetoric in Western culture are highlighted in the course. Two of these are practical (the problem of voice and the problem of the public sphere), and two theoretical (the problem of epistemic and the problem of moral education).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0081) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1147 - THE RHETORIC OF SCIENCE

Minimum Credits: 3
Maximum Credits: 3
The course examines how scientists persuade and dissuade each other and broader publics in the creation and dissemination of knowledge. It addresses such topics as: rhetoric and the production of scientific findings, communication of scientific knowledge to various publics, persuasive influences on funding decisions, how the public might better understand or influence scientific processes, and the intersection of science and public policy. These will be studied in the context of major science-related controversies of the recent past.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0081) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1148 - RHETORIC AND HUMAN RIGHTS

Minimum Credits: 3
Maximum Credits: 3
This course focuses upon discourse about human rights--both the affirmation and the denial of human rights. The course also examines the practice of rhetorical criticism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0081) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1149 - ENVIRONMENTAL RHETORIC

Minimum Credits: 3
Maximum Credits: 3
The primary purpose of this course is to introduce upper division undergraduates to some of the most important rhetorical resources utilized by various participants in contemporary American environmental controversies. The first unit of the course is devoted to various historical and contemporary cross-cultural conceptions of the natural world and the place of humans within what to those in our culture is called the natural 'environment.' In this unit we compare briefly European, Asian and native-American conceptions and the various rhetorics used in each in the attempt to persuade those with differing views. The second unit quickly reviews the development of American environmental rhetorics from the early European settlement of the new world, through the colonial period, the early national era and into the late 19th century, by which time many of the signal concepts and rhetorical resources which continue to inform 21st century American discourse on wildness, nature, environment and ecology were first elaborated. Unit three examines some of the most significant and contention environmental disputes of the 20th century; including wilderness preservation, the human causes of the great 'dust bowl' devastation of farmland in the 1930s, the sudden relevance of the old science of 'ecology,' the huge influence of Rachel Carson's rhetorical masterpiece, silent spring, exposing the dangers of wide scale use of the pesticide DDT, and the growth of new movements against nuclear, chemical, and biological contamination as well as air, water, oceanic, solid waste, and many other forms of pollution, including even the at first ridiculed dangers of noise and light pollution.. Unit four then looks at the environmental movement as it becomes truly global, beginning symbolically with the first 'earth day' activities, protests and teach-ins in 1970, which have continued annually to this day. Unit five will look at the acrimonious 1980s dispute between the new 'deep ecology' movement and the more mainstream environmental lobbying organizations ' like the sierra club, the nature conservancy etc. ' Which focus primarily on lobbying congress for environmental reforms, rather than advocating a complete revolution in the way each individual human lives. Unit six will then treat some of the many enormous new environmental challenges of the 21st century, from still unrestrained global warming, to ozone depletion, to the depletion of fish stocks, to deforestation and desertification, to increasing human population, to widespread species extinctions, to the depletion of natural resources, from oil, to arable land, and even potable water, and so forth. Students should leave the course with a rigorous understanding of where contemporary environmental rhetorical resources come from and how they continue to operate in all manner of contemporary environmental and ecological controversies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 1150 - SURVEY OF BRITISH BROADCASTING

Minimum Credits: 3
Maximum Credits: 3
To survey the history and development of the British Broadcasting system. The philosophy behind government intentions will be examined, as will technical progress and finance. The regulatory framework will be considered and the impact of the system on British Society assessed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

COMMRC 1151 - BRITISH BROADCASTING TODAY

Minimum Credits: 3
Maximum Credits: 3
To examine the variety and range of programme genres broad cast on British TV and radio. Reference will be made to the philosophy and industry structures which nurture them. New developments in technology, regulation and international markets will be considered as will scheduling issues. The cultural underpinnings of the system will be analyzed and internal industry and political debates will be addressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

COMMRC 1156 - ETHICS AND MEDIA

Minimum Credits: 3
Maximum Credits: 3
This course will address the principal ethical issues facing print and broadcast journalism. It will consider the practical dilemmas reporters and editors have to deal with and relate them to a moral framework. The focus will be on the real time arguments that arise almost daily in media coverage of matters of public controversy - crime, war, privacy and the like. The course objectives are to learn how to evaluate the performance of the media and to help students develop their own ethical philosophy. Problems of regulation and codes of practice will also be examined. Students will be able to take advantage of London's global importance as a media hub and the distinctive media culture of the UK through a program of case studies, visits and guest lectures by practitioners.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

COMMRC 1160 - VISUAL RHETORIC

Minimum Credits: 3
Maximum Credits: 3
This course centers on research concerning visual rhetoric. It will concentrate primarily on a range of interpretive and critical approaches for studying instances of visual communication. Students will write three papers demonstrating their ability to analyze and interpret visual texts. The method of instruction includes lecture, discussion, film and practice workshops. Considerations of gender, sex, race, sexuality, and class will be interwoven throughout the course materials and discussions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [ENGCMP 0200 or (ENGCMP 0203 or ENGCMP 0205 or ENGCMP 0207 or ENGCMP 0208 or 0250 or FP 0003 or FP 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)] and (COMMRC 0310 or 0081)

COMMRC 1161 - COMMUNICATION ETHICS

Minimum Credits: 3
Maximum Credits: 3
Contemporary society offers a wide variety of topics for ethical consideration: deception, lying, fidelity in relationships, hate speech, harassment, privacy, intellectual property, pornography and many others. This class examines the ethical dimensions of communication through the prism of case studies. Students are introduced to traditional forms of ethical reasoning as well as emerging concerns raised by the internet and digital media. One major question that the course addresses is the following: do the internet and new information technologies represent qualitatively new ethical challenges or are these versions of traditional ethical dilemmas? The bulk of class time uses discussion and case studies to emphasize the practice of ethical deliberation and the ability to reason about ethical issues and problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 1170 - CROSS CULTURAL COMMUNICATION

Minimum Credits: 3
Maximum Credits: 3
This course will increase the understanding of basic concepts and principles regarding communication between people from different racial, ethnic, and cultural backgrounds within Australia, including aboriginal, and immigrant populations. The course will use theory and research in the area of intercultural communication, and will help you develop this knowledge in understanding and improving human interaction in both the study abroad environment and international contexts. It will develop effective intercultural communication skills for learning abroad in Australia, and focus on a study of the social, structural and historical dimensions of relations between and among racial, ethnic and gender groups in contemporary Australian society. This course is designed to increase student's awareness and appreciation for the complexity of intercultural communication skills in everyday

situations. It offers a critical perspective on current theory and research in intercultural communication. The primary objective of the course is to develop cultural relativist attitude.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

COMMRC 1175 - COMMUNICTN & GLBL COMPETENCE

Minimum Credits: 3
Maximum Credits: 3
With the rise of global mobility and communication, encountering people from a variety of cultures, and the need for effective communication, is commonplace. This course explores the interaction between culture and communication and introduces students to the knowledge and skills necessary to attain global competence. In addition, this course introduces the construct of global competence; creates the opportunity to analyze and evaluate how our own cultural identity influences communication with others; engages interaction with the host culture; and prepares the students with knowledge and skills to be effective and ethical intercultural communicators. This class is held in Dublin and will include lectures, class discussions, simulations, interactive examples, case studies, media presentations cultural encounters, and field experiences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

COMMRC 1520 - ADVANCED PUBLIC SPEAKING

Minimum Credits: 3
Maximum Credits: 3
This course teaches students advanced skills needed in the preparation, delivery, and evaluation of formal public address. Advanced public speaking extends what was learned in the introductory public speaking course by examining more advanced theories and strategies of public address, critically evaluating public discourse in a variety of settings and sharpening the extemporaneous delivery skills of the student.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

COMMRC 1710 - SENIOR THESIS IN COMMUNICATION

Minimum Credits: 3
Maximum Credits: 3
Research on a special project in rhetoric, communication, or media. The study will be embodied in a thesis supervised by the instructor and approved by additional departmental faculty.
Academic Career: UGRD
Course Component: Thesis Research
Grade Component: Satisfactory/No Credit

COMMRC 1730 - SPECIAL TOPICS IN COMMUNICTN

Minimum Credits: 3
Maximum Credits: 3
This course covers a specialized topic in communication. Topics vary every semester.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0300 or 0030 or 0100 or 7300 or COMM 0101) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1731 - SPECIAL TOPICS IN RHETORIC

Minimum Credits: 3
Maximum Credits: 3
This course covers a specialized topic in rhetoric. Topics vary every semester.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COMMRC 0310 or 0081) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1732 - SPECIAL TOPICS IN MASS COM

Minimum Credits: 3
Maximum Credits: 3
This course covers a specialized topic in mass communication. Topics vary every semester.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Course Requirements: PREQ: (COMMRC 0320 or COMM 0102) and [ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102)]

COMMRC 1900 - COMMUNICATION INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
Internships provide practical work experience related to the student's course of study.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

COMMRC 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
Independent study is a program of academic reading and research taken under the direction of a faculty sponsor.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

COMMRC 1904 - UNDERGRAD TEACHING EXPERIENCE

Minimum Credits: 1
Maximum Credits: 3
Provides an opportunity for qualified Undergraduate students, under the guidance of a classroom teacher, to have a first-hand experience with peer mentoring and classroom instruction as a UTA. Participation is by instructor invitation only.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

COMMRC 1905 - DIRECTED RESEARCH

Minimum Credits: 1
Maximum Credits: 3
A course for upper level students who have completed at least 45 credits (12 credits in COMMRC) who wish to conduct field research in communication. The course is an opportunity for students to create a semester-long self-designed project resulting in a body of advanced work. Regular progress reports and critiques are scheduled with the instructor individually.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

Computer Engineering

COE 0031 - LINEAR CIRCUITS AND SYSTEMS 1

Minimum Credits: 4
Maximum Credits: 4
The analysis of linear circuits. Electric variables and circuit elements; kirchoff's and ohm's law; mesh and node equations; thevenin and norton equivalent circuits; first and second-order circuits; time domain analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 00150 or 0230 or 0231 or 0235) and (PHYS 0152 or 0175 or 0202 or 0476); PROG: Swanson School of Engineering

COE 0041 - LINEAR CIRCUITS AND SYSTEMS 2

Minimum Credits: 3
Maximum Credits: 3
Sinusoidal steady-state analysis, network functions, real and reactive power, three-phase circuits, laplace transform method, two-port networks, and fourier series.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0031 or COE 0031; PROG: Swanson School of Engineering

COE 0132 - DIGITAL LOGIC

Minimum Credits: 3
Maximum Credits: 3
Introduction to digital systems, boolean algebra, minimization of logic functions, combinational and sequential circuit design.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 00150 or 0230 or 0231 or 0235) and (PHYS 0152 or 0175 or 0202 or 0476); PROG: Swanson School of Engineering

COE 0142 - COMPUTER ORGANIZATION

Minimum Credits: 3
Maximum Credits: 3
Digital computer data representation, instruction formats, control, memory and input-output units, microprocessors, minicomputers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0132 or COE 0132; PROG: Swanson School of Engineering

COE 0147 - COMPUTR ORGZTN & ASSMBLY LANG

Minimum Credits: 3
Maximum Credits: 3
This course provides a detailed introduction into the basics of computer design common to most computer architectures including topics of digital computer data representation, arithmetic and logic units, instruction formats, control, microprocessor architecture, and memory systems. This course includes a heavy focus on MIPS assembly language and its interaction with a RISC computer architecture. This course satisfies the prerequisite to CS 1541/COE 1541 computer architecture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: COE 0132 or ECE 0132; CREQ: COE 0445 or CS 0445; PROG: Swanson School of Engineering (UENGR)

COE 0401 - INTRMEDT PROGRMMING USING JAVA

Minimum Credits: 4
Maximum Credits: 4
This course is a rigorous introduction to the fundamental concepts and techniques of computer programming using the java programming language. This is a first course for students who intend to major in computer science or computer engineering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

COE 0441 - DISCRETE STRUCTURES FOR CS

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to understand and use abstract discrete structures that are the backbones of computer science. In particular, this class is meant to introduce logic, proofs, sets, relations, functions, counting, and probability, with an emphasis on applications in computer science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0031; PROG: Swanson School of Engineering

COE 0445 - DATA STRUCTURES

Minimum Credits: 3
Maximum Credits: 3
This course emphasizes the study of the basic data structures of computer science (stacks, queues, trees, lists) and their implementations using the java language. Included in this study are programming techniques which use recursion, reference variables, and dynamic memory allocation. Students in this course are also introduced to various searching and sorting methods and are expected to develop an intuitive understanding of the complexity of these algorithms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: COE 0401 or CS 0401; PROG: Swanson School of Engineering

COE 0447 - COMPUTR ORGZTN & ASSMBLY LANG

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to study the components of computing systems common to most computer architectures. In particular, this class is meant to introduce data representation, types of processors, memory types, and hierarchy, and device drivers. The students will learn mips assembly language, the design of arithmetic and logic units, and basic designs for risc processors.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: COE 0445 or CS 0445; PROG: Swanson School of Engineering

COE 0449 - INTRO TO SYSTEMS SOFTWARE

Minimum Credits: 3
Maximum Credits: 3
This course covers topics related to the interface of hardware and software. It covers device interface and hardware synchronization at the loWest level of the operating system, the linkage of operating system services to application software, and the fundamental mechanisms for computer communications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COE 0132 or ECE 0132) and (COE 0445 or CS 0445); CREQ: COE 0142 or 0147 or 0447 or ECE 0142 or CS 0447; PROG: Swanson School of Engineering

COE 0501 - DIGITAL SYSTEMS LABORATORY

Minimum Credits: 3
Maximum Credits: 3
This course and laboratory introduces students to the basic concepts of digital circuits, simulation and instrumentation, systems composed of discrete devices, logic gates, combinatorial and sequential circuits are designed, simulated, built and tested.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ECE 0031 or COE 0031) and (ECE 0132 or COE 0132); PROG: Swanson School of Engineering

COE 1150 - INTRO TO COMPUTER NETWORKS

Minimum Credits: 3
Maximum Credits: 3
The course will cover problem-solving on interconnected computers where the potential methods of interconnection are fundamental to the system design. Interconnection will include serial point-to-point and multiple access serial/parallel methods and protocols. There will be an emphasis on mathematical fundamentals related to networked systems. The student will learn the operation of IAN networks such as 10base2, 100baset, token ring, as well as USB and other standard protocols.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

COE 1160 - INTRO EMBEDDED SYSTEM DESIGN

Minimum Credits: 3
Maximum Credits: 3
Introduction to the concepts and techniques of embedded system design including requirements, specifications, design implementation and testing. The laboratory is centered around the Altera Excalibur system and the IOS core processor. Senior design course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

COE 1161 - EMBEDDED COMPUTER SYS DESIGN

Minimum Credits: 3
Maximum Credits: 3
Organized as a full term project carried out by student design groups. A complex embedded system will be designed, implemented and tested using Altera and other cad tools. Grade will be based on project reviews and the final project report. Proper design process will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

COE 1170 - SPECIAL TOPICS: COMPUTER

Minimum Credits: 3
Maximum Credits: 3
An undergraduate course dealing with special topics of current interest in computers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

COE 1180 - CMPTL MODLNG & SIMUL ENGNRS

Minimum Credits: 3
Maximum Credits: 3
In this course students will develop several software programs to model and simulate a range of different physical systems. The course will focus on building software simulations of systems in terms of underlying model objects, world representations, interactions between objects, and a variety of models for time. Some experience in C/C++ programming is assumed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: COE 0445 or CS 0445; PROG: Swanson School of Engineering (UENGR)

COE 1185 - COMPUTER SYSTEM INTERFACING

Minimum Credits: 4
Maximum Credits: 4
Course and lab on microprocessor systems with particular emphasis on interfacing. Course is centered around the 80x86 series of processors and will use the pc as example platforms for development and as system component. It's expected that the student will become familiar with 80x86 assembly language through homework and specific examples. Interface examples will include the processor/memory/i-o, serial, parallel and networks using standard hardware available for a pc platform. The course brings together the various concepts of development, software, hardware, and standards.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0142 or COE 0142 or CS 0447; PROG: Swanson School of Engineering

COE 1186 - SOFTWARE ENGINEERING

Minimum Credits: 4
Maximum Credits: 4
This course and laboratory introduces classical and object-oriented software engineering. Software requirements, specification, object-oriented analysis, design, implementation, integration, and maintenance are covered. Each of these phases is examined on a practical level through a semester long, formal design project that involves the creation of a java-based internet application. Additional java-related topics are taught, including java applets, custom networking, remote database access, SQL, and multimedia extensions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ECE 0142) or (COE 0142 or 0147 or 0447) or (CS 0447) and (COE 0401 or CS 0401); PROG: Undergraduate Swanson School of Engineering

COE 1192 - INTRODUCTION TO VLSI DESIGN

Minimum Credits: 4
Maximum Credits: 4
Introduction to the concepts and techniques of modern integrated circuit design. Use of Computer Aided Design (CAD) tools for circuit design and simulation. Senior design course. Includes a laboratory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0142 or (COE 0142 or 0447) or CS 0447; PROG: Swanson School of Engineering

COE 1193 - ADVANCED VLSI DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course is organized as a full semester project in conjunction with a small amount of lecture material on advanced CMOS digital design techniques, as well as the group design process itself. Students form groups of 3 to 5 per group that design and implement different VLSI projects which are then fabricated by MOSIS and returned for testing. Focus is on teamwork with frequent oral/written reports.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

COE 1501 - ALGORITHM IMPLEMENTATION

Minimum Credits: 3
Maximum Credits: 3
This course covers a broad range of the most commonly used algorithms: some examples include algorithms for sorting, searching, encryption, graph searching, pattern matching, geometric intersection, compression, and local search. The students will implement and test several algorithms. The course is programming-intensive.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COE 0132 or ECE 0132) and (COE 0445 or CS 0445); PROG: Swanson School of Engineering

COE 1502 - ADV DIGITAL DESIGN CONCEPTS

Minimum Credits: 3
Maximum Credits: 3
This course and laboratory builds on the student's knowledge of digital design, computer architecture principles, and assembly language. It covers both theoretical and practical considerations in the design of modern computing systems using computer aided design tools and programmable logic devices.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: COE 0501 or ECE 0501; CREQ: COE 1541 or CS 1541; PROG: Swanson School of Engineering

COE 1503 - ADVANCED CMP ARCH DESIGN LAB

Minimum Credits: 3
Maximum Credits: 3
This course is the second semester in an undergraduate digital design sequence: COE 1502, COE 1503. The course is focused on design experiences coupled to advanced topics in computer architecture and systems design. The goal of the course is to reinforce and extend concepts learned in COE 1541 (computer architecture) and COE 0449 (systems software) in the context of techniques such as hardware/software co-design, test and verification, and timing analysis. It is intended to be an advanced design elective in the undergraduate COE curriculum and will also be an elective for EE and CS undergraduates with an interest in hardware and system design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: COE 1502

COE 1520 - PRGMG LANG FOR WEB APPLCTNS

Minimum Credits: 3
Maximum Credits: 3
Various programming paradigms will be studied using java and scripting languages. The use of java in programming web based applications, network applications, and the use of the extensive java libraries will be studied. The programming paradigm of building software by gluing components will be explored through the use of scripting languages such as PERL and JavaScript. Applications include developing guis and internet programming.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: COE 0445 or CS 0445; PROG: Swanson School of Engineering

COE 1530 - SOFTWARE ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to provide a general survey of software engineering. Some of the topics covered include: project planning and management, design techniques, verification and validation, and software maintenance. Particular emphasis is on a group project in which a group of students implement a system from its specification.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: COE 0445 or CS 0445; PROG: Swanson School of Engineering

COE 1541 - INTRO TO COMPUTER ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3
Examination of computer architecture and hardware system organization. Topics include: CPU organization, sequential and microprogrammed control, instruction set implementation, memory organizations, input/output structure, peripherals and computer communications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COE 0142 or 0147 or 0447 or ECE 0142 or CS 0447) and (COE 0445 or CS 0445) and (COE 0449 or CS 0449); PROG: Undergraduate Swanson School of Engineering

COE 1550 - INTRO TO OPERATING SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
An introduction to basic concepts of operating systems common to most computer systems, which interfaces the machine with upper-level programs. This course will introduce processes as processing unit, process management, concurrency, communication, memory management and protection,

and file systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COE 0142 or 0147 or 0447 or ECE 0142 or CS 0447) and (COE 0449 or CS 0449); PROG: Undergraduate Swanson School of Engineering

COE 1622 - INTRO TO COMPILER DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course will introduce the basic concepts of compiler design and implementation. Topics include lexical analysis, various types of parsers, intermediate and object code generation and code optimization. The material will be presented from an implementation point of view rather than a formal approach. The impact of language design on compilers will also be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COE 0142 or ECE 0142 or COE 0447 or CS 0447 or COE 0147) and (COE 0445 or CS 0445); PROG: Swanson School of Engineering

COE 1631 - SOFTWARE DESIGN METHODOLOGY

Minimum Credits: 3
Maximum Credits: 3
Construction of large computerized systems proceeds through the stages of requirements analysis, specification, and implementation. This course deals with requirements analysis and specification, in particular, methodologies for improving the reliability of specifications (executable specifications and system phototypes).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (COE 0132 or ECE 0132) and (COE 0445 or CS 0445); PROG: Swanson School of Engineering

COE 1645 - INTRO HIGH PERF COMPTNG SYSTMS

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the architecture of and software techniques for parallel and high performance computing systems. The content includes fundamental aspects of vector processing, shared-memory, and distributed-memory systems. Specific applications in parallel processing paradigms will be covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

COE 1651 - ADVANCED SYSTEMS SOFTWARE

Minimum Credits: 3
Maximum Credits: 3
To discuss in depth some advanced features of fundamental importance in the design of operating systems. The subjects discussed include interprocess communication, real-time scheduling, advanced file systems, security and protection mechanisms. The objective of the course is to provide an awareness of the known solutions to these problems and to the limitations of these solutions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

COE 1885 - DEPARTMENTAL SEMINAR

Minimum Credits: 0
Maximum Credits: 0
Seminars are designed to acquaint the student with aspects of engineering that are not normally encountered in classes and school activities and include a wide range of topics such as the significance of engineering as a profession, ethical problems in engineering, and skills required for a successful engineering career.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

COE 1896 - SENIOR DESIGN PROJECT

Minimum Credits: 3
Maximum Credits: 3

A full-term engineering project involving definition, literature search, prototype design, and construction, with written and oral reviews. Senior design course.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: (ECE 0041 or COE 0041) and (COE 0445 or CS 0445); PROG: Swanson School of Engineering

COE 1898 - ENGINEERING PROJECT
Minimum Credits: 1
Maximum Credits: 3
An investigation of an approved engineering subject under the supervision of a faculty monitor. Must be approved in advance by the faculty monitor and the department chair.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

Computer Science

CS 0002 - INTRO COMPUTR PROGRMG-FORTRAN
Minimum Credits: 3
Maximum Credits: 3
This introductory course is designed for students intending to major in an area other than computer science. Course objectives: problem analysis and the development of algorithms; designing, coding, and documenting programs using techniques of good programming style; learning the Fortran language; learning basic concepts of structured programming.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CS 0003 - INTRO COMPUTER PROGRMMNG-COBOL
Minimum Credits: 3
Maximum Credits: 3
This is first course in computer science. It is designed especially for student majoring in an area of business or who are interested in business applications of computer science. Objectives of this course include problem analysis with special emphasis on data processing problems; learning the cobol language; designing, coding, and documenting programs using techniques of good programming style.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CS 0004 - INTRO COMPUTER PROGRMMNG-BASIC
Minimum Credits: 3
Maximum Credits: 3
This is a first course in computer science. It is designed to be of special interest to students majoring in one of the social sciences or humanities. Objectives of this course include use of the computer in an interactive environment; problem analysis and the development of algorithms; learning the basic language; designing; coding; and documenting programs using techniques of good programming style.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: College in High School - UGRD - students only.

CS 0007 - INTRO TO COMPUTER PROGRAMMING
Minimum Credits: 3
Maximum Credits: 3
This is a first course in computer science programming. It is recommended for those students intending to major in computer science who do not have the required background for cs 0401. It may also be of interest to students majoring in one of the social sciences or humanities. The focus of the course is on problem analysis and the development of algorithms and computer programs in a modern high-level language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: College in High School - UGRD - students only.

CS 0008 - INT COMPUTER PRGMG WITH PYTHON
Minimum Credits: 3
Maximum Credits: 3
This is course is designed as a first course in computer science programming. It is recommended for those students majoring in one of the natural sciences, social sciences, or humanities who wish to learn the fundamentals of programming. It is also useful to students intending to major in computer science who do not have the required background for CS 0401. The focus of this course is on problem analysis, the development of

algorithms and computer programs in python. Instruction will be provided to students interested in taking CS 0401 in converting python programs to Java.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CS 0009 - INTRO CMP PRGMG WITH PROCNG

Minimum Credits: 3
Maximum Credits: 3
This course is designed as a first course in programming with a strong emphasis on graphical output including animation in 2-D and 3-D, JPEG and video manipulation at the pixel array level, key and mouse event processing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CS 0090 - SUSTAINABILITY AND COMPUTING

Minimum Credits: 3
Maximum Credits: 3
What is the environmental impact of websites such as Facebook or Amazon? How is society affected by throwing away old computers? The purpose of this course is to introduce the intersection of computers and society. Sustainability will be used as a concept to bridge the tradeoffs between technological and ecological forces. Topics include but are not limited to: energy production, e-books, telecommuting and e-waste. No computer programming or math background required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CS 0110 - INTRO PERSNL COMPUTR & INTRNET

Minimum Credits: 3
Maximum Credits: 3
This course will provide students without previous computer experience the knowledge and skills needed to use computers effectively. Emphasis will be placed on using software packages for word processing, spreadsheets, and databases and on using the internet.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: College in High School - UGRD - students only.

CS 0121 - ADV COBOL WITH FILE PROCESSING

Minimum Credits: 3
Maximum Credits: 3
This is an intermediate-level course in computer science for students wishing to satisfy a related area in computer science with emphasis on the business environment. Objectives of this course include an overview of cobol; programming using timesharing facilities and cobol DDT; advanced features of cobol including hashing, cobol library, sub programs, report writer, sorting (including binary), merging, and searching; file maintenance for sequential, random access, ISAM files, and magnetic tapes; project specification and analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CS 0131 - SOFTWARE FOR PERSONAL COMPUTNG

Minimum Credits: 3
Maximum Credits: 3
An intermediate-level course in computer science for students majoring in areas other than computer science. Objectives include a non-technical study of the windows NT operating system; development of applications using software selected from the principal areas of applications for personal computing. These include word-processing (MS Word), spreadsheets (MS Excel), and relational databases (MS Access).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CS 0132 - PRG IN C & GUIDE TO UNIX SYSTM

Minimum Credits: 3
Maximum Credits: 3
This intermediate level course is intended for students who wish to learn the c language and also to learn the use of the Unix operating system. Course objectives include: a) the study of the c language using IMB compatible pcs and/or Unix b) an introduction to data structures using c structures and pointers c) the use of library routines and file operations using the c language d) a user-oriented study of the Unix operating system, its file structure, and editors e) an introduction to shell programming and to the use of Unix utilities.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0002 or 0004 or 0007 or 0401 or 0015 or 0101 or 0402 or 0411

CS 0134 - WEB SITE DESIGN & DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
This course will provide a basic understanding of the methods and techniques of developing a simple to moderately complex web site. Using the current standard web page language, students will be instructed on creating and maintaining a simple web site. After the foundation language has been established, the aid of an internet editor will be introduced. A second web-based language will be included to further enhance the web sites.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: College in High School - UGRD - students only.

CS 0155 - DATA WITCHCRAFT

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to data science, designed as a first course in computer science, for non-CS majors and CS minors within the honors college, aiming to introduce students to basic data management technologies and data analytics skills. The course will consist of about 1/3 of introduction to computer programming, 1/3 of introduction to data management technologies, and 1/3 of introduction to data analytics. The course will adopt the point of view of a user of data (e.g. who is just combining data and analyzing it using tools) and not a provider of data (e.g. who would be implementing a database-driven web site), as is typically the case for related courses for CS majors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CS 0301 - SCIENCE OF COMPUTER SCIENCE

Minimum Credits: 4
Maximum Credits: 4
This course is designed as an introduction to computer science as both a discipline and as a science. Fundamental concepts such as data representation, algorithms and problem solving, security and networking will be examined and experiments will be conducted to evaluate and compare various approaches and implementations. It is recommended for students who are interested in learning about computer science or about science and experimentation in general.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0031 or MATH 0032 or MATH 0200 or MATH 0220

CS 0334 - INTM WEB DESIGN & DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
The course will consist of advanced implementations of both markup as well as scripting languages. In addition, students will be introduced to a graphical interface application that will allow them to explore concepts of server side web development. A reflective programming language and database application will be used to introduce the server side web development concepts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CS 0007 or CS 0134 or CS 0401 or INFSCI 0017

CS 0401 - INTRMEDT PROGRMMING USING JAVA

Minimum Credits: 4
Maximum Credits: 4
This course is a rigorous introduction to the fundamental concepts and techniques of computer programming using the java programming language. This is a first course for students who intend to major in computer science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: College in High School - UGRD - students only.

CS 0441 - DISCRETE STRUCTURES FOR CS

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to understand and use (abstract) discrete structures that are backbones of computer science. In particular, this class is meant to introduce logic, proofs, sets, relations, functions, counting, and probability, with an emphasis on applications in computer science.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: MATH 0220 or 0230 or 0235

CS 0445 - DATA STRUCTURES

Minimum Credits: 3
Maximum Credits: 3
This course emphasizes the study of the basic data structures of computer science (stacks, queues, trees, lists) and their implementations using the java language included in this study are programming techniques which use recursion, reference variables, and dynamic memory allocation. Students in this course are also introduced to various searching and sorting methods and also expected to develop an intuitive understanding of the complexity of these algorithms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0401 (MIN GRADE 'C')

CS 0447 - COMPUTR ORGZTN & ASSMBLY LANG

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to study the components of computing systems common to most computer architectures. In particular, this class is meant to introduce data representation, types of processors, memory types and hierarchy, and device drivers. The students will learn MIPS assembly language, the design of arithmetic and logic units, and basic designs for RISC processors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: CS 0445

CS 0449 - INTRO TO SYSTEMS SOFTWARE

Minimum Credits: 3
Maximum Credits: 3
This course covers topics related to the interface of hardware and software. It covers device interfaces and hardware synchronization at the lowest level of the operating system, the linkage of operating system services to application software, and the fundamental mechanisms for computer communications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0445 or CS 0455 (Min Grade 'C'); CREQ: CS 0447 or CS 0456

CS 0590 - SOCL IMPLICATN CMPTNG TECHNLGY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0002 or CS 0003 or CS 0004 or CS 0007 or CS 0008 or 0015 or 0101 or CS 0401

CS 0699 - SPECIAL TOPICS IN COMP SCIENCE

Minimum Credits: 3
Maximum Credits: 3
Various topics in computer science will be introduced and discussed. This course in not part of the computer science major.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0401 or COE 0401 or CS 0004 or CS 0007 or CS 0008

CS 1501 - ALGORITHM IMPLEMENTATION

Minimum Credits: 3
Maximum Credits: 3
The course covers a broad range of the most commonly used algorithms: some examples include algorithms for sorting, searching, encryption, compression, and local search. The students will implement and test several algorithms. The course is programming intensive.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS (0441 and 0445) or (0406 and 0455); (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1502 - FORMAL METHODS IN COMPUTER SCI

Minimum Credits: 3
Maximum Credits: 3
The course is an introduction to the theory of information and computation as a physical phenomenon. The course covers standard formalizations of computational concepts and proofs of noteworthy implications of these formalizations. Typical topics include: finite automata, computability, reducibility, and complexity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [CS 0441 and (CS 0445 or COE 0445)] or (CS 0406 and 0455); (MIN GRADE 'C' FOR ALL COURSES LISTED); PROG: Arts and Sciences

CS 1510 - ALGORITHM DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course will cover methods and strategies that are useful for the design of nonnumeric algorithms. Students are expected to design their own algorithms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(CS 1501 or COE 1501) and CS 1502] or (CS 0458 and CS 1710); MIN GRADE 'C' FOR ALL COURSES LISTED

CS 1511 - INTRO TO THEORY OF COMPUTATION

Minimum Credits: 3
Maximum Credits: 3
Understanding the theory of computation provides deeper in sights into various topics in computer science. This is an introductory level theory course. The aim of this course is to study the power (or lack of it) of various models of computation. Topics to be covered include: automata, formal languages, computability, and computational complexity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 1502 or 1710; (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1515 - SCIENTIFIC COMPUTATION

Minimum Credits: 3
Maximum Credits: 3
Numerical methods used in scientific computation will be discussed, with particular reference to their data structuring and verification aspects. The methods will be selected from the following: solution of systems of linear equations, solution of non-linear equations, approximation, and solution of ordinary differential equations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CS 0445 or 0203 or 0455) and (MATH 0230 or 0150 or 0231)and (MATH 1180 or 0280 or 0150 or 0206 or 1316)

CS 1520 - PRGMG LANG FOR WEB APPLCTNS

Minimum Credits: 3
Maximum Credits: 3
Various programming paradigms will be studied using java and scripting languages. The use of java in programming web based applications, network applications, and the use of the extensive java libraries will be studied. The programming paradigm of building software by gluing components will be explored through the use of scripting languages such as perl and JavaScript. Applications include developing guis and internet programming.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0445 or COE 0445; (MIN GRADE 'C'); PROG: Dietrich Sch Arts and Sciences

CS 1530 - SOFTWARE ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to provide a general survey of software engineering. Some of the topics covered include: project planning and management, design techniques, verification and validation, and software maintenance. Particular emphasis is on a group project in which a group of students implement a system from its specification.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0445 or COE 0445; (MIN GRADE 'C'); PROG: Arts and Sciences

CS 1538 - INTRODUCTION TO SIMULATION

Minimum Credits: 3
Maximum Credits: 3
The course introduces students to the concepts, definitions, techniques applicable to the simulation of systems. Both continuous and discrete modeling are covered, with emphasis on the latter. The objective of this course is to familiarize the students with several modern discrete simulation languages, and their use in modeling. Topics include: systems characterization, classification, and modeling; pertinence of probability and statistics theory for stochastic processes and model measurement; discrete systems simulation viewpoints; software modeling techniques.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0447 and (STAT 1000 or 1100 or 1151 or MATH 1153)

CS 1541 - INTRO TO COMPUTER ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3
Examination of computer architecture and hardware system organization. Topics include: CPU organization, sequential and microprogrammed control, instruction set implementation, memory organizations, input/output structure, peripherals and computer communications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CS 0447 or COE 0447) and (CS 0449 or COE 0449) ; (MIN GRADE 'C'); PROG: Arts and Sciences

CS 1550 - INTRO TO OPERATING SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
An introduction to basic concepts of operating systems, common to most computer systems, which interfaces the machine with upper-level programs. This course will introduce processes as processing unit, process management, concurrency, communication, memory management and protection, and file systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CS 0447 or COE 0447) and (CS 0449 or COE 0449) or (0456 and 1750); MIN GRADE 'C' FOR ALL COURSES LISTED; PROG: Dietrich Sch Arts and Sciences

CS 1555 - DATABASE MANAGEMENT SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
The objective of this course is to provide an in-depth knowledge of database systems design. Thus, the emphasis is on how to model ones own data and how to use available database management systems effectively. Towards this end, the relational and the object-relational models are discussed in great detail and object-oriented and other data models are also presented. Commercial database management systems are examined and students get practical experience through the use of such systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0441 and (CS 0445 or COE 0445) (Min Grade 'C' for all courses)

CS 1566 - INTRODUCTION COMPUTER GRAPHICS

Minimum Credits: 3
Maximum Credits: 3
This course offers an in-depth exploration of fundamental concepts in 2d and 3d computer graphics. The bulk of the course is devoted to 3d modeling, geometric transformations, and 3d viewing and rendering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CS 0447 or 0456); (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1567 - PRGG SYS DSGN MOBL ROBOT PLTF

Minimum Credits: 3
Maximum Credits: 3
Students will be introduced to a variety of programming techniques and paradigms, for implementing medium- to large scale software systems. System integration is done on a mobile robot platform rather than a traditional desktop system. However, this is not a course in robotics. It is a course about building systems in a real-world environment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS (0441 and 0445) or (0406 and 0455)

CS 1571 - INTRO TO ARTIFICL INTELLIGENCE

Minimum Credits: 3
Maximum Credits: 3
This course will provide an introduction to the fundamental concepts and techniques underlying the construction of intelligent computer systems. Topics covered in the course include: problem solving and search, logic and knowledge representation, planning, reasoning and decision-making in the presence of uncertainty, and machine learning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CS 1501 or COE 1501) and CS 1502

CS 1573 - ARTFCL INTELGNC APPLCTN DEVELP

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the development of artificial intelligence applications. It will cover symbolic data structures, advanced control structures, and advanced prototyping and data exploration techniques. Multiple areas of artificial intelligence will be covered, such as machine learning, planning, knowledge representation and reasoning or natural language processing. Example application areas may include medical expert systems, web-page categorization and summarization, dialog-based tutoring systems, data mining and knowledge discovery.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CS 1501 or COE 1501) and (CS 1502); (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1621 - STRUCTURE PROGRAMMING LANGS

Minimum Credits: 3
Maximum Credits: 3
An analytical examination of modern high-level programming language structures; including design specification and implementation. Advanced forms of data types, expressions, and control primitives. Relationship of storage management techniques and language design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS (0441 and 0445) or (0406 and 0455); (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1622 - INTRO TO COMPILER DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course will introduce the basic concepts of compiler design and implementation. Topics include lexical analysis, various types of parsers, intermediate and object code generation and code optimization. The material will be presented from an implementation point of view rather than a formal approach. The impact of language design on compilers will also be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0441 and (CS or COE 0447) or CS (0406 and 0456); (MIN GRADE 'C' FOR ALL COURSES LISTED); PROG: Arts and Sciences

CS 1630 - SOFTWR - SYS DESIGN MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
CS 1630 software-system design and management is a software engineering course with particular emphasis on project management, usability testing, customer interviewing, specification of formal requirements, and oral communication. In addition to the focus on a team programming project, we discuss, debate, and think about the team software design and development process. The students learn how to effectively communicate orally-from pitching ideas to project manager, to interviewing a customer, resolving conflict with another team member, giving feedback and presenting results.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CS 1501 and (CS 1520 or CS 1530 or CS 1550 or CS 1555 or CS 1566); PROG: School of Arts & Sciences (ARTSC); (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1631 - SOFTWARE DESIGN METHODOLOGY

Minimum Credits: 3
Maximum Credits: 3
Construction of large computerized systems proceeds through the stages of requirements analysis, specification, and implementation. This course deals with requirements analysis and specification, in particular, methodologies for improving the reliability of specifications (executable specifications and system phototypes).

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0441 and (CS or COE 0445) or CS (0406 and 0455); (MIN GRADE 'C' FOR ALL COURSES LISTED); PROG: Arts and Sciences

CS 1632 - SOFTWARE QUALITY ASSURANCE

Minimum Credits: 3
Maximum Credits: 3
This course provides students with a broad understanding of modern software testing and quality assurance. Although it will cover testing theory, the emphasis is on providing practical skills in software testing currently used in industry. To that end, it will cover: manual and automated tests, test-driven and behavior-driven development, performance testing, and understanding and developing a testing process.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0445 or COE 0445 or CS 0455; PROG: Dietrich Sch Arts and Sciences

CS 1635 - INTERFACE DESIGN METHODOLOGY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CS 0445 (MIN GRADE 'C'); PROG: School of Arts and Sciences

CS 1640 - BIOINFORMATICS SOFTWARE DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course will develop software for bioinformatic applications.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: CS 1501 or BIOSC 1540; PLAN: Bioinformatics

CS 1645 - INTRO HIGH PERF COMPTNG SYSTMS

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the architecture of and software techniques for parallel and high performance computing systems. The content includes fundamental aspects of vector processing, shared-memory, and distributed-memory systems. Specific applications in parallel processing paradigms will be covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0447 and 0449 and 1501; (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1651 - ADVANCED SYSTEMS SOFTWARE

Minimum Credits: 3
Maximum Credits: 3
To discuss in depth some advanced features of fundamental importance in the design of operating systems. The subjects discussed include interprocess communication, real-time scheduling, advanced file systems, security and protection mechanisms. The objective of the course is to provide an understanding of these advanced issues, as well as to bring awareness of the known solutions to these problems and to the limitations of these solutions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 1550 or 1312 or 1792; (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1652 - DATA COMMNCTN & COMPTR NTWRKS

Minimum Credits: 3
Maximum Credits: 3
This course will include basic principles and topics of computer communications. An overview of interfaces that interconnect hardware and software components, describing the procedures and rules involved in the communication process and the software which controls computers communication. Discussion on network architectures, design principles, basic protocol suites, and the concept of internetworking.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0447 and 0449; (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1653 - APLD CRYPTOGRAPHY NETWRK SECU

Minimum Credits: 3
Maximum Credits: 3
This course will provide the necessary conceptual background and hands-on experience to understand the most common cryptographic algorithms and protocols and how to use them to secure computers networks and distributed applications. Topics include: cryptographic algorithms for data confidentiality, authentication, and integrity, user authentication methods (secure tokens and biometrics), internet security protocols, security in local area networks, firewalls, and intrusion detection systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (CS 0449 and CS 1501) or (0458 or 1750); (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1655 - SECURE DATA MGT & WEB APPLCS

Minimum Credits: 3
Maximum Credits: 3
The main objectives for this course are: (1) to study in more depth query optimization and security, (2) to study advanced topics; data mining, information retrieval, and web data management, and (3) to expose students to advanced data and information management technologies, while gaining hands-on experience. These include mobile data management, continuous queries and their applications in areas such as biomedical informatics and e-commerce.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 0441 and (CS 0445 or COE 0445); (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1666 - PRINS CMP GAME DSGN & IMPLM

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to the fundamental technologies behind computer games as well as hands-on experience in the design and development of a computer game. Each student will create their own level that will become part of a common computer game environment for the course. This course will provide a rigorous introduction to the technologies used in the design and development of computer games such as advanced 3d graphics, quaternions, 3d physics engines, character animation, level design, terrain modeling, and ai path finding. Students will learn how to use the key state-of-the-art software tools for creating computer games.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CS 1566; (MIN GRADE 'C')

CS 1671 - HUMAN LANGUAGE TECHNOLOGIES

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to the field of natural language processing (NLP) - the creation of computer programs that can understand, generate, and learn languages used by humans. It will expose students to real-world applications such as speech recognition, information retrieval, dialogue agents, question answering systems, and machine translations by means of computational techniques including search algorithms, dynamic programming, hidden Markov models, probabilistic context free grammars, and related machine learning algorithms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 1501 and CS 1502; (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1675 - INTRO TO MACHINE LEARNING

Minimum Credits: 3
Maximum Credits: 3
This introductory machine learning course will give an overview of many models and algorithms used in modern machine learning, including linear models, multi-layer neural networks, support vector machines, density estimation methods, bayesian belief networks, clustering, ensemble methods, and reinforcement learning. The course will give the student the basic ideas and intuition behind these methods, as well as, a more formal understanding of how and why they work. Through homework assignments students will have an opportunity to experiment with many machine learning techniques and apply them to various real-world datasets.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 1501 and (STAT 1000 or STAT 1100 or STAT 1151)

CS 1680 - TEAM PROJECT DESIGN & IMPLMNTN

Minimum Credits: 3
Maximum Credits: 3
Students will choose a project from proposals provided by our faculty and industry partners. Teams will consist of 3 or 4 students and they will be supervised by a project mentor. This course satisfies the capstone requirement.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CS 1501 and CS 1550; PROG: Dietrich Sch Arts and Sciences; (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1699 - SPEC TOPICS IN COMPUTR SCIENCE

Minimum Credits: 3
Maximum Credits: 3
This is a special topics course that allows the computer science department to test run a course before deciding whether to permanently add it to our curriculum.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CS 1900 - INTERNSHIP

Minimum Credits: 1
Maximum Credits: 6
This course places the student in an on-the-job" setting in which he/she receives practical experience in a supervised training environment."
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

CS 1902 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 3
This course is designed to give students the opportunity to design a plan of study to be agreed upon by the student and a supervising faculty member. This course does not satisfy the computer science capstone requirement.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

CS 1910 - SCIENTIFIC COMPUTR PROGRAMMING

Minimum Credits: 3
Maximum Credits: 3
A first computer science course for graduate students in fields other than computer science. This course emphasizes the development of models and the study of algorithms involving numerical and non-numerical applications. Applications will be implemented using the Fortran language. Some lectures will discuss techniques of simulation, statistics, and matrix manipulations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CS 1920 - CMPTR PROGRAMMNG-GRAD STUDENTS

Minimum Credits: 3
Maximum Credits: 3
A first computer science course for graduate students in fields other than the scientific areas of study. Emphasis will be on problem-solving methodology of numerical and non-numerical applications. Solutions will be implemented using the Fortran language. Students will be introduced to the features of a time-sharing computer system (VMS of Unix).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CS 1950 - DIRECTED RESEARCH

Minimum Credits: 1
Maximum Credits: 3
This course is designed to give students the opportunity to design a plan of study to be agreed upon by the student and a supervising faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

CS 1980 - TEAM PROJECT DESIGN & IMPLMNTN

Minimum Credits: 3
Maximum Credits: 3

Students will choose a project from proposals provided by our faculty and industry partners. Teams will consist of 3 or 4 students and they will be supervised by a project mentor. This course satisfies the capstone requirement.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit
Course Requirements: PREQ: CS 1501 and CS 1550; PLAN: Computer Science (CS-BS); (MIN GRADE 'C' FOR ALL COURSES LISTED)

CS 1981 - PROJECT STUDIO
Minimum Credits: 3
Maximum Credits: 3
This course is designed as a practicum for computer science as both a way to build software of industrial strength and a way to interact with an industrial partner. Software engineering concepts (e.g. scrums, code-sharing repositories, testing, quality assurance, etc) will be used, while spending time on design, algorithms, security, reliability, and networking. Input data as well as metrics will be systematically examined, in order to compare implementations in a qualitative and quantitative way.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

Cross-Registration

CARLOW 0001 - CROSS-REGISTRATION
Minimum Credits: 0.5
Maximum Credits: 12
The purpose of cross-registration through the Pittsburgh Council of Higher Education (PCHE) is to provide opportunities for enriched educational programs by permitting undergraduate full-time students at any of the 10 participating colleges and universities to take courses at any other PCHE institution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

CCAC 0001 - CROSS-REGISTRATION
Minimum Credits: 0.5
Maximum Credits: 12
The purpose of cross-registration through the Pittsburgh council of higher education (PCHE) is to provide opportunities for enriched educational programs by permitting undergraduate and graduate full-time students at any of the 10 participating colleges and universities to take courses at any other PCHE institution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

CHATHM 0001 - CROSS-REGISTRATION
Minimum Credits: 0.5
Maximum Credits: 12
The purpose of cross-registration through the Pittsburgh council of higher education (PCHE) is to provide opportunities for enriched educational programs by permitting undergraduate full-time students at any of the ten participating colleges and universities to take courses at any other PCHE institution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

CMU 0001 - CROSS-REGISTRATION
Minimum Credits: 0.5
Maximum Credits: 12
The purpose of cross-registration through the Pittsburgh council of higher education (PCHE) is to provide opportunities for enriched educational programs by permitting undergraduate and graduate full-time students at any of the 10 participating colleges and universities to take courses at any other PCHE institution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

DUQU 0001 - CROSS-REGISTRATION
Minimum Credits: 0.5
Maximum Credits: 12
The purpose of cross-registration through the Pittsburgh council of higher education (PCHE) is to provide opportunities for enriched educational programs by permitting undergraduate and graduate full-time students at any of the 10 participating colleges and universities to take courses at any other PCHE institution.

Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

LAROCH 0001 - CROSS-REGISTRATION
Minimum Credits: 0.5
Maximum Credits: 12
The purpose of cross-registration through the Pittsburgh council of higher education (PCHE) is to provide opportunities for enriched educational programs by permitting undergraduate full-time students at any of the 10 participating colleges and universities to take courses at any other PCHE institution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

PNTPRK 0001 - CROSS-REGISTRATION
Minimum Credits: 0
Maximum Credits: 12
The purpose of cross-registration through the Pittsburgh council of higher education (PCHE) is to provide opportunities for enriched educational programs by permitting undergraduate full-time students at any of the 10 participating colleges and universities to take courses at any other PCHE institution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

PTSEM 0001 - CROSS-REGISTRATION
Minimum Credits: 0
Maximum Credits: 12
The purpose of cross-registration through the Pittsburgh council of higher education (PCHE) is to provide opportunities for enriched educational programs by permitting undergraduate full-time students at any of the ten participating colleges and universities to take courses at any other PCHE institution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

RMC 0001 - CROSS-REGISTRATION
Minimum Credits: 0
Maximum Credits: 12
The purpose of cross-registration through the Pittsburgh council of higher education (PCHE) is to provide opportunities for enriched educational programs by permitting undergraduate full-time students at any of the ten participating colleges and universities to take courses at any other PCHE institution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

STVC 0001 - CROSS-REGISTRATION
Minimum Credits: 0
Maximum Credits: 12
The purpose of cross-registration through the Pittsburgh Council of Higher Education (PCHE) is to provide opportunities for enriched educational programs by permitting undergraduate full-time students at any of the 10 participating colleges and universities to take courses at any other PCHE institution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

Dental

DENT 0002 - NURSING ANATMY & PHYSIOLOGY 1
Minimum Credits: 3
Maximum Credits: 3
The primary purpose of this course in anatomy and physiology is to provide a basic understanding of the structure and function of the human body.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0003 - NURSING ANATOMY & PHYSIOLOGY 2

Minimum Credits: 3
Maximum Credits: 3
The primary purpose of this course in anatomy and physiology is to provide a basic understanding of the structure and function of the human body.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0004 - HUMAN ANATOMY

Minimum Credits: 4
Maximum Credits: 4
The primary purpose of this course in human anatomy is to provide a basic understanding of the structure of the human body, with special emphasis on the bipedal locomotor apparatus - a mechanism that is unique to the human animal.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0005 - LABORATORY A

Minimum Credits: 0
Maximum Credits: 0
The primary purpose of this course is to deal with the laboratory aspects of the structure of the human anatomy.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

DENT 0007 - ANATOMY AND PHYSIOLOGY LAB

Minimum Credits: 1
Maximum Credits: 1
This course deals with the laboratory aspects of the gross anatomy of the human body, and an introduction to the physiology of the various systems that comprise its function.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

DENT 0010 - MECHANISMS OF DISEASE

Minimum Credits: 2
Maximum Credits: 2
This course will consider the causes of disease, both intrinsic - in alterations of physiological and cell biological characteristics - and extrinsic - in response to the effects of pathogens and other environmental agents.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0015 - PATHOPHYSIOLOGY (HRS)

Minimum Credits: 4
Maximum Credits: 4
This course will consider the causes of disease generally, as well as specific common diseases that occur in the various systems of the human body.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0020 - PATHOPHYSIOLOGY

Minimum Credits: 4
Maximum Credits: 4
This course will consider the causes of disease generally, as well as specific common diseases that occur in the various systems of the human body.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0030 - HUMAN PHYSIOLOGY

Minimum Credits: 4
Maximum Credits: 4
This course will consider the functional characteristics of the various systems of the human body.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0040 - PATHOPHYSIOLOGY
Minimum Credits: 4
Maximum Credits: 4
This course is designed to provide a general overview of the predisposing factors and direct causes of disease, as well as their effects on the human body. It will also include a systemic approach to the basic disease processes, in terms of etiology, symptomatology, general pathological changes, diagnostic procedures, and types of treatment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0050 - TOPIC: HUMAN GROSS ANATOMY
Minimum Credits: 2
Maximum Credits: 2
This course is designed to consider any one of a variety of anatomical areas of the human body in detail, considering it from a total body study.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

DENT 0100 - BIOLOGICAL SCIENCE 1
Minimum Credits: 3
Maximum Credits: 3
This introductory level course is the first of 3 sequential courses in the biological sciences, each of which represents an interdepartmental integration of gross and neuroanatomy, histology and physiology. Through lectures and assigned readings, students will gain insight into structure-function relationships of cells, tissues, organs, and organ systems of the body. This course deals with the cell, epithelium, connective tissue, the skeletal system, myology, blood, the lymphatic system, neural histology, and introductory neural physiology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0110 - DENTAL ANATOMY 1
Minimum Credits: 2
Maximum Credits: 2
This course is designed to help students identify the normal structures within the oral cavity. The use of correct terminology is stressed in order to effectively communicate with members of the dental profession. The student will be able to differentiate normal formation of teeth from abnormalities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0130 - INTRODUCTION TO DENTISTRY
Minimum Credits: 3
Maximum Credits: 3
This course provides an overview of the activities of each dental specialty. Also, it may include oral anatomy, dental materials and dental charting. The lectures introduce the student to the content and scope of each specialty area; the services delivered with emphasis on dental hygiene interaction.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0140 - SURVEY OF CHEMISTRY
Minimum Credits: 3
Maximum Credits: 3
This course covers selected topics of inorganic and organic chemistry. Basic terms, concepts, laws, and principles of chemistry will be defined and applied to develop an understanding of chemistry. Whenever possible examples are provided which are relevant to health related professions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0150 - DENTAL MATERIALS
Minimum Credits: 2
Maximum Credits: 2
This course introduces the dental assisting student to the field of dental materials. The methods of instruction include didactic and laboratory components. Lectures will cover basic properties of dental materials; gypsum products, waxes, rigid and elastic impression materials, and restorative materials. Laboratory sessions give each student practical experience in the proper manipulation of these materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0200 - CLINICAL ASSISTING 1
Minimum Credits: 5
Maximum Credits: 5
This clinical course provides the students with the opportunity to utilize their knowledge to begin to gain mastery of dental assisting clinical skills, patient management and team interaction. In order to develop proficiency in all specialties of dentistry, the students rotate through the various departments of the school of dental medicine as well as the Dental Departments of Children's Hospital, Montefiore Hospital and Westmoreland Hospital.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis

DENT 0210 - BIOLOGICAL SCIENCE 2
Minimum Credits: 3
Maximum Credits: 3
This introductory level course is the second of three sequential courses in the biological sciences. Through lectures and assigned readings, students will gain insight into structure-function relationships of cells, tissues, organs, and organ systems of the body. This course deals with the gross anatomy, neuroanatomy, and physiology of the nervous system, including the eye and ear, the cardio vascular system, and the oral cavity with emphasis on the formation and structure of the teeth.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0220 - PRACTICE MANAGEMENT
Minimum Credits: 2
Maximum Credits: 2
This course prepares the students for the administrative related duties often delegated to dental assistants. Through classwork, workbook assignments and homework, students will demonstrate telephone and secretarial communication skills, maintenance of recall and inventory systems, utilization of dental payment plans and accurate calculation of accounts receivable and accounts payable bookkeeping procedures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0230 - FIRST AID
Minimum Credits: 2
Maximum Credits: 2
This course uses a practical and didactic approach to teach the student to recognize, evaluate and manage medical emergencies. Although this is a basic first aid course, emphasis is placed on situations that the assistant is likely to encounter in the dental office. Topics covered include: patient assessment, CPR, medical and psychological emergencies, poisoning, environmental emergencies and child birth. Also, preventive medicine and how to access the emergency medical system are stressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0240 - EXPANDED DUTIES SEMINAR
Minimum Credits: 1
Maximum Credits: 1
This course covers theory and laboratory practice in restorative procedures, including placement and removal of rubber dams; placement and removal of matrices and wedges; application of bases, liners, and cements; cavity design; placement of temporary restorations; review of dental materials; mercury hygiene; placing, condensing, carving, finishing and polishing amalgam restorations; placing and finishing composite restorations; four-handed dentistry; and occlusion related to restorative dentistry.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

DENT 0340 - BIOLOGICAL SCIENCE 3
Minimum Credits: 3
Maximum Credits: 3
This introductory level course is the third of 3 sequential courses in the biological sciences, each of which represents an interdepartmental integration of gross and neuroanatomy, histology, and physiology. Through lectures and assigned readings, students will gain insight into structure-function relationships of cells, tissues, organs, and organ systems of the body. This course deals with the gross anatomy, histology, and physiology of the respiratory, digestive, urinary, and endocrine systems. Wound healing is covered from a histological and physiological perspective.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0400 - BASIC PSYCHOLOGY
Minimum Credits: 3
Maximum Credits: 3
Of the wide range of topics presented in the typical introductory psychology textbook, this course uses several which are most relevant to dental health care professionals. The intent is to help students understand their own behavior, that of patients whom they will serve, that of those with whom they work and finally, the interpersonal dynamics among these groups.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0410 - SPECIAL WORK
Minimum Credits: 1
Maximum Credits: 3
This is an independent study for dental assisting students wishing to pursue a special interest. Students will choose a topic of interest and with a faculty member will design and implement a project.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

DENT 0420 - COMMUNICATIONS
Minimum Credits: 3
Maximum Credits: 3
This course increases the students proficiency as a public organization, delivery and criticism of speeches.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0510 - DENTAL ANATOMY 2
Minimum Credits: 2
Maximum Credits: 2
This course covers a variety of topics ranging from the human primary dentition to the projections of development in future man"."
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0520 - INTRODUCTION TO DENTAL HYGIENE
Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce dental hygiene students to the techniques and information necessary for comprehensive patient care.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0530 - INTRO DENTAL HYGIENE PRACTICUM
Minimum Credits: 2
Maximum Credits: 2
Dental hygiene practicum is established as the preclinical time for students to observe, discuss, and practice the skills required to perform the oral prophylaxis. Each student works and progresses at his/her own rate and must demonstrate consistent mastery of the skills taught.
Academic Career: UGRD
Course Component: Practicum
Grade Component: H/S/U Basis

DENT 0540 - ORAL HYGIENE SERVICE 1
Minimum Credits: 2
Maximum Credits: 2
This is the first of three sequential courses offered to oral hygiene students to develop proficiency in clinical assisting and expanded duties. This course supports the concept of dental auxiliary utilization and prepares versatile auxiliaries who are more valuable in a dental practice.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis

DENT 0550 - NUTRITION AND DIET
Minimum Credits: 1
Maximum Credits: 1
This course deals primarily with the physiologic role of the chemical substances supplied by dietary foods. It focuses on the pathology that may be

created if one fails to meet the body's normal daily requirement of dietary chemical substances by either supplying too much or too little, and the pathology that may be created if the normal physiologic role of these substances is impeded or impaired.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0560 - METHODS OF TEACHING

Minimum Credits: 2
Maximum Credits: 2
This course is an introduction to classroom teaching for the dental hygienist. It involves the acquisition of knowledge and skills for classroom instruction in dental health education. Emphasis is placed on preparation, implementation and evaluation of lesson plans and the design and selection of effective audio-visual aids.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0600 - CLINICAL ORAL HYGIENE 1

Minimum Credits: 4
Maximum Credits: 4
This course is scheduled as clinical sessions in which students utilize the skills necessary to perform an oral prophylaxis on individual patients, and to provide patient education.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis

DENT 0601 - CLINICAL DENTAL HYGIENE 1

Minimum Credits: 2
Maximum Credits: 2
This course is scheduled as clinical sessions in which students utilize the skills necessary to perform an oral prophylaxis on individual patients, and to provide patient education.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade

DENT 0602 - DENTAL HYGIENE CLINIC 2

Minimum Credits: 3
Maximum Credits: 3
This course is scheduled as clinical sessions in which the students integrate and apply knowledge and concepts learned in previous courses to provide comprehensive dental hygiene care to individual patients.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade

DENT 0603 - DENTAL HYGIENE CLINIC 3

Minimum Credits: 5
Maximum Credits: 5
This course is a continuation of scheduled clinical sessions in which the students integrate and apply knowledge and concepts learned in previous courses to provide comprehensive dental hygiene care to individual patients.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade

DENT 0604 - DENTAL HYGIENE CLINIC 4

Minimum Credits: 6
Maximum Credits: 6
This course is a continuation of scheduled clinical sessions in which the students integrate and apply knowledge and concepts learned in previous courses to provide comprehensive dental hygiene care to individual patients.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade

DENT 0610 - ORAL HYGIENE SERVICE 2

Minimum Credits: 2
Maximum Credits: 2
Students continue to develop proficiency in clinical dental assisting and expanded duties.
Academic Career: UGRD

Course Component: Clinical
Grade Component: H/S/U Basis

DENT 0620 - PUBLIC HEALTH DENTISTRY

Minimum Credits: 4
Maximum Credits: 4
Public health dentistry is that portion of the dental hygiene curriculum which prepares students to promote oral health and prevent oral disease in the community through organized community based programs. It provides students with a broad understanding of the social, political, and economic forces directing the system. The approach taken within this course provides students with knowledge and skills necessary to meet specific dental health needs of community groups as distinct from the traditional clinical approach which is designed to meet the needs of individuals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0630 - TEACHING PRACTICUM

Minimum Credits: 2
Maximum Credits: 2
This is a student teaching course for oral hygiene students. The students prepare lesson plans and conduct classroom instruction sessions in dental health education for students from preschool through high school levels. Seminars are conducted to discuss outcomes and to assess progress of the students.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

DENT 0700 - CLINICAL ORAL HYGIENE 2

Minimum Credits: 6
Maximum Credits: 6
Clinical oral hygiene 2 expands the clinical skills taught in clinical oral hygiene 1. It also prepares the students for the regional licensing examination and employment.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis

DENT 0710 - ORAL HYGIENE SERVICE 3

Minimum Credits: 2
Maximum Credits: 2
Students continue to develop proficiency in clinical dental assisting and expanded duties.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis

DENT 0730 - APPLIED BEHAVIORAL SCIENCE

Minimum Credits: 3
Maximum Credits: 3
This course is an intensive introduction to the application of behavioral theory and behavioral intervention for dental hygienists. Topics include learning theory, assessment, respondent and operant behavior modification, theories of anxiety, stress, and fear, and behavior change strategies for these responses. Behavior management for children is also discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0760 - REVIEW OF DENTAL LITERATURE

Minimum Credits: 1
Maximum Credits: 1
This course is designed to make students aware of important aspects of research in the dental profession. Statistical principles necessary for reading and evaluating research articles will be closely examined. This course provides the knowledge and critical thinking skills necessary to analyze and evaluate research articles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0800 - SPECIAL WORK

Minimum Credits: 1
Maximum Credits: 3
This is an independent study for oral hygiene students wishing to pursue a special interest. Students will choose a topic of interest and with a faculty member will design and implement a project.

Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

DENT 0810 - DENTAL ANESTHESIOLOGY 1
Minimum Credits: 1
Maximum Credits: 1
This course provides an overview of the entire spectrum of current anesthetic techniques. General topics include the pain phenomena, preanesthetic patient evaluation, conscious sedation and general anesthesia. Greater emphasis is placed on the details of local anesthesia administration which are clinically relevant to the practicing dental hygienist. Specific topics include clinical anatomy of the trigeminal nerve, physiology of pain impulse conduction, pharmacology of local anesthetics and vasoconstrictors, armamentarium, and management of associated complications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 0820 - SOCIOLOGY
Minimum Credits: 3
Maximum Credits: 3
This course is a systematic introduction to the field of sociology. The course reviews various topics in sociology such as sociological methods, theory, culture, deviance, political institutions, population, and urbanization. In an attempt to stimulate discussion by students, additional readings are assigned. In order to give students a feeling for methodology and data review, students conduct a crime victimization study. The data is combined and presented to the students for review and discussion.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 1022 - HUMAN ANATOMY
Minimum Credits: 4
Maximum Credits: 4
The primary purpose of this course in human anatomy is to provide a basic understanding of the structure of the human body, with special emphasis on the bipedal locomotor apparatus - a mechanism that is unique to the human animal.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENT 1917 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

DENT 1947 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 3
Directed study
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

Dental Hygiene

DENHYG 1000 - FULL-TIME DENTAL HYGIENE STUDY
Minimum Credits: 0
Maximum Credits: 0
Students who are working full-time for their dental hygiene certificate may register for this course.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: No Grade Required
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1017 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 3
This directed study is designed for the dental hygiene student who desires to pursue interests in specific area(s). The content of the course is specified by the student and approved by the course director and program director. The teaching format is designed to teach the student specific knowledge or

skills using enhanced faculty instruction and personal contact.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1047 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 3
This directed study is designed for the dental hygiene student who desires to pursue interests in specific area(s). The content of the course is specified by the student and approved by the course director and program director. The teaching format is designed to teach the student specific knowledge or skills using enhanced faculty instruction and personal contact.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1077 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 3
This directed study is designed for the dental hygiene student who desires to pursue interests in specific area(s). The content of the course is specified by the student and approved by the course director and program director. The teaching format is designed to teach the student specific knowledge or skills using enhanced faculty instruction and personal contact.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1110 - BIOLOGICAL SCIENCES 1

Minimum Credits: 3
Maximum Credits: 3
This introductory level course is the first of 3 sequential courses in the biological sciences, each of which represents an interdepartmental integration of gross and neuroanatomy, histology and physiology. Through lectures and assigned readings, students will gain insight into structure-function relationships of cells, tissues, organs, and organ systems of the body. This course deals with the cell, epithelium, connective tissue, the skeletal system, myology, blood, the lymphatic system, neural histology, and introductory neural physiology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1112 - INTRODUCTION TO DENTAL HYGIENE

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce dental hygiene students to the techniques and information necessary for comprehensive patient care.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1113 - INTRODUCTION TO DENTISTRY

Minimum Credits: 3
Maximum Credits: 3
This course provides an overview of the activities of each dental specialty; also, it may include oral anatomy, dental materials and dental charting. The lectures introduce the student to the content and scope of each specialty area; the services delivered with emphasis on dental hygiene interaction.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1114 - DENTAL ANATOMY

Minimum Credits: 2
Maximum Credits: 2
This course is designed to help students identify the normal structures with the oral cavity. The use of correct terminology is stressed in order to effectively communicate with members of the dental profession. The student will be able to differentiate normal formation of teeth from abnormalities.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1116 - DENTAL HYGIENE PRECLINIC

Minimum Credits: 2
Maximum Credits: 2
Dental hygiene practicum is established as the preclinical time for students to observe, discuss, and practice the skills required to perform the oral prophylaxis. Each student works and progresses at his/her own rate and must demonstrate consistent mastery of the skills taught.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1117 - CHEM, BIOCHEMISTRY & NUTRITION

Minimum Credits: 5
Maximum Credits: 5
The course is designed to give the students the fundamental principles and concepts of chemistry, biochemistry and nutrition as they are related to physiological and pathological aspects of oral health and the practice of dental medicine. The course is not designed to make the student an expert in chemistry, biochemistry and nutrition but rather to provide the basic principles of these sciences which will enable the student to more effectively manage oral disease.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1241 - PRINCIPLES OF MICROBIOLOGY

Minimum Credits: 4
Maximum Credits: 4
An introductory course in microbiology for dental hygiene students with no previous background in microbiology. Major areas included are microorganisms, immune mechanisms of the host and the interaction of the host and the microorganisms in disease and homeostatis. Major emphasis is placed on diseases with oral manifestations and infection control in dental medicine. The laboratory component is devoted to microbiological methods, infection control and oral ecology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1242 - BIOLOGICAL SCIENCES 2

Minimum Credits: 3
Maximum Credits: 3
This introductory level course is the second of three sequential courses in the biological sciences. Through lectures and assigned readings, students will gain insight into structure-function relationships of cells, tissues, organs, and organ systems of the body. This course deals with the gross anatomy, neuroanatomy and physiology of the nervous system, including the eye and ear, the cardiovascular system, and the oral cavity with emphasis on the formation and structure of the teeth.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1244 - COMMUNICATIONS

Minimum Credits: 3
Maximum Credits: 3
This course is designed to increase the student's proficiency as a public speaker, through learning organization of material, delivery and criticism of speeches.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1245 - DENTAL HYGIENE RADIOLOGY 1

Minimum Credits: 2
Maximum Credits: 2
This course provides the student with the theoretical knowledge required to achieve a working knowledge of the radiologic sciences as they apply to dental hygiene. Also included will be concepts of radiation safety and radiation biology. An introduction to normal radiographic anatomy and the radiographic aspects of dental pathology will be included.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1247 - DENTAL HYGIENE SEMINAR 1

Minimum Credits: 1
Maximum Credits: 1
This course is an extension of the introduction to dental hygiene course. The focus of this course is the special needs and medically compromised patient. It combines lectures, guest presentations and clinical experiences. The students will acquire greater understanding of the psychological and physiological needs of these patients and how to better meet those needs to provide the best patient care.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1248 - DENTAL MATERIALS

Minimum Credits: 2
Maximum Credits: 2
This course introduces the dental hygiene student to the field of dental materials. The methods of instruction include didactic and laboratory components. Lectures will cover basic properties of dental materials; gypsum products, waxes, rigid and elastic impression materials and restorative materials. Laboratory sessions give each student practical experience in the proper manipulation of these materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1249 - DENTAL HYGIENE CLINIC 1

Minimum Credits: 2
Maximum Credits: 2
This course is scheduled as clinical sessions in which students utilize the skills necessary to perform an oral prophylaxis on individual patients, and to provide patient education.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1370 - INTRO TO CLINICAL PERIODONTICS

Minimum Credits: 3
Maximum Credits: 3
This course concerns the healthy periodontium, changes with aging, and changes to disease. Classification of periodontal diseases, etiology, histopathology and prevention are discussed. This course teaches the student the role of the hygienist in clinical management, treatment and control of periodontal disease.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1372 - GENERAL AND ORAL PATHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course in general and oral pathology is designed to give the dental assistant and oral hygiene student as broad a background as possible in both general and systemic diseases, as well as special emphasis on the oral manifestations of these conditions. Additional emphasis is placed on those diseases which are specifically related to the Oro Dental complex. Primary emphasis is placed on the clinical and behavioral manifestations of disease as they relate to pathological processes. Moreover, the radiologic aspects of specific diseases are emphasized where appropriate.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1373 - BIOLOGICAL SCIENCES 3

Minimum Credits: 3
Maximum Credits: 3
This introductory level course is the third of three sequential courses in the biological sciences, each of which represents an interdepartmental integration of gross and neuroanatomy, histology, and physiology. Through lectures and assigned readings, students will gain insight into structure-function relationships of cells, tissues, organs and organ systems of the body. This course deals with the gross anatomy, histology, and physiology of

the respiratory, digestive, urinary, and endocrine systems. Wound healing is covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1375 - ANESTHESIA FOR DENT HYGIENISTS

Minimum Credits: 2
Maximum Credits: 2
This course introduces the student to the entire spectrum of pain and anxiety control techniques currently in use in dentistry. Emphasis is placed on the basic physiology of the pain phenomena and the relevant clinical pharmacology of local anesthetics. The general topic of preoperative patient assessment is integrated with a practical and systematic approach to the recognition, management, and prevention of specific medical emergencies that may occur in a dental office.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1376 - DENTAL HYGIENE RADIOLOGY 2

Minimum Credits: 1
Maximum Credits: 1
This course is designed to increase the radiographic interpretation skills of the second year dental hygiene student through the use of critical thinking exercises and an in depth exposure to radiographs illustrating caries, periodontal diseases, trauma and pulpal involvement. Radiographic case formatted questions and exercises will be reviewed to enable students to correlate the pathology content of the curriculum as well as the interpretation of normal and ab normal oral structures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1377 - DENTAL HYGIENE SEMINAR 2

Minimum Credits: 1
Maximum Credits: 1
This course is an extension of the introduction to dental hygiene course. The focus of this course is the special needs and medically compromised patient. It combines lectures, guest presentations and clinical experiences. The student will acquire greater understanding of the psychological and physiological needs of these patients and how to better meet those needs to provide the best patient care.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1379 - DENTAL HYGIENE CLINIC 2

Minimum Credits: 3
Maximum Credits: 3
This course is scheduled as clinical sessions in which the student integrates and applies knowledge and concepts learned in previous courses to provide comprehensive dental hygiene care to individual patients.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1411 - DENTAL PHARMACOLOGY

Minimum Credits: 2
Maximum Credits: 2
This course provides oral hygiene students with the opportunity to become familiar with pharmacotherapeutics as utilized by all health professionals. All drug groups are considered in order to familiarize students with the dental patient's therapeutic status. The therapeutics and adverse effects of the drugs are discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1412 - PUBLIC HEALTH DENTISTRY

Minimum Credits: 3
Maximum Credits: 3
Public health dentistry is that portion of the dental hygiene curriculum which prepares students to promote oral health and prevent oral disease in the

community through organized community based programs. It provides students with a broad understanding of the social, political, and economic forces directing the system. The approach taken within this course provides students with knowledge and skills necessary to meet specific dental health needs of community groups as distinct from the traditional clinical approach which is designed to meet the needs of individuals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1417 - DENTAL HYGIENE SEMINAR 3

Minimum Credits: 1
Maximum Credits: 1
This course is designed to compliment the dental hygiene 3 clinical experience. Students will be exposed to various traditional and non-traditional dental therapeutic techniques including, but not limited to subgingival irrigation with antimicrobial agents, an update of new dental products and devices as well as the presentation of case studies for analyses. The goal of the course is to enhance the clinical and didactic skills of the dental hygienist.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1419 - DENTAL HYGIENE CLINIC 3

Minimum Credits: 4
Maximum Credits: 4
This course provides clinical sessions in which the student's integrate and apply knowledge and concepts learned in previous courses to provide comprehensive dental hygiene care to individual patients.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1420 - ETHICS HEALTH CRE PROFESSIONAL

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce health-care professionals to the principles of ethics. Various aspects of ethics will be discussed including the decision making process on which evaluation is based.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1421 - SPECIAL NEEDS DENTISTRY

Minimum Credits: 1
Maximum Credits: 1
The goals of this course are to introduce the dental/dental hygiene student to common developmental and acquired disabling conditions and issues related to the dental care of patients with special needs. The material presented will aid the student in assessing, planning, implementing and monitoring treatment for the patient with special needs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DENHYG 1422 - HLTH PROMOS THROUGH LIFE SPAN

Minimum Credits: 3
Maximum Credits: 3
This course will examine common health issues found throughout the human lifespan with the intention of exposing students to a holistic perspective of their clinical patient experience. Students will discover and discuss the perceptions and realities of issues such as emerging populations, age specific health issues that are influenced by environmental and social factors and their responsibility as an ethical clinician to promote health throughout the lifespan.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Dental Hygiene (DENHYG-CR4)

DENHYG 1544 - INTRO TO RESEARCH ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
This course is designed to make students aware of important aspects of research in the dental profession. Statistical principles necessary for reading

and evaluating research articles will be closely examined. This course provides the knowledge and critical thinking skills necessary to analyze and evaluate research articles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1545 - DENTAL HLTH ED, METHODS & PRAC

Minimum Credits: 4
Maximum Credits: 4
This course is an introduction to classroom teaching for the dental hygienist. It involves the acquisition of knowledge and skills for classroom instruction in dental health education. Emphasis is placed on preparation, implementation and evaluation of lesson plans and the design and selection of effective audio-visual aids. It includes six weeks of dental health presentations in the community exhibiting the skills acquired the first half of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1547 - DENTAL HYGIENE SEMINAR 4

Minimum Credits: 1
Maximum Credits: 1
This course was designed to synthesize pertinent clinical and basic science information. In addition, students will be required to analyze and present a periodontal case study for peer review.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1549 - DENTAL HYGIENE CLINIC 4

Minimum Credits: 5
Maximum Credits: 5
This course was designed to facilitate the synthesis and application of information using a multidisciplinary approach for patient treatment. The clinical environment stimulates and prepares students for a private practice dental setting. All students are afforded the opportunity to participate in internal and external clinical rotations in the capacity of a dental auxiliary. Each student's clinical competency level is assessed and evaluated during all phases of patient treatment.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1682 - BASIC PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is an intensive introduction to the application of behavioral theory and intervention for health professionals. Topics include learning theory, assessment, respondent and operant behavior modification, theories of anxiety, stress, and fear, and behavior change strategies for these responses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1689 - ADV CLINCAL DENT HYGIENE PRACT

Minimum Credits: 2
Maximum Credits: 2
This course is designed to increase the proficiency and self-direction of the dental hygiene student. The assessment of patient's oral health status, planning and provision of preventive services and the identification of the need for referrals will be stressed. This will enable the student to develop fundamental skills which are necessary for various career options in the dental profession.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1901 - ALLIED HEALTH EDUCATION

Minimum Credits: 3
Maximum Credits: 3

His course provides the student with knowledge and experience in classroom and clinical dental education. Emphasis is placed on the development of objectives and instructional units, teaching methods, learner characteristics, learning styles and conditions, instructional resources, utilization of media, and the evaluation process.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1902 - ALLD HEALTH EDUCATION PRACTCM

Minimum Credits: 3
Maximum Credits: 3
This course provides the student with practical experience in both the dental hygiene classroom and clinical settings.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1903 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 3
This course allows the student in conjunction with their advisor to expand their knowledge and experience in the identified area of interest. Projects to be determined by the student and approved by the advisor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1904 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 3
This course allows the student in conjunction with their advisor to expand their knowledge and experience in the identified area of interest. Projects to be determined by the student and approved by the advisor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1921 - HEALTH MANAGEMENT SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This seminar course is designed to provide the student with a broad based understanding of the health care delivery system. Emphasis will focus on leadership, management, quality assurance, development of dental health programs, and current health care delivery issues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1922 - HEALTH MANAGEMENT PRACTICUM

Minimum Credits: 3
Maximum Credits: 3
This course provides the student through a variety of field experiences with the opportunity to apply the knowledge gained in the health management seminar.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1923 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 3
This course allows the student in conjunction with their advisor to expand their knowledge and experience in the identified area of interest. Projects to be determined by the student and approved by the advisor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: H/S/U Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1924 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 3
This course allows the student in conjunction with their advisor to expand their knowledge and experience in the identified area of interest. Projects to be determined by the student and approved by the advisor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1945 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 3
This course allows the student in conjunction with their advisor to expand their knowledge and experience in the identified area of interest. Projects to be determined by the student and approved by the advisor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

DENHYG 1947 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 3
This course allows the student in conjunction with their faculty advisor to expand their knowledge and experience in the area of dental hygiene education. Projects to be determined by the student and approved by the advisor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: School of Dental Medicine (Undergraduate)

Dental Microbiology

DSMIC 0010 - MICROBIOLOGY 1
Minimum Credits: 3
Maximum Credits: 3
This is an introductory course in microbiology designed for dental assisting students with no previous background in microbiology. Three major areas included are the microorganisms, the immune mechanisms of the host and the interaction of the host and the microorganisms in the disease process and in homeostasis. The lecture content emphasizes infection control in dental medicine and the microorganisms causing diseases with oral manifestations. The laboratory content is devoted to microbiological methods, sterilization, disinfection and oral ecology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DSMIC 1010 - MICROBIOLOGY 2
Minimum Credits: 2
Maximum Credits: 2
This course is designed for oral hygiene students with a previous background in microbiology, and focuses on infectious diseases which have oral manifestations. As each infectious disease is considered, major emphasis is placed on recognition of oral manifestations and the use of universal infection control precautions to ensure maximum safety for the health care provider and the patient. Descriptions and demonstrations of microbiological exercises used in student teaching situations are presented at the conclusion of the infectious disease portion of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DSMIC 1020 - PRINCIPLES OF MICROBIOLOGY
Minimum Credits: 4
Maximum Credits: 4
An introductory course in microbiology for dental hygiene students with no previous background in microbiology. Major areas included are microorganisms, immune mechanisms of the host and the interaction of the host and the microorganisms in disease and homeostasis. Major emphasis is placed on diseases with oral manifestations and infection control in dental medicine. The laboratory component is devoted to microbiological methods, infection control and oral ecology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

DSMIC 1025 - INTRODUCTION TO MICROBIOLOGY
Minimum Credits: 3
Maximum Credits: 3
An overview of medical microbiology introduces the student to medically important bacteria, fungi, viruses, parasites and to immunity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DSMIC 1030 - PRIN BIOCHEMISTRY & NUTRITION
Minimum Credits: 4
Maximum Credits: 4
Biochemistry will discuss major types of small and macro molecules. Molecular conversions, biochemical concepts of activation, energy flow, reactions, enzymes and regulation will be discussed generally. These will be related to structures in man. Dietary and biochemical aspects of nutrition will be emphasized to give the student a fundamental appreciation of the science of nutrition. This course will provide the basic principles of good nutrition and how chronic and acute violations of these principles will contribute to the etiology and progression of oral disease.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DSMIC 1130 - PHARMACEUTICAL MICROBIOLOGY
Minimum Credits: 5
Maximum Credits: 5
This course discusses the fundamentals of basic and medical microbiology, and presents laboratory exercises for pharmacy and other health science students who have not yet taken microbiology or biochemistry. The properties, metabolism, growth, genetics and classification of microorganisms are presented in the first 40% of the course. Epidemiology, mechanisms of pathogenicity, nonspecific and specific host immune responses, antimicrobial drugs and infectious diseases are presented in the latter part of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Dental Pharmacology

DSPHL 1010 - DENTAL PHARMACOLOGY
Minimum Credits: 2
Maximum Credits: 2
This course provides oral hygiene students with the opportunity to become familiar with pharmacotherapeutics as utilized by all health professionals. All drug groups are considered in order to familiarize students with the dental patient's therapeutic status. The therapeutics and adverse effects of the drugs are discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DSPHL 1110 - PHARMACODYNAMICS
Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide the nursing student with a knowledge of drug effects in living systems. The pharmacokinetics, mechanisms of action, therapeutic indications and contraindications, side effects and signs of toxicity relevant to each major drug group are presented in a lecture format with references to the nursing process. The drug groups include antimicrobials, anti-inflammatory agents, and drugs acting on the central and autonomic nervous systems, cardiovascular, endocrine and anticancer drugs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DSPHL 1120 - PHYSIOLOGY AND ANATOMY 1
Minimum Credits: 4
Maximum Credits: 4
This is part one of a two term course in human physiology for advanced undergraduate and graduate students. Structural anatomy is presented to serve as a basis for the elucidation of physiologic concepts. Material is organized by organ systems with an emphasis on disease states, clinical correlation and the effects of drugs on body function.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

DSPHL 1130 - PHYSIOLOGY AND ANATOMY 2
Minimum Credits: 4
Maximum Credits: 4

This is part two of a two term course in human physiology for advanced undergraduate and graduate students. Structural anatomy is presented to serve as a basis for the elucidation of physiologic concepts. Material is organized by organ systems with an emphasis on disease states, clinical correlation and the effects of drugs on body function.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

DSPHL 1140 - PHARMACOLOGY 1
Minimum Credits: 4
Maximum Credits: 4
The first course in a two term pharmacology sequence. Topics include: principles of drug action and drug disposition, the pharmacology of general anesthesia, autonomic pharmacology, drugs affecting central nervous system function, and endocrine pharmacology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

DSPHL 1150 - PHARMACOLOGY 2
Minimum Credits: 4
Maximum Credits: 4
The second course in a two term pharmacology sequence. Topics include: analgesics and anti-inflammatory drugs, cardiovascular, respiratory and renal pharmacology, chemotherapy and basic principles of toxicology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

East Asian Languages & Literatures

CHIN 0001 - FIRST YEAR CHINESE 1
Minimum Credits: 5
Maximum Credits: 5
This is the first term of first year chin language course intended for those who have no or little experience in this language. This course helps students to develop basic oral and written proficiency and understand the basics of chin language and culture. Students are expected to be able to converse in limited daily life situations and write short paragraphs on personal topics. Class activities will consist of pair work, group work, and presentations on the course materials and other level appropriate authentic materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0002 - FIRST YEAR CHINESE 2
Minimum Credits: 5
Maximum Credits: 5
This is the 2nd term of 1st year chin language course intended for those who have completed chin 1001/0001 or its equivalent. This course continues to help students to develop basic oral and written proficiency and understand the basics of chin language and culture. Students are expected to be able to converse in limited daily life situations and write short paragraphs on personal topics. Class activities consist of pair work, group work, and presentations on the course materials and other level appropriate authentic materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHIN 0001 (MIN GRADE 'C-')

CHIN 0003 - SECOND YEAR CHINESE 1
Minimum Credits: 5
Maximum Credits: 5
The course aims to enhance student's abilities for speaking accurately and appropriately in increasingly challenging situations, reading and understanding narrative and descriptive texts and the relevant cultural aspects, writing short narrative paragraphs with proper discourse connectors, and conversing on a wider range of personal topics with some sophistication. This course includes recognition and production of 350 characters presented in both traditional and simplified versions. Students should have control of a cumulative total of 1,000 characters by the end of the term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHIN 0002 (MIN GRADE 'C-')

CHIN 0004 - SECOND YEAR CHINESE 2
Minimum Credits: 5
Maximum Credits: 5
The course aims to enhance student's abilities for speaking accurately and appropriately in increasingly challenging situations, reading and

understanding a wider range of narrative and descriptive texts and the relevant cultural aspects, writing longer narrative and descriptive paragraphs with proper discourse connectors and idiomatic expressions, and conversing on personal topics with sophistication and some non-personal topics. This course includes recognition and production of 350 characters presented in both traditional and simplified versions. Students should have control of a cumulative total of 1,400 characters by the end of the term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHIN 0003 (MIN GRADE 'C-')

CHIN 0007 - INTRO TO CHIN CIVLZ & CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course is an interdisciplinary introduction to Chinese society and culture from earliest times to the present. We will introduce the development of China in material terms as well as in terms of competing beliefs, and the relationship of these to social groups. The first part of the course explores ancient literature, philosophy, religion, art, architecture, customs, and other aspects of China's rich and diverse heritage. The second part will be devoted to china's transition to a modern society, covering such topics as social changes, urban life, popular culture, and the values and ideas that captivate contemporary Chinese people's attention. Cultural traditions of Hong Kong, Taiwan, and Tibet will also be employed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0011 - FIRST YEAR READING

Minimum Credits: 2
Maximum Credits: 2
This course is taught in conjunction with Chinese 0001, first year spoken and provides training in writing Chinese. The student is introduced to the Chinese script in both traditional and simplified forms of the characters as well as regular reading assignments which parallel the development of oral skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0012 - FIRST YEAR READING

Minimum Credits: 2
Maximum Credits: 2
The second term and a continuation of Chinese 0011, first year reading. This course is taught in conjunction with Chinese 0002, first year spoken. The student continues training in reading and writing Chinese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0013 - SECOND YEAR READING

Minimum Credits: 2
Maximum Credits: 2
This course is taught in conjunction with Chinese 0003, second year spoken. The student further develops ability in reading and writing Chinese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0014 - SECOND YEAR READING

Minimum Credits: 2
Maximum Credits: 2
The second term of second level reading and a continuation of Chinese 0013. This course is taught in conjunction with Chinese 0004, second year spoken. The student continues to develop skills in reading and writing Chinese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0025 - BASIC CHINESE 1 SPEAKING

Minimum Credits: 3
Maximum Credits: 3
The general content includes: greetings, disengagement, name, nationality, weather, personal feelings, countries and places, relationships, titles, clock time, local identity, numbers, language abilities, characterizing behavior, giving and receiving compliments, the length of language study, and home location and distance. Students will be able to carry out simple conversations in Chinese on a limited range of topics, and at the same time to speak simple Chinese clearly, accurately, and proficiently.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0026 - BASIC CHINESE 2 SPEAKING

Minimum Credits: 3
Maximum Credits: 3
Continuation of chin 0025. Includes: personal information status of family members, experiences you have had, travel experience, habitual activities such as your daily and study routine, conversation management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0027 - BASIC CHINESE 3 SPEAKING

Minimum Credits: 3
Maximum Credits: 3
To enhance student's knowledge and ability to communicate in Chinese and to interpret and use the language in the appropriate cultural contexts. Includes: during and after the break, minor discomforts, weather comparisons, temperatures, religion, birthday, animal sign, family resemblances, comparisons of language difficulty, courses, credits, places, spaces, locations, interests, avocations, and sports.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0028 - BASIC CHINESE 4 SPEAKING

Minimum Credits: 3
Maximum Credits: 3
Continuation of chin 0027. Includes: occupations, income and living expenses, personality characteristics, weather, restaurants, meals, progress in studying Chinese, summer plans.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0060 - YIN & YANG: INTRO CHINESE CULT

Minimum Credits: 1
Maximum Credits: 1
Focus on theme of continuity and change. Begin with ancient archetypes of yin and yang and conclude with current religious phenomenon of Falun Gong. Sessions conducted by primary instructor and by distinguished experts on such topics as Chinese economy, history, family, politics, medicine, philosophy, religion, literature, and the arts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0070 - EXPLRNG CHINA ROOTS TO BLOOMS

Minimum Credits: 3
Maximum Credits: 3
Through the combination of text, videotapes, and live demonstration, students will explore the notions of Qi (vital energy), yin and yang, harmony between man and nature rooted in Chinese culture and their various expressions in the martial arts (Qi Qigong, Taiji) Feng Shui (geomancy) and the art and design of Chinese gardens. In addition, students will learn about Chinese written script and the spectacular landscape and religious landmarks in China's vast territory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0071 - THMS & TYPS MOD CHIN LIT & CUL

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0080 - CITY LIFE & EAST ASIAN CULTURE

Minimum Credits: 3
Maximum Credits: 3
This is a humanities based modular course designed as an introduction to important areas of East Asian civilization. The student will discover how literature, art and thought has flourished in the urban areas of china and Japan.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0081 - EAST ASIA IN THE WORLD

Minimum Credits: 3
Maximum Credits: 3
To enhance a greater understanding of East Asian cultures; to explore the interactions and relations between the peoples and cultures of East Asia (china and Japan) and the rest of the world, from ancient times to the present. Literary works, memoirs, autobiographies, diaries, historical records and films will be used. Themes involve such topics as the significance of travel in self-understanding, diaspora, immigration, and changing ideas of the homeland.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0082 - HONG KONG CINEMA

Minimum Credits: 3
Maximum Credits: 3
To expand student experience of Asian cinema in a global perspective. Examines one of the most exciting and prolific film industries in the world with a particular focus on the emergence of the studio system, film genres, and stars. Included topics: historical overview, impact of changing technologies, and events such as the Japanese occupation and the 1997 handover.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0084 - SELF PLACE COMMUNTY MDRN CHINA

Minimum Credits: 3
Maximum Credits: 3
Course focuses on china's epochal transition at the individual, the domestic and the societal levels. Through fiction, film, memoir and photo journalism, the course aims to initiate students into learning how the individual and society interact in their struggle to absorb West-inspired values and to revive and reinvent ethnic identity, social values and cultural dynamics in familial spaces and local communities. We will study film clips, digital slides and personal memoirs of a Mosuo village on Yunnan's Lugu Lake, Hokka people's earthen buildings in West Fujian and in South Taiwan, and urban communities in Shanghai and Hong Kong.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0085 - REVOL/INVLT/IDEN MOD CHIN CULT

Minimum Credits: 3
Maximum Credits: 3
This course provides an interdisciplinary introduction to Chinese society and culture from the turn of the 20th century to the present. Specifically, it focuses on the notions of revolution, involution, and identity reflected in literary and visual representations. Exploring the dynamic between change and continuity in modern Chinese history, it seeks to examine concepts such as empire, modernity, revolution, and nation, and investigate identity formations in national, ethnic, gender, and individual levels. It will cover such topics as social changes, historical consciousness, urban life, popular culture, and the values and ideas that captivate contemporary people's imagination. Cultural orientations of Hong Kong, Taiwan, and Tibet will also be explored.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CHIN 0090 - FIRST YEAR SPOKEN

Minimum Credits: 5
Maximum Credits: 5
This course is designed to provide the student with the basic language skills necessary in modern spoken Chinese language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0091 - FIRST YEAR READING/WRITING

Minimum Credits: 5
Maximum Credits: 5
This course provides training in reading and writing Chinese. Chinese script in both traditional and simplified forms of the characters is introduced to the student. Reading assignments parallel the development of oral skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0092 - SECOND YEAR SPOKEN
Minimum Credits: 5
Maximum Credits: 5
The student will further develop the basic language skills necessary in modern spoken Chinese language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0093 - SECOND YEAR READING/WRITING
Minimum Credits: 5
Maximum Credits: 5
The student further develops ability in reading and writing Chinese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0099 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
Student will study under guidance of a department faculty member on a topic not covered by regular coursework.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

CHIN 0125 - BASIC CHINESE 1 READING
Minimum Credits: 1
Maximum Credits: 1
Beginning writing and reading course intended to complement CHIN 0025 to which material is coordinated. Students wishing to acquire skills in speaking, listening, reading and writing should enroll in this course and CHIN 0025. Students who have a speaking ability but lack skills in reading and writing may take this course. Introduces students to the rudiments of reading and writing Chinese (in both simplified and traditional). Class activity will consist of comprehension questions, in-class guided reading of short texts, vocabulary and grammar. Reviews, integrative exercises. Character writing and practice is done outside of class as homework.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0126 - BASIC CHINESE 2 READING
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0127 - BASIC CHINESE 3 READING
Minimum Credits: 1
Maximum Credits: 1
2nd year of reading & writing course intended to complement chin 0127 basic chin 3 speaking. Material is coordinated with that in basic chin 3, thus students wishing to acquire skills in speak, listen, read & write should enroll in this course & CHIN 0027. Students who have a speaking ability & some elem. Read/write skills may take this course only. Class activities will consist of working on comprehension questions on the reading assignments, in class guided reading of short texts, vocab. And gram. Reviews, & integrative exercises. Character writing & practice is done outside of class as homework assignments using a workbook.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

CHIN 0128 - BASIC CHINESE 4 READING
Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 0354 - CHINESE PERFORMANCE LITERATURE
Minimum Credits: 3
Maximum Credits: 3

Students will read Chinese opera scripts, texts of narrative songs, and texts of folksongs. All readings will be in English translations, except for advanced or native-speaker students who may read them in Chinese. Students will then view performances of some works. Through visits of invited performers, students will learn some basic performance techniques themselves. By reading, hearing, and viewing these works, students will gain a unique perspective on Chinese culture and society at both the elite and popular levels.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1001 - FIRST YEAR CHINESE 1

Minimum Credits: 5
Maximum Credits: 5
This is the first term of first year chin language course intended for those who have no or little experience in this language. This course helps students to develop basic oral and written proficiency and understand the basics of chin language and culture. Students are expected to be able to converse in limited daily life situations and write short paragraphs on personal topics. Class activities will consist of pair work, group work, and presentations on the course materials and other level appropriate authentic materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1002 - FIRST YEAR CHINESE 2

Minimum Credits: 5
Maximum Credits: 5
This is the 2nd term of 1st year chin language course intended for those who have completed chin 1001/0001 or its equivalent. This course continues to help students to develop basic oral and written proficiency and understand the basics of chin language and culture. Students are expected to be able to converse in limited daily life situations and write short paragraphs on personal topics. Class activities consist of pair work, group work, and presentations on the course materials and other level appropriate authentic materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1003 - SECOND YEAR CHINESE 1

Minimum Credits: 5
Maximum Credits: 5
The course aims to enhance student's abilities for speaking accurately and appropriately in increasingly challenging situations, reading and understanding narrative and descriptive texts and the relevant cultural aspects, writing short narrative paragraphs with proper discourse connectors, and conversing on a wider range of personal topics with some sophistication. This course includes recognition and production of 350 characters presented in both traditional and simplified versions. Students should have control of a cumulative total of 1,000 characters by the end of the term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1004 - SECOND YEAR CHINESE 2

Minimum Credits: 5
Maximum Credits: 5
The course aims to enhance student's abilities for speaking accurately and appropriately in increasingly challenging situations, reading and understanding a wider range of narrative and descriptive texts and the relevant cultural aspects, writing longer narrative and descriptive paragraphs with proper discourse connectors and idiomatic expressions, and conversing on personal topics with sophistication and some non-personal topics. This course includes recognition and production of 350 characters presented in both traditional and simplified versions. Students should have control of a cumulative total of 1,400 characters by the end of the term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1005 - THIRD YEAR SPOKEN

Minimum Credits: 3
Maximum Credits: 3
This course, sequentially the third level in modern spoken Chinese, continues the development of spoken language skills. Linguistically, the course expands topically related lexical resources, enhances sophistication in syntactic manipulation and incorporates allusive speech elements from classical literary sources. Sociolinguistically, it aims at a closer appreciation of normative chinese behavior.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1006 - THIRD YEAR SPOKEN

Minimum Credits: 3
Maximum Credits: 3

The second term of third level modern spoken chinese. This course continues the development of spoken language skills begun in chinese 1005.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1011 - FIRST YEAR READING

Minimum Credits: 2
Maximum Credits: 2
This course is taught in conjunction with chinese 1001, first year spoken, and provides training in reading and writing chinese. The student is introduced to the chinese script in both traditional and simplified forms of the characters. Regular reading assignments parallel the development of oral skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1012 - FIRST YEAR READING

Minimum Credits: 2
Maximum Credits: 2
The second term and a continuation of Chinese 1011, first year reading, this course is taught in conjunction with Chinese 1002, first year spoken. The student continues training in reading and writing Chinese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1013 - SECOND YEAR READING

Minimum Credits: 2
Maximum Credits: 2
This course is taught in conjunction with Chinese 1003, second year spoken. The student further develops ability in reading and writing Chinese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1014 - SECOND YEAR READING

Minimum Credits: 2
Maximum Credits: 2
The second term of second level reading and a continuation of Chinese 1013, this course is taught in conjunction with Chinese 1004, second year spoken.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1020 - THIRD YEAR CHINESE 1

Minimum Credits: 5
Maximum Credits: 5
The course aims to enhance student's abilities for speaking accurately and appropriately in challenging situations, reading and understanding original texts of different types, writing short essays on various topics with discourse connectors and idiomatic expressions, and conversing on both personal and non-personal topics with sophistication at discourse level. Students in this course should be aware of relevant Chinese traditions and perspectives and be able to make comparisons and connections with other cultures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHIN 0004 (MIN GRADE 'C-')

CHIN 1021 - THIRD YEAR CHINESE 2

Minimum Credits: 5
Maximum Credits: 5
The course aims to enhance student's abilities for speaking accurately and appropriately in challenging situations, reading and understanding original texts of different types, writing short essays on various topics with discourse connectors and idiomatic expressions, and conversing on both personal and non-personal topics with sophistication at discourse level. Students in this course should be aware of relevant Chinese traditions and perspectives and be able to make comparisons and connections with other cultures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHIN 1020 (MIN GRADE 'C-')

CHIN 1025 - ASPECTS OF CHINESE LANG

Minimum Credits: 3
Maximum Credits: 3
Aspects of the Chinese language will offer a linguistic introduction to Chinese. No prior knowledge of linguistics is assumed although familiarity with linguistic analysis is a plus. The Chinese language is substantially different from English or other Indo-European languages. It is also distinct from some other East Asian languages. For instance, it has a logographic writing system and is a tonal language. Its word order is more flexible than English and is a topic-prominent language. It does not have rich grammatical inflections but has a limited number of aspectual markers. The course serves the following purposes: (1) introduce the basic facts of the Chinese language including its development, the phonology, morphology, the semantic and syntactic aspects of Mandarin Chinese, and the interactions of the language with Chinese culture and the society; (2) introduce elementary linguistic concepts relevant to chinese to enable students to use the right tool to describe and critically analyze the features of a language; (3) encourage students to reflect on their language learning experience or knowledge of other languages to conduct reasoning, such as analyzing the sources of difficulty in their studying of chinese; (4) to inspire interest in a range of topics including differences in modern and classical chinese, philosophical belief embodied in the language, chinese culture manifested in the language (such as the notion of politeness, face, etc.), and to lay a foundation for further studies in linguistics as well as in those relevant topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHIN 0002 (MIN GRADE 'B-')

CHIN 1030 - READINGS IN CONTEMPORARY LIT 1

Minimum Credits: 3
Maximum Credits: 3
A combined language and literature course designed to enable students to study and appreciate short writings by the leading authors of the twentieth century. The main objective of this course is to develop the student's ability to read any chosen material with the aid of a dictionary and to develop confidence to explore further readings on their own.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1031 - READINGS IN CONTEMPORARY LIT 2

Minimum Credits: 3
Maximum Credits: 3
A continuation of Chinese 1030, students will continue to study the leading authors of the twentieth century and to analyze the more difficult syntactic structures by correlating them with the corresponding basic patterns previously learned.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1033 - ADV SPKNG: TOPCS IN CUR EVENTS

Minimum Credits: 3
Maximum Credits: 3
To develop greater fluency, accuracy and confidence in spoken Chinese. Rhetorical and presentational skills will be introduced and reinforced. Students will narrate and describe an event/situation, maintain sustained discourses, provide structured arguments, develop hypotheses and explain as well as defend opinions. Through reading news articles on various subjects such as society, finance, politics, technology, sports and entertainment, students will gain deeper understanding of social, cultural, political and economic situations in Chinese speaking regions and will be able to conduct in-depth conversations with native speakers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHIN 1020 (MIN GRADE 'C-')

CHIN 1040 - LITERARY CHINESE 1 CLASSICAL

Minimum Credits: 3
Maximum Credits: 3
This is a course in classical Chinese whose purpose is to acquaint the student with the language and syntax of classical Chinese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: CHIN 1020

CHIN 1041 - LITERARY CHINESE 2 CLASSICAL

Minimum Credits: 3
Maximum Credits: 3
A continuation of Chinese 1040, this course will further develop the student's knowledge of vocabulary and syntactical patterns of classical Chinese.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHIN 1040

CHIN 1043 - HISTORCAL & PHILSOPHCAL TEXTS

Minimum Credits: 3
Maximum Credits: 3
A study of selected texts from such major works as the historical records, the Izu-Chih T'Ung-Chien, Motze, and Han-Fei-izu.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1047 - CHINESE AND WESTERN POETRY

Minimum Credits: 3
Maximum Credits: 3
A comparative study of Chinese and Western lyric poetry. This course explores the world of feeling as expressed in the poetry of two vastly different worlds; china and the West and focuses on the language of feeling in a poetic medium. The purpose of this course is to appreciate how differences between the two poetic traditions is essential to a better understanding of the two cultures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1050 - FOURTH YEAR CHINESE 1

Minimum Credits: 3
Maximum Credits: 3
This is an advanced language course which concentrates on reading current journalistic writings such as news reports, periodicals, articles and editorials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHIN 1021 (MIN GRADE 'C-')

CHIN 1051 - FOURTH YEAR CHINESE 2

Minimum Credits: 3
Maximum Credits: 3
The second term of fourth year reading this course continues the student's advanced language study concentrating on reading journalistic writings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHIN 1050 (MIN GRADE 'C-')

CHIN 1059 - ADAPTD FOR SCRN: CHIN LIT &FLM

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

CHIN 1065 - SOURCES ON EAST ASIA

Minimum Credits: 3
Maximum Credits: 3
This course identifies and examines reference materials necessary for writing term papers or for conducting research projects on twentieth century china.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

CHIN 1071 - SAINTS EAST AND WEST

Minimum Credits: 3
Maximum Credits: 3
This course looks at examples of "sainthood" in four traditions; Confucianism, Buddhism, Islam, and roman Catholicism. The student will see "sainthood" as a concept that transcends Western religious tradition and how changes in dominant cultural values can change notions of who is and who is not a "saint".
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1072 - LAW AND LITERATURE IN CHINA

Minimum Credits: 3
Maximum Credits: 3
Course will study interaction of law and literature in late imperial and modern china, starting in the fifteenth century when Chinese law codes reached a stable maturity that would keep them relatively unchanged until the 20th century. Topics: relationship between law in the human realm and legal judgements meted out to the dead in the ten courts of hell; penalties of the ming and qing codes; fantastic tortures of fiction and drama; huge cultural efforts in establishing modern and civil codes; marriage laws in the 20th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1082 - 20TH CENTURY CHINESE ART

Minimum Credits: 3
Maximum Credits: 3
The 20th century in china was a period of tremendous change. Artists and the society in which they lived crashed into the modern world to struggle with the weight of tradition as well as the draw of the new. We will consider this period and artistic visions of it by looking at arts including printmaking, painting, film, installation and other synthetic and combined forms. All artistic production will be contextualized within the political and cultural history of the period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1083 - MASTERPC OF CHINESE LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course is devoted to the study of Chinese literature from ancient times to the end of the 19th century. Lectures and readings include prose (historical, philosophical and literary texts, legends and myths of the remote past, anecdotes, short stories and fantastic tales of ghosts and love) and poetry (from the book of songs to the poetry of the t'ang and sung periods).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1084 - MASTERPIECES OF CHIN LIT: MDRN

Minimum Credits: 3
Maximum Credits: 3
A critical analysis of some of the most representative literary works in modern china from a literary and socio-political perspective. Film is used as a means of enhancing the student's appreciation of the works under consideration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1085 - INTRO TO EAST ASIAN CINEMA

Minimum Credits: 3
Maximum Credits: 3
This course investigates the ways in which film addresses and treats the major socio-cultural issues in modern society through a critical study of the works of Chinese and Japanese master filmmakers. The course focuses on changes in marriage and family patterns, women's roles and the plight of youth.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1086 - LOVE IN CHIN AND WESTERN LIT

Minimum Credits: 3
Maximum Credits: 3
The course will explore and compare expressions of love in Chinese and Western literature. The course will examine a succession of theories and ideas of love such as platonic, religious, courtly, romantic and post-romantic from the Western tradition; love in Confucianism, Monism, Taoism, and Buddhism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1087 - INTRO TO CHINESE NARRATIVE

Minimum Credits: 3
Maximum Credits: 3
The student is introduced to the major forms and important periods of Chinese narrative by reading and discussing a variety of Chinese narratives from the beginning of Chinese literature to the modern period. Texts include philosophical fables, historical records, mythical tales, stories of the

supernatural, vernacular stories and novels.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1088 - NEW CHINESE CINEMA

Minimum Credits: 3
Maximum Credits: 3
Students will study Chinese films made by filmmakers of mainland China and Taiwan. They will learn about origins, development, themes, and styles with major directors and important films of new Chinese cinema being studied. Students will have an opportunity to understand contemporary Chinese culture and society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1089 - THE WORLD OF CHINA

Minimum Credits: 3
Maximum Credits: 3
This course will survey the wax and wane of pop culture through disparate phases of social and political developments of modern china. The readings will introduce students to works of literature, art, and film to see how tradition and modernity, elite and mass cultures, East and West conflict and converge; how china absorbs, adapts as well as resists capitalistic modernity while embracing global market economy; how china grapples with urban alienation, social flux, moral laxity and other negative aspects of industrialization and urbanization. The course will make available to students a host of art images, dvd clips and e-texts to enhance and expand their perception of modern china.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1090 - GREAT MINDS OF CHINA

Minimum Credits: 3
Maximum Credits: 3
First segment on Confucianism, including the Analects and Menicus, will be studied with relevant commentaries, stressing implications for Chinese culture, especially in ethical and socio-political dimensions. Second segment on Taoism, lao Tzu and Chuang Tzu, will be studied with emphasis on impact on the arts and literature. Final segment on Buddhism will concentrate on representative sutras of the tradition, diamond sutra and texts from the Chan (Zen) master's.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1091 - ENCOUNTERING MODERN CHINA

Minimum Credits: 3
Maximum Credits: 3
Deals with chronological set of writings on china's burdened entry into modern era. Includes 6 segments covering major historical phases of china's modern era since 1840. Using a core of literary texts that reflect social progress amidst upheavals, readings also broaden the students' horizon by means of selected writings from history, anthropology, art, music, sociology, etc. Course provides students with wide spectrum of Chinese society transitioning thru dynastic changes, social upheavals, political traumas, open-door reforms up till present, reflecting the prospects and problems in its march to the modern. No previous knowledge of Chinese is necessary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

CHIN 1562 - CONFUCIANISM: BASIC TEXTS

Minimum Credits: 3
Maximum Credits: 3
The eighth through second centuries BCE were an era of extraordinary creativity worldwide (axial age). In china, the analects of Confucius, the Mencius, & the writings of Hsun Tzu & lao Tzu played the formative role that the Greek philo classics played in Western society. Over the next two millennia, these texts would play an influential role throughout East Asia. We will study a number of these texts in their entirety, supplementing them with relevant works of scholar ship. Also seek to understand the foundational role of these texts by analyzing their assumptions and strategies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6
Individual study under the guidance of a department faculty member. For the student whose topic is not covered by regular course work.
Academic Career: UGRD

Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

CHIN 1908 - DIRECTED WRITING FOR MAJORS

Minimum Credits: 1
Maximum Credits: 1
In addition to whatever written assignments are required of those enrolled in the course, this directed writing practicum provides students with an opportunity to contribute writing designed in terms of the intellectual strategies of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

CHIN 1999 - SENIOR PROJECT

Minimum Credits: 3
Maximum Credits: 3
As a summative project for all Chinese majors, the course provides students with guidelines to complete the senior project through integrating culture and language (speaking & writing), traditional & modern Chinese culture as well learning experiences acquired both at Pitt and abroad in china and /or Taiwan. They are to prepare proposals, formulate essay themes in both the English senior essay and the Chinese essay, and determine other formats that can be accepted as supplements: audio-visual, electronic, etc. Also instructs students how to find appropriate resources.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

JPNSE 0001 - FIRST YEAR JAPANESE 1

Minimum Credits: 5
Maximum Credits: 5
The first step in Japanese language study. The student will acquire a basic competence in speaking, understanding, reading and writing. Emphasis is placed on speaking and understanding as the student learns the sound system, basic vocabulary and essential sentence patterns. Writing will include the katakana and hiragana syllabaries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 0002 - FIRST YEAR JAPANESE 2

Minimum Credits: 5
Maximum Credits: 5
The second term in the systematic presentation of the modern standard language begun in Japanese 0001. Students will continue to develop all four skills--speaking, understanding, reading and writing with continued emphasis on content useful in everyday communications. Writing will include the syllabaries and about 50 selected kanji characters.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: JPNSE 0001 (MIN GRADE 'C-')

JPNSE 0003 - SECOND YEAR JAPANESE 1

Minimum Credits: 5
Maximum Credits: 5
The third term in the sequence of Japanese language instruction designed to increase the student's proficiency in speaking and understanding of modern standard Japanese through the introduction of more complex grammatical structures and idiomatic expressions. Writing will include about 300 additional kanji characters.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: JPNSE 0002 (MIN GRADE 'C-')

JPNSE 0004 - SECOND YEAR JAPANESE 2

Minimum Credits: 5
Maximum Credits: 5
The fourth term in the sequence of Japanese language instruction designed to develop the student's ability to carry on non-technical conversations while continuing to enhance the reading and writing skills. More complex grammatical structures and the study of about 300 additional characters are introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: JPNSE 0003 (MIN GRADE 'C-')

JPNSE 0007 - JPNSE CULTURE AND CIVILIZATION

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to fundamental characteristics of the culture and civilization of Japan from earliest times to the present. As a gateway to more specialized training, it is designed for students having little or no previous knowledge of Japan. Students can expect to leave with a basic grasp of important historical periods, an appreciation of key figures and places of cultural significance, and an awareness of important social changes from earliest times to the present day. Students will improve their analytical skills as they read from outstanding examples of Japanese literature; they will synthesize relevant information about Japanese art, architecture, religion, literature, society, and history from lectures and background readings in order to present well-reasoned arguments about Japan; and they will develop a nuanced understanding of Japan's place in a global context. This course aims to a) improve cultural literacy about Japan and the Japanese, b) increase familiarity with principal historical periods, c) introduce basic geography ' location of principal Asian countries, Japanese islands, and Japanese cities, and d) identify important political, social, cultural, artistic, and literary themes for each of the principal periods covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 0031 - ELEMENTARY JAPANESE 1 FOR MBA

Minimum Credits: 1.5
Maximum Credits: 1.5
This course is specially designed to provide instruction in Japanese language to MBA students. The student will learn the sound system, basic vocabulary and essential sentence patterns in order to carry on basic Japanese conversations to meet everyday situations. Instructions will also be provided in katakana and hiragana.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 0032 - ELEMENTARY JAPANESE 2 FOR MBA

Minimum Credits: 1.5
Maximum Credits: 1.5
The student will continue to develop the skills of speaking, reading and writing begun in 0031. Special emphasis will again be on content useful in everyday communication.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 0080 - CITY LIFE & EAST ASIAN CULTURE

Minimum Credits: 3
Maximum Credits: 3
This is a humanities based modular course designed as an introduction to important areas of East Asian civilization. The student will discover how literature, art and thought has flourished in the urban areas of china and Japan.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 0081 - EAST ASIA IN THE WORLD

Minimum Credits: 3
Maximum Credits: 3
To enhance a greater understanding of East Asian cultures; to explore the interactions and relations between the peoples and cultures of East Asia (china and Japan) and the rest of the world, from ancient times to the present. Literary works, memoirs, autobiographies, diaries, historical records and films will be used. Themes involve such topics as the significance of travel in self-understanding, diaspora, immigration, and changing ideas of the homeland.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 0083 - INTRO TO JAPANESE LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course introduces, through English translations, some of the outstanding works which make up the literary heritage of Japan. The student becomes acquainted with a non-Western literary tradition by exploring similarities and differences in ways of thinking and modes of expression. Readings include selections from ancient poetry, classical Romances, forms of drama, early modern fiction, haiku poetry and modern novels.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 0085 - JAPANESE TALES OF SUPERNATURAL

Minimum Credits: 3
Maximum Credits: 3
This course will look at a broad array of fictional works that deal with the supernatural in Japan. The material is arranged historically, ranging from the seventh century to contemporary times, and including ancient myths, theater and narrative fiction, poetry, picture-books, film and anime. The ostensible purpose of the course is to provide a broad view of Japanese literature and culture from a particular angle-the representation of the supernatural. However, by looking at the non-human and the non-natural, students are also encouraged to think about human society and individuality in different historical periods in Japan.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1001 - FIRST YEAR JAPANESE 1

Minimum Credits: 5
Maximum Credits: 5
The first step in Japanese language study. The student will acquire a basic competence in speaking, understanding, reading and writing. Emphasis is placed on speaking and understanding as the student learns the sound system, basic vocabulary and essential sentence patterns. Writing will include the katakana and hiragana syllabaries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1002 - FIRST YEAR JAPANESE 2

Minimum Credits: 5
Maximum Credits: 5
The second term in the systematic presentation of the modern standard language begun in Japanese 0001. Students will continue to develop all four skills--speaking, understanding, reading and writing with continued emphasis on content useful in everyday communications. Writing will include the syllabaries and about 50 selected kanji characters.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1003 - SECOND YEAR JAPANESE 1

Minimum Credits: 5
Maximum Credits: 5
The third term in the sequence of Japanese language instruction designed to increase the student's proficiency in speaking and understanding of modern standard Japanese through the introduction of more complex grammatical structures and idiomatic expressions. Writing will include about 300 additional kanji characters.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1004 - SECOND YEAR JAPANESE 2

Minimum Credits: 5
Maximum Credits: 5
The fourth term in the sequence of Japanese language instruction designed to develop the student's ability to carry on non-technical conversations while continuing to enhance the reading and writing skills. More complex grammatical structures and the study of about 300 additional characters are introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1011 - BASIC JAPANESE LANGUAGE 1

Minimum Credits: 4
Maximum Credits: 4
The first is a series of courses in modern standard Japanese designed for the student with no previous knowledge of the language. Emphasis is on speaking and understanding and includes useful expressions and practical vocabulary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1012 - BASIC JAPANESE LANGUAGE 2

Minimum Credits: 4
Maximum Credits: 4
The second in a series of courses, this is a continuation of Japanese 1011. The course continues to develop the student's ability to speak and understand the language, with emphasis on conversation using everyday vocabulary and expressions.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1013 - BASIC JAPANESE LANGUAGE 3

Minimum Credits: 4
Maximum Credits: 4
The third in a series of courses, this is a continuation of Japanese 1012. The course will further develop the four language skills-speaking, understanding, reading and writing --with continued emphasis on useful vocabulary and expressions in natural conversational situations. Students will learn the Japanese syllabary katakana.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1014 - INTRMEDIATE JAPNESE LANGUAGE 1

Minimum Credits: 4
Maximum Credits: 4
This course is the first term of the intermediate language level and a continuation of Japanese 1013. Emphasis will continue to be on conversational skills, while writing includes the hiragana syllabary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1020 - THIRD YEAR JAPANESE 1

Minimum Credits: 3
Maximum Credits: 3
The first term of the third-year Japanese language course whose primary goal is to develop a broad competency in speaking and reading through materials of academic and cultural interests and the discussion of those materials. The selection of reading materials is made in such a way that most of the characters in the Kyooiku Kanji list is covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: JPNSE 0004 (MIN GRADE 'C-')

JPNSE 1021 - THIRD YEAR JAPANESE 2

Minimum Credits: 3
Maximum Credits: 3
The second term of the third year level Japanese language course and a continuation of Japanese 1020. The student further develops competency through speaking and reading materials of academic and cultural interests and through discussion of those materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: JPNSE 1020 (MIN GRADE 'C-')

JPNSE 1022 - HISTORY OF JAPANESE LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
This course is a review of the historical development of the Japanese language from the earliest extant document to the present. Subjects covered include phonology, syntax and orthography, using examples from historical records, works of literature, and recent scholarship from both Japan and the US. This information is useful not only to those studying the history of Japan and of languages in general, but also to students of the modern language who will gain a deeper understanding of all aspects of spoken and written Japanese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1023 - ASPCTS OF THE JAPNESE LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to the Japanese language through a study of its structure, vocabulary and cultural heritage. Some topics discussed include word order, basic structural patterns, and particles such as WA and GA, sexism, and word formation. This course is useful for the Japanese studies student wishing to have a deeper understanding of the language as well as the linguistics student interested in gaining knowledge of a non-Indo-European language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: JPNSE 0002

JPNSE 1024 - TEACHING JPNSE AS 2ND LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
An introduction to approaches and techniques of teaching Japanese to speakers of English. Included will be some historical background, a review of the major textbooks, and discussions of curriculum development, learning and teaching strategies, Romanization, testing, and other relevant topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1025 - EXPLORNG THE JPNSE LANG & MIND

Minimum Credits: 3
Maximum Credits: 3
This course explores the relationship between language and thought through the study of linguistic and social phenomena in Japan and the U.S.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1026 - ADVANCED JAPANESE: TECHNICAL 1

Minimum Credits: 3
Maximum Credits: 3
This is the first term of a sequence of Japanese language courses at the third-year level designed for students concentrating on scientific, technical or management fields. The course will address the four language skills of reading/ writing and speaking/understanding. Reading will include practice in reading texts from Japanese journals and books in the areas of science, engineering and management. Speaking will include more advanced grammar and vocabulary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1027 - ADVANCED JAPANESE: TECHNICAL 2

Minimum Credits: 3
Maximum Credits: 3
This is the second term of a sequence of Japanese language courses at the third-year level designed for students concentrating on scientific, technical or management fields. The course will address the four language skills of reading/ writing and speaking/understanding. Reading will include practice in reading texts from Japanese journals and books in the areas of science, engineering and management. Speaking will include more advanced grammar and vocabulary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1028 - READING JAPANESE 1

Minimum Credits: 3
Maximum Credits: 3
Introduce students to reading in Japanese through in-class and out of class activities and assignments for improving basic reading skills: dictionary skills, fluency with Katakana and Hiragana, character recognition and production of a total of 510 kanji, gaining fuller control of grammar, and increasing vocab. Size. Will also learn to recognize text genres and adopt appropriate reading strategies, deal effectively with unknown characters and vocabulary items, form expectations about the meaning of text, and other heuristic skills. Structure: lecture in English, directed in-class reading in a variety of text genres, reading out loud, listening comprehension work, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1029 - READING JAPANESE 2

Minimum Credits: 3
Maximum Credits: 3
Introduce students to reading in Japanese through in-class and out of class activities and assignments for improving basic reading skills: dictionary skills, fluency with Katakana and Hiragana, character recognition and production of a total of 800 kanji, gaining fuller control of grammar, and increasing vocabulary size. Students will begin reading with shorter materials, such as signs, correspondence, and recipes, with smaller grammar and lexical demands, and move on to read longer texts, such as short stories and newspaper/web articles, which require more extensive skill in reading comprehension.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1032 - READINGS IN SOCIAL SCIENCE

Minimum Credits: 3
Maximum Credits: 3

This is an advanced level reading course designed to assist students in acquiring the ability to read Japanese texts in the social science disciplines. The focus will be on the structure and style of the written language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: JPNSE 1020

JPNSE 1035 - PRAGMATICS OF JAPANESE

Minimum Credits: 3
Maximum Credits: 3
This course will provide an introduction to the usage aspects of Japanese by reading articles on pragmatic aspects of the language. The instructor will lecture on salient points and lead discussion on specific issues and the appropriate use of the language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1040 - INTRO TO CLASSICAL JAPANESE 1

Minimum Credits: 3
Maximum Credits: 3
This classical Japanese language course is studied through readings of prose and poetry texts written during and immediately after the Heian period. Literary and linguistic techniques are discussed and points of contrast with the modern language are analyzed. Also introduced are reference materials dealing with classical Japanese language and literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: JPNSE 1021

JPNSE 1045 - LANGUAGE OF JAPANESE AESTHTCS

Minimum Credits: 3
Maximum Credits: 3
For over a thousand years, aesthetic values have been seen by the Japanese as central in defining the particular significance of their civilization & the driving force of these insights into the beauty of truth remains powerful even today. Learning to appreciate the development of traditional Japanese aesthetic sensibilities and their historical manifestations in a variety of art forms such as poetry & painting to theatre and folk art not only helps one to understand Japanese culture but provides a nonwestern model to consider creativity, beauty and life. Readings in English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1050 - FOURTH YEAR JAPANESE 1

Minimum Credits: 3
Maximum Credits: 3
A fourth-year Japanese language course for students interested in reading news stories, editorials, journal articles and other special interest items. The goals are to increase vocabulary and to develop the ability to read unfamiliar material as a tool for future research.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: JPNSE 1021 (MIN GRADE 'C-')

JPNSE 1051 - FOURTH YEAR JAPANESE 2

Minimum Credits: 3
Maximum Credits: 3
This course is a continuation of Japanese 1050. The student continues to increase vocabulary and develop the ability to read unfamiliar materials selected from journals and newspapers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: JPNSE 1050 (MIN GRADE 'C-')

JPNSE 1056 - JAPANESE LITERATURE & THE WEST

Minimum Credits: 3
Maximum Credits: 3
A critical study of modern Japanese works and selected modern Western literary materials with special emphasis on intensive analysis by means of modern Western criticism. The course is designed to encourage the student to examine significant similarities and differences between Japanese and non-Japanese materials and to judge the content from an oriental as well as a Western perspective.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1057 - JPNSE CULT & SOCTY THRGH CINEM

Minimum Credits: 3
Maximum Credits: 3
This course provides a critical study of selected international prize winning Japanese films and compares these films with Western films dealing with similar themes. The student learns to analyze and interpret films; becomes familiar with particular genres of Japanese films compared with Western; studies the history of Japanese cinema and its place in international cinematography and exposes the inter cultural benefits of judging the content of the films from oriental and Western aesthetic perspectives.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1058 - WESTERNS AND SAMURAI FILMS

Minimum Credits: 3
Maximum Credits: 3
A focus on the critical comparative study of two filmic genres--the samurai representing Japanese cinema and the Western representing American cinema. The course demonstrates the analytical processes of the film leading to its structural unity; shows the significance of both genres with respect to the history of Japanese, American and European cinema; compares approaches to films of different countries and provides the overall benefits of approaching films from an intercultural standpoint.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1059 - JAPANESE LITERATURE ON SCREEN

Minimum Credits: 3
Maximum Credits: 3
This course will investigate how literature and film treat some major ideological and socio-cultural issues in Japanese society. Readings of pre-modern tales, modern fiction and contemporary novels. Film adaptations will represent the best of Japan's postwar cinematic tradition. The course is designed for the student interested in Japanese society, culture and intellectual currents through film and literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1061 - INTENSIVE JAPANESE 1

Minimum Credits: 10
Maximum Credits: 10
The first step in Japanese language study. The student will acquire a basic competence in speaking, understanding, reading and writing. Emphasis is placed on speaking and understanding as the student learns the sound system, basic vocabulary and essential sentence patterns. Writing will include the katakana and hiragana syllabaries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1062 - INTENSIVE JAPANESE 2

Minimum Credits: 10
Maximum Credits: 10
Students will continue to develop all four skills begun in JPNSE 1061--speaking, understanding, reading and writing with continued emphasis on content useful in everyday communications. Writing will include selected kanji characters.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: JPNSE 1061 or JPNSE 0002

JPNSE 1063 - ADVANCED JAPANESE: TECHNICAL 1

Minimum Credits: 3
Maximum Credits: 3
This is the first term of a sequence of Japanese language courses at the third year level designed for students concentrating on scientific, technical or management fields. The course will address the four language skills of reading/ writing and speaking/understanding. Reading will include practice in reading texts from Japanese journals and books in the areas of science, engineering and management. Speaking will include more advanced grammar and vocabulary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1064 - ADVANCED JAPANESE: TECHNICAL 2

Minimum Credits: 3
Maximum Credits: 3
This is the second term of a sequence of Japanese language courses at the third-year level designed for students concentrating on scientific, technical or management fields. The course will address the four language skills of reading/ writing and speaking/understanding. Reading will include practice in reading texts from Japanese journals and books in the areas of science, engineering and management. Speaking will include more advanced grammar and vocabulary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1070 - WORLD OF JAPAN

Minimum Credits: 3
Maximum Credits: 3
Students will receive a grounding in basic principles of Japanese classical literature, poetry and aesthetics. They will read the entire text in English of the tale of the Genji and examine important works in Japanese literature composed in later periods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1071 - THE WORLD OF JAPAN

Minimum Credits: 3
Maximum Credits: 3
This course covers the period between 1570 and 1870. Beginning with the unification of Japan under sixteenth century military war lords and ending with the collapse of the Tokugana Shoganate. Students will read selections from the major scholarly literature on the period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1072 - WRITERS AND THINKERS

Minimum Credits: 3
Maximum Credits: 3
This course will provide an opportunity to read, analyze, and discuss texts by a variety of modern Japanese thinkers and writers who attempt to define the meaning of a changing Japanese culture and its place in the modern world, from about 1900 to 1960. Some are novelists and poets, others are essayists and philosophers writing for general audience. All materials will be read in English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1080 - GHOSTS, MASKS AND ACTORS

Minimum Credits: 3
Maximum Credits: 3
A critical study of three major dramatic genres of Japan--NOH, Bunraku and kabuki--in cultural origins. Areas to be explored are the use of masks in the world of the NOH theatre, the kabuki with its female impersonators and the near-life-size puppets of the Bunraku. Also discussed is the impact that NOH and Kabuki have had on modern Japanese and non-Japanese theatrical and film genres.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1081 - FORMS OF JAPANESE THEATRE

Minimum Credits: 3
Maximum Credits: 3
This course will provide a survey of various major forms of Japanese theatre using English language materials. Students will have access to relatively ancient forms of Japanese theatre such as Kagura and no, kabuki drama and the Bunraku puppet theatre through film and videocassette. The modern and avant-garde theatre are also accessible through translation and videocassette material. This course is designed for upper-class majors in theatre arts and non-majors in related fields.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1082 - A TASTE OF JAPAN

Minimum Credits: 3
Maximum Credits: 3
Food is an expression of the culture it feeds. Course will examine how food reflects the socio-cultural transformation of Japan from the immediate postwar era of shortage and deprivation to the "gourmet boom" of the contemporary period of affluence and abundance. Readings include short stories, novels, essays, comics, film and anime. The questions for the main course are: how do contemporary directors/novelists use food as a means

of satirizing certain aspects of Japanese society? What is unique about Japanese people's attitudes towards or outlook on food? How are these national characteristics reflected in some of the works being studied in class?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1085 - INTRO TO EAST ASIAN CINEMA

Minimum Credits: 3
Maximum Credits: 3
This course investigates the ways in which film addresses and treats the major socio-cultural issues in modern society through a critical study of the works of Chinese and Japanese master filmmakers. The course focuses on changes in marriage and family patterns, women's roles and the plight of youth.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1700 - INTRO THEORY & PRA OF TRANLT

Minimum Credits: 3
Maximum Credits: 3
This is an introductory course that answers to a growing interest in the theory and practice of translation from Japanese to English. The genres of texts that will be dealt with include literary works of various kinds (novels, poems, children's books), magazine and newspaper articles, web posts, manga, subtitling of anime and other videos, and texts of technical nature. Students will first learn broadly about the discipline of translation studies, including a history of translation and issues in translation (invisibility of the translator, culturally specific translatability issues, etc.). Students will then learn specific types of translation issues that come up when translating Japanese into English, using excerpts from a variety of genres as case studies. Special attention is paid to the structural differences between Japanese and English, cross-cultural differences in stylistics, writing with clarity, reference work, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1783 - JAPANESE CULTURE

Minimum Credits: 1
Maximum Credits: 1
This one credit course on Japanese society, culture and history accompanies a course on basic Japanese language, though either the language or culture course can be taken independently of one another. A series of lectures by distinguished experts on such topics as the Japanese economy, history, family, politics, business, theatre, religion, literature, education, and fine arts is given.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1800 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course aims to deepen the student's understanding of the Japanese language and sharpen language skills in areas which have traditionally been difficult to learn and to understand. This will be accomplished through reading relevant literature, examining linguistic data and by in-class discussions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6
An individual study under the guidance of a department faculty member. For the student whose topic is not covered by regular course work.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

JPNSE 1908 - DIRECTED WRITING FOR MAJORS

Minimum Credits: 1
Maximum Credits: 1
In addition to whatever written assignments are required of those enrolled in the course, this directed writing practicum provides students with an opportunity to contribute writing designed in terms of the intellectual strategies of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JPNSE 1999 - CAPSTONE PROJECT
Minimum Credits: 3
Maximum Credits: 3
Goal of course is to plan and complete a student-directed academic project (capstone project) that requires the command and synthesis of the knowledge and skills learned in the undergraduate career in order to analyze an intellectual problem or topic in the student's interest. The students will plan, find and use appropriate resources, make and execute plans to bring a capstone project to fruition in consultation with the course instructor and a faculty mentor.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

East Asian Studies

EAS 0341 - KOREAN 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

EAS 0342 - KOREAN 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

EAS 0343 - KOREAN 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

EAS 0344 - KOREAN 4
Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Economics

ECON 0010 - INTRO MICROECONOMIC THEORY
Minimum Credits: 4
Maximum Credits: 4
Introduction to principles of economic analysis as applied to the study of prices and markets. The course builds a theoretical basis for understanding producer and consumer behavior, and prepares students to appreciate the importance of markets in our economic system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0020 - INTRO MACROECONOMIC THEORY

Minimum Credits: 4
Maximum Credits: 4
An introductory course which analyzes macroeconomic equilibrium. Presents the basic analytical tools of macroeconomic theory. Topics covered include: determinants of aggregate expenditure, construction of the Keynesian model, unemployment, inflation, monetary and fiscal policy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0100 - INTRO MICROECONOMIC THEORY

Minimum Credits: 3
Maximum Credits: 3
Introduction to principles of economic analysis as applied to the study of prices and markets. The course builds a theoretical basis for understanding producer and consumer behavior, and prepares students to appreciate the importance of markets in our economic system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0109 - GREAT ECONOMIC IDEAS

Minimum Credits: 3
Maximum Credits: 3
Introduces students to the contributions of some leading economists over a period of about 200 years. Although the course will emphasize the works of major economists ranging from Adam Smith to J.M. Keynes, attention will also be paid to pre-smithian developments. Consideration is also given to the emergence of major schools of thought.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0110 - INTRO MACROECONOMIC THEORY

Minimum Credits: 3
Maximum Credits: 3
An introductory course which develops the basic tools needed to analyze the behavior of various macroeconomic phenomena including inflation, gross domestic product, and unemployment. In addition, these tools are used to study how and whether the government can impact the behavior of the overall economy. Finally, the course looks at the role various institutions such as banks and the stock and bond markets play in affecting the economic environment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0120 - INTRODUCTORY ECONOMIC THEORY

Minimum Credits: 3
Maximum Credits: 3
An accelerated introduction to micro- and macro-economic theory, designed to fulfill the basic sequence in theory in a single term. Emphasis is placed on major segments of micro- and macro-economics: the concept of resource allocation; demand theory; supply and demand analysis; the theory of the firm; market structure and market breakdown"; income distribution; determinants of national income; management of aggregate demand; international trade and finance."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0140 - INTRO TO POLITICAL ECONOMY

Minimum Credits: 3
Maximum Credits: 3
Interdisciplinary introduction to economics intended mainly for non-majors, especially political science. The syllabus includes market and macroeconomic theories and relationships between political and economic processes. Though less tool oriented than other introductory treatments, the topical developments are not superficial.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0160 - INTRODUCTION TO ECONOMETRICS

Minimum Credits: 3
Maximum Credits: 3
Develop an understanding of basic econometrics. Teaches use of the computer for econometric and statistical analysis, and how to acquire information about published data on basic economic activity. Attempts to develop an understanding of the difficulties inherent in collecting and interpreting actual data. The heart of the course is the development of basic econometric skills. Learning about data sources and computer software will be included as the basic econometric theory is developed.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(ECON 0100 and 0110) or (ECON 0800)] and (STAT 0200 or 1000 or 1100 or 1152); MIN GRAD: C" for (ECON 0100 and 0110); PLAN: Economics (BA or BS) or Economics - Statistics (BS) or Mathematics-Economics (BS)"

ECON 0170 - INTRO TO MATHEMATICAL MODELING

Minimum Credits: 3
Maximum Credits: 3
Mathematics play an increasingly important role in many areas of social sciences. The course aims at awakening students' interest in use of simple yet powerful mathematical techniques and their application in social sciences. It contains 4 main chapters: modeling in two dimensions; linear models; linear programming; and game theory (i.e. Mathematical analysis of strategic behavior or individuals or groups with conflicting aims). The course is largely self-contained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0180 - ECONOMICS AND THE MEDIA

Minimum Credits: 3
Maximum Credits: 3
Course provides an overview of the reporting on economic events and issues by the print, broadcast and electronic media. It examines problems of interpreting economic re porting, assessing the bias of reports, and obtaining back ground or supplementary information in order to place news reports in context. Course also looks at economic organization of media firms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (ECON 0100 and 0110) or 0800

ECON 0200 - GAME THEORY PRINCIPLES

Minimum Credits: 3
Maximum Credits: 3
This course introduces the basic concepts of game theory. The emphasis is on the unifying perspective that game theory offers to questions in economics, other disciplines, and everyday life. The course draws on a wide range of substantive and intellectually stimulating applications of game theory across areas in economics, other disciplines, and beyond. It will enable students to view social interactions as strategic games, to use game theoretic concepts to predict behavior in these interactions and to conceive of ways in which altering the game affects social outcomes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0220 - INTRO TO HEALTH ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
This course applies microeconomic analysis to the allocation of resources and consumption of products within the health care economy. It will allow students to develop an understanding of microeconomic theory, in particular as it is applied to real world problems. Also it will provide students with knowledge of the economic aspects of health care in the US and related policy. Unique features of health care which interfere with competitive market allocation and pricing will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 0100 and (MATH 0120 or 0220 or 0230 or 0235 or (0125 and 0126)); MIN GRADE 'C' for all courses

ECON 0230 - INTRODUCTION TO PUBLIC ECONMCS

Minimum Credits: 3
Maximum Credits: 3
The objectives of this course are - to illustrate how basic economic principles can be used to determine the economic effects of government expenditure and tax policies; to develop the students' ability to analyze issues and to recognize the value judgments which lie behind various positions taken in current policy debates.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 0100 or 0800

ECON 0280 - INTRODUCTION TO MONEY & BANKNG

Minimum Credits: 3
Maximum Credits: 3
The course is directed toward giving the student an insight into the role that monetary policy and financial markets play in the economy. It will cover

both the theoretical and institutional aspects of banking necessary to function successfully in the business world. One object of the course is to give the student the ability to analyze and appraise critically the monetary policy of federal reserve system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 0110 or 0800 (MIN GRADE 'C')

ECON 0330 - URBAN ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
This course presents an overview of the urban economy. Elementary tools of economic analysis are used to build an understanding of urban spatial structure and examine contemporary urban economic and social problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 0100 or 0800

ECON 0360 - INTRO ENVIRON & RESOURCE ECON

Minimum Credits: 3
Maximum Credits: 3
Basic economic theory applied to issues involving joint interaction of economic activity, the environment, and use of natural resources. Debate over the sustainability of economic development, renewability and/or depletion of natural resources, and effects of pollution on environmental quality will be surveyed. The issues of ozone depletion, loss of biodiversity, and greenhouse gas emissions and global warming will be considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 0100 or 0800

ECON 0400 - LABOR AND THE ECONOMY

Minimum Credits: 3
Maximum Credits: 3
An introductory survey of contemporary labor developments and issues. Readings and lectures have a more historical and institutional perspective and less emphasis on analytical techniques than other labor offerings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 0100 or 0800 (Min Grade 'C')

ECON 0430 - WOMEN IN THE LABOR MARKET

Minimum Credits: 3
Maximum Credits: 3
The empirical evidence suggests that women earn lower income than men, and that the wage rates earned by women are lower than those of men --- even when they have similar job classifications. This course examines the role of women in the labor market; the nature of their decision to invest in education, their labor force participation, and the demand for their labor services. In this way, a framework for policy analysis is developed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 0100 or 0800

ECON 0450 - ECON OF TECHNOLOGICAL CHANGE

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the process of technological change. Topics include the historical development of technology, the economic analysis of technological change, case studies of specific nations and products, and public policy issues linked to technological change.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECON 0100 or 0800; PLAN: Economics (BA or BS) or Economics - Statistics (BS) or Mathematics-Economics (BS)

ECON 0460 - SPORTS ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0470 - INDUSTRIAL ORGANIZATION 1

Minimum Credits: 3
Maximum Credits: 3
The varieties of market organization and firm behavior are described and analyzed. Comparative performances of various industrial market and firm types are considered and the possibilities for public policy are developed. The course is oriented toward theory, but descriptive data and historical developments are presented to provide the empirical perspective.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0490 - TRANSPORTATION ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
Course designed to lead students to better understanding of current transportation issues at all geographic levels. Provides an overview of transportation problems and solutions, techniques of analysis, evaluation of real world examples of transport development. Specific topics covered include: definition of transportation, causes of movement, costs of movements, pricing of goods and people movements, transportation environment and energy, urban transportation planning, transportation and urban land use, classification of urban transport demand and policies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0500 - INTRO INTERNATIONAL ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
Provides an introduction to international economics. Half the topics are pure theory, half international monetary economics. Topics from the real world are analyzed. Topics include alternative pure trade theories; effects of trade barriers; U.S. commercial policy; forms of regional integration; balance of payments; elimination of balance of payments disequilibrium; international monetary system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (ECON 0100 and 0110) or 0800 (MIN GRADE 'C')

ECON 0501 - INTRO TO INTERNATIONAL ECONMCS

Minimum Credits: 3
Maximum Credits: 3
An introduction to the basic issues of international economics and to the historical evolution and institutional structure of the international economy. Topics include mercantilism, comparative advantage as a basis for trade, the impact of trade on income distribution, the evolution of the international financial system, and the working of the international gold standard.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

ECON 0520 - COMPARATIVE ECONOMIC SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
Course uses the comparative study of different economies as a mirror for learning about our own economic system and for attaining a deeper understanding of how economies function. The course reviews central issues that affect the operation of all economies. It then focuses on the question what is a market economy?" By examining the structure, operation, and recent history of several major economies: the United States, Germany, Japan, Russia, and China. Discussion of each economy concentrates on crucial issues: growth, technology, finance, ownership, environment, and equity."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0530 - INTRO TO DEVELOPMENT ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
An introductory description and analysis of the economic systems of countries commonly referred to as less developed countries. Alternative development policies with respect to international trade, agriculture, industry, health, and education will be outlined. The roles played by government, population growth, environmental degradation, income distribution, and foreign aid will be discussed. The economic aspects of development will be stressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (ECON 0100 and 0110) or ECON 0800 (MIN GRADE 'C')

ECON 0630 - EAST ASIA'S DYNAMIC ECONOMIES

Minimum Credits: 3
Maximum Credits: 3
An introductory survey of several East Asian economies. The primary objective is to equip students with a clear understanding of major elements of recent Asian economic history and current economic conditions, and of implications of Asian economic gains for the United States economy, particularly U.S. Trade relationships with this region and their dynamically changing patterns. A secondary objective is to use case studies and empirical materials as vehicles to appreciate how economic principles can be used in real world analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ECON 0100 and 0110) or ECON 0800; MIN GRADE: 'C' for all listed Courses; PLAN: Economics (ECON-BA), Economics (ECON-BS), Economics-Statistics (ECNSTC-BS), Mathematics-Economics (M-ECON-BS)

ECON 0640 - ECON DEVELOPMENT OF THE MENA

Minimum Credits: 3
Maximum Credits: 3
This course is designed to expose students to current views by academics and policy makers on past practices and future challenges facing the economies of the Mena region. The course will be taught with an interdisciplinary emphasis on political, social, and cultural, as well as economic aspects. Assignments will include a research paper in addition to a group project presentation. Students will gain an overall understanding of the economic problems of the region, and will be able to effectively analyze changes in the economic climate of the region.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0800 - INTRODUCTION TO ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
A one-term course designed primarily for the non-major. The main goals are to create interest in the study of economics and introduce some basic tools economists use to analyze social issues. Issues range from farm subsidies to changes in income tax rates to changes in spending on crime reduction.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0810 - CONSUMER ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
Course provides framework for understanding practical choices faced by individuals in role as consumers. Rudiments of supply and demand are explained and used to provide context for discussing everyday consumer choices and personal investment decisions. Topics include (1) roles of technology and information in our society, (2) household choices concerning purchase of durable goods such as cars and appliances, (3) family budgeting, (4) financial investments, (5) housing rental and ownership and (6) health care.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0820 - REGULATED INDUSTRIES

Minimum Credits: 3
Maximum Credits: 3
Emphasizes the economics of regulated and formerly regulated industries, such as airlines, banking, and transportation. Reviews structure of regulated markets and alternatives to market failure. Examines trend to privatization, globally as well as domestically.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0830 - GOVERNMNT REGULTN OF BUSINSS

Minimum Credits: 3
Maximum Credits: 3
Covers organization and development of business and role of government in process of formulating public policy. Reviews nature of business organization, its growth and development, and political, legal, and administrative framework in which business operates. Describes and analyzes various measurements of concentration and market behavior, competition, and business practices. The role of government is considered. Major attention is given to antitrust laws and their legal economic consequences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 0900 - ECONS: INT FOR FIELD MAJORS
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

ECON 0905 - SPECIAL TOPICS
Minimum Credits: 3
Maximum Credits: 3
Current topics of particular interest to economics majors are discussed and analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1010 - AMERICAN ECONOMIC HISTORY
Minimum Credits: 3
Maximum Credits: 3
The course presents a survey of the strategic factors in the economic development of the United States from colonial times to the great depression. The topics covered include the record of economic growth, the process industrialization and its major phases, British mercantilism, the role of technological change, demographic history, the slave economy, distribution of income, urbanization, and the financial sector.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 0100 or 0800 (MIN GRADE 'C')

ECON 1030 - INTELLCL FOUNDTNS OF CAPITLISM
Minimum Credits: 3
Maximum Credits: 3
This course explores the salient features of European economic development from the black plague of the middle ages to the great depression of the 1930's. The emphasis will be to understand how social, demographic, and economic processes interacted and ultimately culminated in one of the most momentous events in the history of mankind, the industrial revolution. We shall venture an explanation for why Europe was the first continent and England the first country to industrialize. The social changes in the aftermath of the revolution will also be covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1040 - POLITICS AND THE ECONOMY
Minimum Credits: 3
Maximum Credits: 3
Study of modern Marxian economic theory with applications to contemporary and developing capitalist economies. Marxian method contrasted to modern economic methods. Historical example illustrating Marx's concepts of economic and social change. Marxian economic theory covering such topics as commodities, labor theory of value, the circuits of capital, relative and absolute surplus value, technological change, reproduction schemes, accumulation and crisis. Comparisons and contrasts to traditional economic theory. Empirical applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MIN GRADE 'C'); PROG: School of Arts & Sciences

ECON 1050 - SOCIALISM VERSUS CAPITALISM
Minimum Credits: 3
Maximum Credits: 3
The course covers the economic changes that produced capitalism; the attempts to understand capitalism which culminated in the theories of Adam Smith; the problems of communist societies and their attempts to return to some form of capitalism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1070 - HISTORY OF ECONOMIC THOUGHT 1
Minimum Credits: 3
Maximum Credits: 3
Surveys the development from Plato through J.S. Mill and Marx. Focuses on (1) the patristic/scholastic tradition; (2) English mercantilism; (3) the challenges of Hobbes's Leviathan" and Mandeville's "Fable of the Bees" and the responses of butler, Shaftesbury, Hume and Smith; (4) summate organized by Cantillon, the physiocrats, Steuart, and Smith; (5) the earlier British classical economists; and (6) J.S. Mill and Marx."
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1080 - HISTORY OF ECONOMIC THOUGHT 2

Minimum Credits: 3
Maximum Credits: 3
An overview of the development of modern Western economics from 1871 through the mid-1950s. Examines (1) the various marginalist schools and their critics; (2) several neoclassical traditions and their critics; (3) efforts at formulating static and general equilibrium analysis; and (4) the development of various types of empirical economics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1100 - INTERMEDIATE MICROECONOMICS

Minimum Credits: 3
Maximum Credits: 3
An intermediate-level course in resource allocation theory emphasizing the origins and uses of theoretical reasoning in economic analysis. Topics covered include the methodology of economic analysis; theories of consumer behavior; demand and supply analysis; production theory; the theories of the firm and market behavior; income distribution theory; and general equilibrium theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 0100 and 0110 and [MATH 0120 or 0220 or (0125 and 0126) or 0230 or 235]; MIN GRADE: 'C' For All Listed Courses

ECON 1110 - INTERMEDIATE MACROECONOMICS

Minimum Credits: 3
Maximum Credits: 3
A systematic treatment of macroeconomic analysis including such topics as policy analysis, inflation-unemployment tradeoffs, business cycles, budget deficits, and the balance of payments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 0100 and ECON 0110 and [MATH 0120 or 0220 or (0125 and 0126) or 0230 or 235]; MIN GRADE: 'C' For All Listed Courses

ECON 1130 - OPERATIONS RESEARCH ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
To introduce students to analytical reasoning and quantitative techniques from the study of operations research. Emphasis on models and methods which can be applied to economic theory. Students will develop skills in (1) translating problems described in verbal terms into appropriate mathematical models; (2) solving the models, often using a computer; and (3) interpreting the results.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1140 - ECONMC MODELING & FORECASTING

Minimum Credits: 3
Maximum Credits: 3
Introduces various models and forecasting methods utilized in practice. These include national and regional macro econometric models (simultaneous equation models), single-equation models, market demand and supply models, and time-series models. Application is emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1150 - APPLIED ECONOMETRICS 1

Minimum Credits: 3
Maximum Credits: 3
Introduces basic tools in applied econometrics that are commonly employed in government, business, and academic research. The main emphasis is on application of various econometric methods. Students are expected to become familiar with standard computer programs that are frequently used in quantitative economic research. Topics covered are a review of basic statistics, classical linear regression models, and associated inferential problems, and generalized linear regression models and associated inferential problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Course Requirements: PREQ: (ECON 1100 or ECON 1110) MIN GRADE: 'C' and [MATH 0120 or 0220 or (0125 and 0126) or (0230 or 0235)] and (STAT 0200 or 1000 or 1100 or 1152)

ECON 1160 - APPLIED ECONOMETRICS 2

Minimum Credits: 3
Maximum Credits: 3
Covers important advanced techniques and models frequently used in quantitative economic research in government, business, and academic institutions. Emphasis is on application. Among the subjects to be covered are distributed lag models, seemingly unrelated regression models, error components models, simultaneous equation models, and an introduction to the use and analysis of econometric models.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1170 - MATHEMATICS FOR ECONOMISTS

Minimum Credits: 3
Maximum Credits: 3
Provides the mathematical training required for advanced courses in mathematical economics, econometrics, and economic theory. Covers topics in linear algebra and matrix theory. About one third of the course is given over to economic and econometric applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1180 - MATHEMATICAL ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
An initial course for graduate students or for undergraduates with a strong math background. Topics will include nonlinear and linear optimization models and simulation applications to economic problems. The optimization topics will include an introduction to activity analysis and Kuhn Tucker Theory. To facilitate the study of these, some topics concerning linear inequalities and convex functions will be discussed. Application of each topic to economic theory and policy will be stressed. The computer will be used for solving problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MIN GRAD 'C') and [MATH 0120 or 0220 or (0125 and 0126) or 0230 or 235]

ECON 1200 - GAME THEORY

Minimum Credits: 3
Maximum Credits: 3
The aim of the course is to introduce the main elements of game theory, in a manner which emphasizes the connections between the cooperative" and "non-cooperative" traditions. Students will be expected to develop understanding sufficient to construct proofs as well as to perform computations, and there will be emphasis on modelling issues."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0120 or 0220 or (0125 and 0126) or 0230 or 235 and (STAT 0200 or 1000 or 1100); MIN GRADE: 'C' FOR LISTED COURSES

ECON 1210 - MICROECONOMICS

Minimum Credits: 3
Maximum Credits: 3
Accelerated course designed to move from introductory through intermediate microeconomics in one term. Topics include introduction to models of resource allocation, markets and their workings, theory of optimizing household, theory of the firm (production, cost and revenue analysis and their applications), firm behavior, market structure and performance, factor markets and investment decisions, returns to factors and general equilibrium analysis, and welfare economics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1220 - MACROECONOMICS

Minimum Credits: 3
Maximum Credits: 3
Accelerated course designed to move from introductory through intermediate macroeconomic theory in one term. First part of course is introduction to economic thinking and macroeconomic aggregates. After first part, course emphasizes use of formal models of macroeconomy in interpreting recurrent patterns of economic activity and specific episodes of growth and business-cycle activity, as well as in conducting policy analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1230 - INTERMEDIATE PUBLIC ECONOMICS
Minimum Credits: 3
Maximum Credits: 3
Fundamentals of policy analysis will be reviewed and then applied to a small set of current policy questions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MINGRADE: 'C')

ECON 1250 - BEHAVIORAL ECONOMICS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (Min Grad 'C')

ECON 1280 - MONETARY THEORY AND POLICY
Minimum Credits: 3
Maximum Credits: 3
Course focuses on financial system and important role it plays in facilitating growth in the U.S. Economy. Financial intermediaries are discussed with emphasis placed on the banking system and its regulator, the federal reserve system, the federal reserve's influence on money supply and interest rates and nonbank public's demand for money is discussed. Role of monetary policy in promoting price stability and economic growth discussed in the context of a U.S. Economy that is growing more integrated with worldwide economic events.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1110 (MIN GRADE 'C')

ECON 1300 - INTRO TO REGIONAL ECONOMICS
Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to regional economics. It concerns the spatial distribution of economic activity, and develops a theoretical basis for the analysis of economic problems in this context. The course material covers spatial economic theory as well as more macro" topics related to regional growth and development."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MINGRADE: 'C'); PROG: School of Arts & Sciences

ECON 1310 - METHODS OF REGIONAL ANALYSIS
Minimum Credits: 3
Maximum Credits: 3
This course surveys some of the most widely used methods for analyzing regional economic activity, including shift/share, economic base, and regional input-output models. Emphasis is placed on understanding the theoretical underpinnings of such methods so as to gain an appreciation for their potential applications as well as their limitations in applied work. The course is organized around empirical applications of the methods and models studied, making regular use of personal computers in homework assignments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1320 - URBAN ECONOMICS
Minimum Credits: 3
Maximum Credits: 3
This course will address the economic determinants of metropolitan development and urban spatial structure. In addition, contemporary urban problem areas such as housing, urban fiscal crisis, poverty, discrimination and transportation will be analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MINGRADE: 'C'); PROG: School of Arts & Sciences

ECON 1360 - ENVIRONMENTAL ECONOMICS
Minimum Credits: 3
Maximum Credits: 3
Basic economic theory is applied to issues involving the joint interaction of economic activity, the environment, and use of natural resources. The

debate over the sustainability of economic development, the renewability and/or depletion of natural resources, and the effects of pollution on environmental quality will be surveyed, including the issue of greenhouse gas emissions and global warming. Benefit-cost analysis, optimal tax and regulatory schemes, public goods, property rights, emission rights markets, and other economic policy instruments/concepts will be studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MINGRADE: 'C')

ECON 1380 - ECONOMICS & PHILOSOPHY SEMINAR

Minimum Credits: 3
Maximum Credits: 3
Each year this seminar will focus on one or two topics of common interest to economists and philosophers such as economic justice, welfare economics, the role and status of preferences, the nature of rational choice, economic theories of democracy or law.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ECON 1390 - WORK, SELF AND SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This course deals with the sources of job satisfaction and how, if at all, employment relations might be structured to assure that people find their work more self-fulfilling. The first half of the term is devoted to a critical survey of the major theories of economists and sociologists about the influences of work on personal development and social welfare, the second half compares the organization of work in selected countries, including Japan, Spain, U.S., And Yugoslavia, where there are distinctive differences.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ECON 1410 - COLLECTIVE BARGAINING

Minimum Credits: 3
Maximum Credits: 3
This course involves a term-long role playing assignment to learn about and experience the process of collective bargaining. Each person will be appointed to a labor or management team and will have the opportunity to serve as a chief negotiator. The labor relations laws of the U.S. And the philosophy of collective bargaining are discussed in the remaining class periods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1420 - LABOR ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
This is an advanced elective course on labor economics for undergraduate students. The purpose of the course is to apply the analytical tools from intermediate microeconomic theory to analyze how society develops, allocates and rewards human resources, and to study a wide range of labor-related issues, such as labor supply; household production and labor force participation; labor demand; minimum wages; labor market discrimination; compensating wage differentials; schooling and earnings; wage inequality, and immigration. Emphasis will also be given to the empirical evidence on those topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MINGRADE: 'C')

ECON 1440 - ECONOMICS OF CORPORTN FINANCE

Minimum Credits: 3
Maximum Credits: 3
The course is intended as an analysis of the investment valuation and financing of the corporation. Attention will be focused on the application of economic theory to the solution of financial problems. The interrelations between investment and financing policies and their dependence on security valuations will be stressed. The institutional background necessary to analyze these problems will be examined, and practical cases drawn from personal and business situations will be used along with more theoretical materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MINGRADE: 'C')

ECON 1450 - LAW AND ECONOMICS

Minimum Credits: 3
Maximum Credits: 3

This course uses the tools of microeconomics to understand the basic structure and functioning of the contemporary common law system in the United States. We focus on the fundamental law areas of torts, contracts and property, and also present overviews of the litigation process and crime. Students will be expected to apply this course material to understand the impact of liability law, contracts and property law on the behavior of investors, entrepreneurs, government workers and potential criminals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MINGRADE: 'C'); PROG: School of Arts & Sciences

ECON 1470 - MARKET STRUCTURE & COMPETITION

Minimum Credits: 3
Maximum Credits: 3
The course is a survey of the behavior of firms, the structure of industrial markets, and market performance. The survey will cover both theoretical models and empirical analyses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MINGRADE: 'C')

ECON 1500 - INTRMEDIATE INTRNATIONAL TRADE

Minimum Credits: 3
Maximum Credits: 3
This course is an intermediate level survey of the theory of international trade and related evidence. Topics include causes and consequences of international trade, trade and income distribution, commercial policy, political economy aspects of trade policy, preferential trading arrangements (NAFTA, European Union, etc.), Trade and development, and others. While no one geographic area is singled out, examples will come from most areas of the world economy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Economics (BA or BS); PREQ: ECON 1100 (Min Grad 'C')

ECON 1510 - INTERMEDT INTERNATIONAL FINANC

Minimum Credits: 3
Maximum Credits: 3
This course provides an in-depth analysis of international monetary economics and related topics in the area of international finance. Topics to be covered include exchange rate determination, balance of payments, exchange market efficiency, forward exchange rates, effects of devaluation, the international monetary system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1110 (MIN GRADE: 'C')

ECON 1520 - TRANSTN FRM CNTRL PLN TO MKT

Minimum Credits: 3
Maximum Credits: 3
Review theoretical models and empirical studies dealing with performance of centrally planned, labor managed and market economies. Study strategies of transition from central planning to market economy. Deal with empirical evidence on early successes and failures of transition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1530 - INTERMEDIATE DEVELOPMENT ECON

Minimum Credits: 3
Maximum Credits: 3
This course considers the characteristics of economic growth and conditions in the developing countries today, and the determinants of levels of output, consumption, capital formation and income distribution. Attention is focused on simple growth models, as well as dual economy models of development. The sources of growth are surveyed, along with the role of investment, population, labor productivity and education. Attention is given to the role of agriculture and to the potential contribution of foreign trade and of industrialization through expansion of domestic markets.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MINGRADE: 'C'); PROG: School of Arts & Sciences

ECON 1540 - THEORY OF ECONOMIC GROWTH

Minimum Credits: 3
Maximum Credits: 3

Theoretical models of economic growth will be presented and empirical evidence of the sources of economic growth in both developed and developing countries will be reviewed. The effects of population growth and of dualism will be considered, and the role of investment in physical capital, r & d, and labor skills will be assessed. The potential for the rate of growth to be affected by the choice of the economic policy will be analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1110 (MINGRADE: 'C'); PROG: School of Arts & Sciences

ECON 1560 - WORLD FOOD ECONOMY

Minimum Credits: 3
Maximum Credits: 3
Introduction to the dynamics of world production and trade in foodstuffs and agricultural produce. Emphasis will be placed on using the tools of economic analysis to examine the evolution of agricultural sector with economic development including the issues of agricultural self-sufficiency, and environmental degradation, the role of technical change in agricultural production, food security, famines, and food aid. The impact of economic policies on agricultural growth and performance, the institutions and mechanisms involved in international trade in agricultural products.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1580 - ECON GRWTH PBLC HLTH DEMOGRPHY

Minimum Credits: 3
Maximum Credits: 3
Surveys the principle elements of demographic science, particularly within the context of developed and developing economies. Focuses on causes and consequences of changes in mortality, natality, migration and immigration as they apply to such current problems as (1) sufficient saving; (2) physical capital accumulation; (3) productivity changes; (4) the distribution of wealth and income, and (5) changes in population dependency ratios.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 or 1110 (MINGRADE: 'C')

ECON 1590 - PEOPLE RESOURCES USSR/E EUROPE

Minimum Credits: 3
Maximum Credits: 3
This is a survey course of the demography & resource management of the socialist countries of eastern Europe. The primary objective is to provide the student with a general description and understanding of the relations among people, administrative institutions, resource utilization and regional development. Topics covered include constraints in regional economic development--population, nationalities, natural resources, transportation; the location of agricultural production, industrial location, planning the urban system; consumer welfare; socialist economic integration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1610 - LATIN AMERICA ECON DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
A survey of institutional economic problems and development theories and policies in Latin America. Introductory section: significance of economic and non-economic factors. Core of the course: causes of underdevelopment, national planning, demographic growth, land tenure and agrarian reform, industrialization, financing, inflation, trade and balance of payments, foreign debt, regional integration, employment-unemployment, distribution, and social welfare. Final section: integrated model presenting alternative strategies to economic development in the area.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (ECON 0100 and 0110) or ECON 0800; MIN GRADE: 'C' For All Listed Courses

ECON 1620 - ECON DEVELOPMNT SOCIALIST CUBA

Minimum Credits: 3
Maximum Credits: 3
An interdisciplinary analysis of the socio-economic changes in Cuba under socialism. Summary of socio economic situation at the eve of the revolution and stages in revolutionary policies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1630 - ECONOMIC DEVELOPMENT OF CHINA

Minimum Credits: 3
Maximum Credits: 3

This course surveys the development of china's economy since 1800 with particular emphasis on studying china's experience under different forms of economic organization (market economy, central planning, reformed system combining plan and market) and comparing china's development with that of other nations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 0800 or (ECON 0100 and 0110)

ECON 1640 - JAPANESE ECONOMIC GROWTH

Minimum Credits: 3
Maximum Credits: 3
This course surveys the development of Japan's economy. Considers how economic processes in Japan may differ from those in other industrial nations, and discusses Japan's position in the international economy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1670 - FORMER SOCLIST ECON & TRANSTN

Minimum Credits: 3
Maximum Credits: 3
An introductory course to the former socialist systems and the problems of making a transition to a market economy. Part of the course will be devoted to studying aspects of socialist economic history and institutions. Students will learn to apply growth accounting, shadow pricing, income distribution measures, social welfare functions and micro economic models to analyze selected problems of transition. Students will use internet to follow economic developments for a specific country or region in the former soviet union or eastern Europe.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (MINGRADE: 'C'); PROG: School of Arts & Sciences

ECON 1680 - ECON OF EUROPEAN UNION

Minimum Credits: 3
Maximum Credits: 3
Introduction to economy of Europe, including theory and institutions of European community as they relate to economic systems, its economic relations with other European states and the world, its economic problems and policies. Elementary economics will be reviewed, but no specialist knowledge is required. European economic policies are examined in a critical manner. Some study of breakdown of eastern bloc and the implications of eastern European crisis for European community and the United States.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (ECON 0100 and 0110) or ECON 0800; MIN GRADE: 'C' FOR ALL COURSES LISTED

ECON 1700 - PROSEM METHODLGY OF ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
Critically surveys the current methodology employed in economics.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (Min Grade 'C') and ENGCMP 0200; PLAN: Economics (BA or BS) or Economics - Statistics (BS) or Mathematics-Economics (BS)

ECON 1710 - PROSEM INTERNATIONAL ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
Course discusses and analyzes topics of importance in international trade. Examples of some topics are trade agreements, free trade winners and losers, and speculation of effects of trade agreements.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 and ECON 1110 (Both Min Grade: 'C') and ENGCMP 0200; PLAN: Economics (BA or BS) or Economics - Statistics (BS) or Mathematics-Economics (BS)

ECON 1720 - PRO-SEMINR MONETRY & MACROECON

Minimum Credits: 3
Maximum Credits: 3
A major function of the seminar will be to encourage clear and effective writing, following accepted conventions of style.

Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1110 (Min Grade: 'C') and ENGCMP 0200; PLAN: Economics (BA or BS) or Economics - Statistics (BS) or Mathematics-Economics (BS)

ECON 1730 - SEMINAR EXPERIMENTAL ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
There is a small, but rapidly growing literature in which behavioral experiments are used to test central propositions of various economic theories. This course will review the experimental literature that exists in several areas of economics, including industrial organization, social choice and preference revelation, behavior of decentralized markets, and bargaining.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECON 1100 (Min Grade 'C') and ENGCMP 0200; PLAN: Economics (BA or BS) or Economics - Statistics (BS) or Mathematics-Economics (BS)

ECON 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 12
Student designed project of study in a particular area of economics. Supervised closely by a faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ECON 1902 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 12
Faculty supervised project of student design.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Satisfactory/No Credit

ECON 1903 - DIRECTED RESEARCH

Minimum Credits: 1
Maximum Credits: 12
Faculty supervised research project of student design or faculty suggestion.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

ECON 1905 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
Current topics of particular interest to economics majors are discussed and analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ECON 1960 - POLIT & ECON OF PUBLIC POLCY

Minimum Credits: 3
Maximum Credits: 3
Introduction to digital systems, Boolean algebra, minimization of logic functions, combinational and sequential circuit design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Education

EDUC 1011 - CULTURALLY RESPONSIVE PEDAGOGY

Minimum Credits: 3
Maximum Credits: 3
Instructional practices that respond to the social context in which they (will) work. The course covers general principles and approaches to culturally responsive teaching such as how teachers develop meaningful relationships with students, how teachers learn from and about a school and local community, how teachers develop and implement culturally responsive classroom management, and how teachers develop expectations for students

that maximize their capacity. In addition, the course will assist students in learning about and developing culturally responsive curriculum and pedagogy in their different content/subject matter areas (such as mathematics, science, art, language arts, and social studies). A recurrent and central question of the course is: how do teachers develop culturally responsive instructional practices in their particular disciplinary domain to maximize students learning opportunities?
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

EDUC 1998 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 3
Student pursues study of various topics under the direction of a faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

Electrical Engineering

ECE 0031 - LINEAR CIRCUITS AND SYSTEMS 1
Minimum Credits: 4
Maximum Credits: 4
The analysis of linear circuits. Electric variables and circuit elements; Kirchhoff's and Ohm's Law; Mesh and Node Equations; Thevenin and Norton equivalent circuits; first and second-order circuits; time domain analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0150 or 0230 or 00231 or 0235) and (PHYS 0152 or 0175 or 0202 or 0476); PLAN: Electrical Engineering or Computer Engineering

ECE 0041 - LINEAR CIRCUITS AND SYSTEMS 2
Minimum Credits: 3
Maximum Credits: 3
Sinusoidal steady-state analysis, network functions, real and reactive power, three-phase circuits, laplace transform method, two-port networks, and Fourier series.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0031 or COE 0031; PLAN: Electrical Engineering or Computer Engineering

ECE 0132 - DIGITAL LOGIC
Minimum Credits: 3
Maximum Credits: 3
Introduction to digital systems, Boolean algebra, minimization of logic functions, combinational and sequential circuit design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0150 or 0230 or 0231 or 0235) and (PHYS 0152 or 0175 or 0202 or 0476); PROG: Undergraduate Swanson School of Engineering

ECE 0142 - COMPUTER ORGANIZATION
Minimum Credits: 3
Maximum Credits: 3
Digital computer data representation, instruction formats, control, memory and input-output units, microprocessors, minicomputers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0132 or COE 0132; PROG: Swanson School of Engineering

ECE 0257 - ANAL & DESIGN ELECTRONIC CIRCT
Minimum Credits: 3
Maximum Credits: 3
Diode circuits, power supply design; analysis and design of bipolar junction transistor and field effect transistor amplifiers. Bias stability analysis, power amplifiers. Ideal operational amplifiers. Cmos inverters.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0031 or COE 0031; PROG: Swanson School of Engineering

ECE 0501 - DIGITAL SYSTEMS LABORATORY

Minimum Credits: 3
Maximum Credits: 3
This course and laboratory introduces students to the basic concepts of digital circuits, simulation and instrumentation, systems composed of discrete devices, logic gates, combinatorial and sequential circuits are designed, simulated, built and tested.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ECE 0031 or COE 0031) and (ECE 0132 or COE 0132); PROG: Swanson School of Engineering

ECE 1150 - INTRO TO COMPUTER NETWORKS

Minimum Credits: 3
Maximum Credits: 3
The course will cover the understanding technologies where methods of interconnection are fundamental to the system design. Interconnection will include serial point to point and multiple access serial/parallel methods and protocols. There will be an emphasis on fundamentals related to wireless network systems and networks of computers or embedded digital devices. Coverage will include small wireless devices that may be passive or battery powered - requiring low power devices and protocols in either case.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ECE 0142) or (COE 0142 or 0147 or 0447) or (CS 0447); PROG: Undergraduate Swanson School of Engineering

ECE 1160 - INTRO EMBDDED SYSTEM DESIGN

Minimum Credits: 3
Maximum Credits: 3
Introduction to the concepts and techniques of embedded system design including requirements, specifications, design implementation and testing. The laboratory is centered around the Altera Excalibur system and the NIOS core processor. Senior design course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ECE 0142) or (COE 0142 or 0147 or 0447) or (CS 0447); PROG: Undergraduate Swanson School of Engineering

ECE 1161 - EMBEDDED COMPUTER SYS DESIGN 2

Minimum Credits: 3
Maximum Credits: 3
Organized as a full term project carried out by student design groups. A complex embedded system will be designed, implemented and tested using Altera and other cad tools. Grade will be based on project reviews and the final project report. Proper design process will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 1160 or 2160; PROG: Swanson School of Engineering

ECE 1170 - SPECIAL TOPICS: COMPUTER

Minimum Credits: 3
Maximum Credits: 3
An undergraduate course dealing with special topics of current interest in computers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ECE 1180 - CMPTL MODLNG & SIMUL ENGRNS

Minimum Credits: 3
Maximum Credits: 3
In this course students will develop several software programs to model and simulate a range of different physical systems. The course will focus on building software simulations of systems in terms of underlying model objects, world representations, interactions between objects, and a variety of models for time. Some experience in c/c++ programming is assumed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: COE 0445 or CS 0445; PROG: School of Engineering

ECE 1185 - COMPUTER SYSTEM INTERFACING

Minimum Credits: 4
Maximum Credits: 4
Course and lab on microprocessor systems with particular emphasis on interfacing. Course is centered on the 80x86 series of processors and will use the pc as example platforms for development and as system component. It's expected that the student will become familiar with 80x86 assembly language through homework and specific examples. Interface examples will include the processor/memory/SQL-o, serial, parallel and networks using standard hardware available for a pc platform. The course brings together the various concepts of development, software, hardware, and standards.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0142 or COE 0142 or CS 0447 or COE 0447; PROG: Undergraduate Swanson School of Engineering

ECE 1186 - SOFTWARE ENGINEERING

Minimum Credits: 4
Maximum Credits: 4
This course and laboratory introduces classical and object oriented software engineering. Software requirements, specification, object-oriented analysis, design, implementation, integration, and maintenance are covered. Each of these phases is examined on a practical level through a semester long, formal design project that involves the creation of a java-based internet application. Additional java-related topics are taught, including java applets, custom networking, remote database access, SQL, and multimedia extensions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ECE 0142) or (COE 0142 or 0147 or 0447) or (CS 0447) and (COE 0401 or CS 0401); PROG: Undergraduate Swanson School of Engineering

ECE 1192 - INTRODUCTION TO VLSI DESIGN

Minimum Credits: 4
Maximum Credits: 4
Introduction to the concepts and techniques of modern integrated circuit design. Use of computer aided design (cad) tools for circuit design and simulation. Senior design course, includes a laboratory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ECE 0142) or (COE 0142 or 0147 or 0447) or (CS 0447); PROG: Undergraduate Swanson School of Engineering

ECE 1193 - ADVANCED VLSI DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course is organized as a full semester project in conjunction with a small amount of lecture material on advanced CMOS digital design techniques, as well as the group design process itself. Students form groups of 3 to 5 per group that design and implement different VLSI projects which are then fabricated by MOSIS and returned for testing. Focus is on teamwork with frequent oral/written reports.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 1192 or ECE 2192; PROG: Swanson School of Engineering

ECE 1201 - ELECTNC MEASURMNTS & CRCTS LAB

Minimum Credits: 3
Maximum Credits: 3
Electronic measurements and circuits including experiments on use of electronic test equipment, a variety of linear circuits; non-linear device characteristics, operational amplifier basics, and transistor amplifier characteristics and design. Time and frequency domain methodologies are covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: ECE 0257; PROG: Undergraduate Swanson School of Engineering

ECE 1212 - ELECTRONIC CIRCUIT DESIGN LAB

Minimum Credits: 3
Maximum Credits: 3
An electronic circuits laboratory experience with emphasis on circuit applications and design. Topics include: multi stage amplifier design; operational amplifier applications; analog-digital conversion applications, active filters.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 1201; PROG: Swanson School of Engineering

ECE 1232 - INTRO LASERS & OPTCL ELECTNC
Minimum Credits: 3
Maximum Credits: 3
Introduction to and applications of basic laser and optical electronic principles; optical modulation and detection systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ECE 0031 or COE 0031) and (ECE 1259 or PHYS 1351); PROG: Swanson School of Engineering

ECE 1236 - ELECTRNC DESIGN INTGD CIRCUITS
Minimum Credits: 3
Maximum Credits: 3
Basic concepts of integrated circuit design; designing with off-the-shelf linear and digital integrated circuits.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0257 and 1201; PROG: Undergraduate Swanson School of Engineering

ECE 1238 - DIGITAL ELECTRONICS
Minimum Credits: 3
Maximum Credits: 3
Switching behavior of semiconductor devices; logic circuit families; DTL, TTL, Schottky, Ecl, CMOS, i2l; regenerative logic circuits; semiconductor memories; spice circuit simulation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ECE 0132 or COE 0132) and ECE 0257; PROG: Swanson School of Engineering

ECE 1240 - PHOTONICS 1
Minimum Credits: 3
Maximum Credits: 3
The overall aim of the two-course series is to present the essential theory of modern photonics methods as actually used in industry and research labs today. Electrical engineering 1240 (photonics 1) will focus on the basic theory of optics in anisotropic and nonlinear media and the basic methods of modulating and controlling light, while electrical engineering 1241 (photonics 2) will focus on the application of photonics techniques to modern devices and materials characterization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECE 1259 or PHYS 1351; CREQ: ECE 1266 or PHYS 1361; PROG: Swanson School of Engineering

ECE 1241 - PHOTONICS 2
Minimum Credits: 3
Maximum Credits: 3
The overall aim of the two-course series is to present the essential theory of modern photonics methods as actually used in industry and research labs today. ECE 1241 (photonics 2) will focus on the application of photonics techniques to modern devices and materials characterization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECE 1240 or CHEM 1470 or PHYS 1363; PROG: Swanson School of Engineering

ECE 1247 - SEMICONDUCTOR DEVICE THEORY
Minimum Credits: 3
Maximum Credits: 3
Electrical properties of solids, energy levels, semiconductor theory, diodes, bipolar junction transistors, field effect transistors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: [PHYS 0175 or 0476 or (0152 and 0153) or (0201 and 0203)] and (MATH 202 or 0250 or 0290 or 1035) and (ECE 0031 or COE 0031); PROG: Undergraduate Swanson School of Engineering

ECE 1248 - PHOTONICS SEMINAR
Minimum Credits: 1
Maximum Credits: 1
The overall aim of the course is to expose students to work on the cutting edge of photonics.
Academic Career: UGRD

Course Component: Seminar
Grade Component: Satisfactory/No Credit
Course Requirements: LVL: Jr or Sr; PROG: Swanson School of Engineering

ECE 1259 - ELECTROMAGNETICS 1

Minimum Credits: 3
Maximum Credits: 3
Vector calculus, gradient curl, divergence theorem and stokes' theorem, coulomb's law gauss's law, Laplace equation, poisson equation, dielectrics, BIOT-Savart Law, vector potentials, ampere's law, faraday's law, inductance, magnetic materials, Lorentz force, Maxwell's equation, electromagnetic radiation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0201 or 0240 or 0241) and (PHYS 0152 or 0175 or 0202 or 0476); PROG: Undergraduate Swanson School of Engineering

ECE 1266 - APPLICTIONS OF FIELDS & WAVES

Minimum Credits: 3
Maximum Credits: 3
Plane waves, the wave equation, poynting vector, transmission lines, wave guides, antennas and radiation applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ECE 1259 or PHYS 1351) and (ECE 0031 or COE 0031); PROG: Swanson School of Engineering

ECE 1270 - SPECIAL TOPICS: ELECTRONICS

Minimum Credits: 1
Maximum Credits: 3
An undergraduate course dealing with special topics of current interest in electronic devices, lasers, and optical electronics.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

ECE 1286 - ANAL & DSGN ANLG INTGRTD CRCT

Minimum Credits: 3
Maximum Credits: 3
Introduction to spice. Multiple transistor circuits, internal structure of operational amplifiers. Current sources and current steering circuits, active loads. Frequency response of directly coupled, capacitive coupled and tuned amplifiers. Analysis and design of multistage amplifiers. Feedback and frequency compensation in operational amplifiers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0257; PROG: Swanson School of Engineering

ECE 1390 - INTRO TO IMAGE PROCESSING

Minimum Credits: 3
Maximum Credits: 3
Introductory subjects in image processing include image spaces and image representation, image enhancement, edge detection, edge and region based segmentation, and feature extraction and object recognition. Spatial and frequency domain approaches will be addressed with emphasis on spatial domain approaches. Some problems are solved on the computer in the c programming language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Undergraduate Swanson School of Engineering; LVL: Sr

ECE 1391 - PROJECTS IN COMPUTER VISION

Minimum Credits: 3
Maximum Credits: 3
A set of full-term group projects attacking problems in image processing and computer vision. Projects will typically involve the development of problem solutions on computer vision workstations in the c programming language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ECE 1472 - ANALOG COMMUNICATION SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
Analysis of modern analog communication systems, including the theory underlying their design and practical implementation issues. Various forms of amplitude and angle modulation. Amplifiers, mixers, detectors, phase-lock loops, and the design of transmitters and receivers. Probability, random signals, optimal receivers, noise and performance analysis. Case studies including telephone, commercial radio, and television.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 1552; PROG: Swanson School of Engineering

ECE 1473 - DIGITAL COMMUNICATION SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
Analysis of modern digital communications systems, including the theory underlying their design and practical implementation issues. Baseband digital signaling: pam, PCM, quantization, ISI, multiplexing. Modulation formats: ask, FSK, BPSK, DPSK, GAM. Probability, information channel capacity random signals, optimal receivers and performance analysis. Case studies include modems, satellite systems, and cellular telephone.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 1552; PROG: Swanson School of Engineering

ECE 1523 - APPLCS DIGITAL SIGNAL PROCSSNG

Minimum Credits: 3
Maximum Credits: 3
Applications of digital signal processing, including the discrete Fourier transform, fast Fourier transform (FFT), one and two sided z-transform, circular convolution, design of finite impulse response filters and infinite impulse response filters, and implementation considerations. Concepts are applied to a specific application for a term project.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 1552; PROG: Swanson School of Engineering

ECE 1552 - SIGNALS AND SYSTEMS ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Signal representation, continuous time systems, Fourier series, Fourier transform, laplace transform, discrete time systems, Fourier analysis of discrete time systems, z transform, the discrete Fourier transform.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0201 or 0240 or 0241) and (ECE 0031 or COE 0031); PROG: Undergraduate Swanson School of Engineering

ECE 1562 - DIGITAL AND ANALOG FILTERS

Minimum Credits: 3
Maximum Credits: 3
Active filter design; operational amplifier circuits; cascade design with first-order and biquad circuits; Butterworth and Chebyshev low pass filters; sensitivity and frequency transformations. Digital filter design; IIR filter design using bilinear transformation; window design of fir filters; realization of IRR and fir filters.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 1552; PROG: Swanson School of Engineering

ECE 1563 - SIGNAL PROCESSING LABORATORY

Minimum Credits: 3
Maximum Credits: 3
Data acquisition and computer based measurements. Recursive and fir filters. Frequency response and filter implementations using FFT's.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 1201 and 1552; PROG: Undergraduate Swanson School of Engineering

ECE 1564 - RANDOM PROCESSES

Minimum Credits: 3
Maximum Credits: 3

Basic principles of probability and statistics, random variables, expected values, random vectors and multivariate distributions. Power spectrum and linear estimation of stationary random signals. Stochastic models; Gaussin processes, Markov Chains. Applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 1552; PROG: Swanson School of Engineering

ECE 1570 - SPEC TOPCS: SIGNALS & SYSTEMS

Minimum Credits: 1
Maximum Credits: 3
An undergraduate course dealing with special topics of current interest in control, signal, and image processing, speech processing, and telecommunications.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

ECE 1580 - BIOMD APPLC SIGNAL PROCESSING

Minimum Credits: 3
Maximum Credits: 3
The nature of biological signals and noise, including appropriate physiological background; digital filtering; spectral analysis; automated interpretation of signals. Examples drawn from current problems in clinical medicine and research.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 1552; PROG: Swanson School of Engineering

ECE 1673 - LINEAR CONTROL SYSTEMS

Minimum Credits: 4
Maximum Credits: 4
Introduction to feedback control systems, mathematical models, second order systems response and identification, system types, steady-state errors, root locus analysis and design, bode plots, nyquist theory and frequency domain compensation techniques. Includes a laboratory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 1552; PROG: Swanson School of Engineering

ECE 1700 - CONSTRCT/COST ELECTRICAL SUPLY

Minimum Credits: 3
Maximum Credits: 3
This course introduces the basics of three-wire and three phase electrical distribution for homes, retail, apartments, and light industry. Electrical fundamentals are presented and initially applied to residential wiring to demonstrate circuit construction, ratings, and protective devices. Power entranceways, protective circuit breakers, branch circuits, lighting loads, isolation devices, and safety of operation are considered. The means electrical cost estimating method and data are used. Building control and automation are introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0041 or COE 0041; PROG: Swanson School of Engineering

ECE 1710 - PWR DISTB SYS ENGR SMART GRIDS

Minimum Credits: 3
Maximum Credits: 3
Review of power engineering fundamentals, load characteristics and distribution transformers, design of distribution substations, design considerations of primary and secondary systems, substation grounding, voltage drop and power loss, application of capacitors to distribution systems, distribution system voltage regulation and system software, smart grid technologies, energy management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECE 0031 or COE 0031; PROG: Swanson School of Engineering

ECE 1769 - POWER SYSTEM ANALYSIS 1

Minimum Credits: 3
Maximum Credits: 3
An introduction to modern power systems and methods of analysis. Transmission lines, network representations, network solutions, balanced and unbalanced faults, real and reactive load flow study techniques, and basic concepts in stability and economic dispatch.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0031 or COE 0031; PROG: Swanson School of Engineering

ECE 1770 - SPECIAL TOPICS: POWER

Minimum Credits: 1
Maximum Credits: 4
An undergraduate course dealing with special topics of current interest in power.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ECE 1771 - ELECTRIC MACHINERY

Minimum Credits: 4
Maximum Credits: 4
Application of magnetostatics to the design of magnetic circuits, actuators, sensors and rotating electric machines. Performance characteristics of transformers, induction machines, synchronous machines and DC machines. Includes a laboratory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0031 or COE 0031; PROG: Swanson School of Engineering

ECE 1773 - POWER GENERATION, OPER & CTRL

Minimum Credits: 3
Maximum Credits: 3
Area control error (ace), automatic generation control (AGC), characteristics of power generation units, economic dispatch of generators, unit commitment, hydrothermal coordination and storage, interchange power, limited energy supply, optimal power flow, power system security, production cost modeling, state estimation, transmission system effects, unit commitment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECE 1673 or ECE 1769; PROG: Swanson School of Engineering

ECE 1885 - DEPARTMENTAL SEMINAR

Minimum Credits: 0
Maximum Credits: 0
Seminars are designed to acquaint the student with aspects of engineering that are not normally encountered in classes and school activities and include a wide range of topics such as the significance of engineering as a profession, and ethical problems in engineering and skills required for a successful engineering career.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

ECE 1896 - SENIOR DESIGN PROJECT

Minimum Credits: 3
Maximum Credits: 3
A full-term engineering project involving definition, literature search, prototype design, construction, with written and oral reports. Senior design course.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: ECE 0041 or COE 0041 and (ECE 0257 or COE 0401 or CS 0401); PROG: Undergraduate Swanson School of Engineering

ECE 1898 - ENGINEERING PROJECT

Minimum Credits: 1
Maximum Credits: 3
An investigation of an approved engineering subject under the supervision of a faculty monitor. Must be approved in advance by the faculty monitor and the department chair.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

EE 0132 - DIGITAL LOGIC

Minimum Credits: 3
Maximum Credits: 3
Introduction to digital systems, Boolean algebra, minimization of logic functions, combinational and sequential circuit design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG

Emergency Medicine

EM 1101 - EM HEALTH CARE PROFESSIONAL

Minimum Credits: 2
Maximum Credits: 2
Every health professional should have the ability to respond appropriately to medical or traumatic emergencies. Course designed to provide student with knowledge, skills and attitudes to enable them to intervene quickly and properly to suddenly ill or injured patient. Course will be taught as a highly participatory format with special emphasis placed on situations that health professionals are likely to occur in the context of clinical practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Health and Rehabilitation Sciences students only.

EM 1102 - EMERGENCY MEDICAL TECHNICIAN

Minimum Credits: 4
Maximum Credits: 4
This course provides the learners with the cognitive knowledge and values to develop as an emergency medical professional at the basic life support level. This course meets all of the minimum training requirements as established by the U.S. Department of Transportation in the EMT, National Education Standards. This course provides the learner with the opportunity to develop basic life support psychomotor skills. Successful completion of this course makes the learner eligible to become certified by the National Registry of EMT's and the Pennsylvania Department of Health.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Sch Hlth & Rehabilitation Scs

EM 1104 - EMT CLINICAL

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: EM 1102; PROG: Sch Hlth & Rehabilitation Scs

EM 1111 - FOUNDATIONS OF EMERGENCY CARE

Minimum Credits: 3
Maximum Credits: 3
This course focuses on pre-hospital assessment and therapeutic intervention of adult and pediatric patients with acute traumatic injury and includes advanced airway assessment and procedural intervention for patients with acute respiratory pathophysiology. Students will explore emergency medical services systems and appreciate their role and responsibility as pre-hospital practitioners. Learning strategies include scenario-based case presentations with a focus on critical thinking and decision-making. This course is paired with a required lab component.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1112 - PATHOPHYSIOLOGY

Minimum Credits: 3
Maximum Credits: 3
Introductory course in pathophysiology for entry level healthcare providers. This course focuses on human responses to illness expressed at the physiologic, pathophysiologic, experiential, and behavioral levels. Human responses are examined in terms of assessments appropriate to selected problems, rationale for medical interventions, and therapeutic effectiveness. Topics include: general principles of pathophysiology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1113 - PHARMACOLOGY

Minimum Credits: 3
Maximum Credits: 3

Introduces students to the categories of pharmacological agents and the application of pharmacological concepts to clinical practice. Emphasis will be placed on understanding physiologic medication action. A separate medication lab is offered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1114 - MEDICATION ADMINISTRATION

Minimum Credits: 1
Maximum Credits: 1
Practical skills lab designed to allow students to develop the psychomotor skills of medication administration. Skills include: phlebotomy, intramuscular and subcutaneous injections, IV cannulation, IV medication administration, inhalation, endotracheal and sublingual administration, and pharmacology math. This course also provides the students with the practical skills needed for Advanced Cardiac Life Support (ACLS) care.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1115 - INTRO TO PHYSICAL ASSESSMENT

Minimum Credits: 3
Maximum Credits: 3
Designed to introduce students to the principles and techniques of physical examination. Students will be taught an organized systemic approach to assessment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1116 - PHYSICAL EXAM LAB

Minimum Credits: 1
Maximum Credits: 1
Practical skills lab designed to assist in the development of psychomotor skills of patient assessment, airway management, ventilation and trauma care skills.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1117 - EMS OPERATIONS

Minimum Credits: 3
Maximum Credits: 3
Designed to expose the paramedic student to various field operations procedures. Topics include: medical incident command, rescue awareness and operations, hazardous materials awareness and operations, crime scene awareness.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1120 - ADV OUT OF HOSPITAL TRAUMA CRE

Minimum Credits: 3
Maximum Credits: 3
Introduces paramedic student to specific pathophysiology assessment and management techniques for trauma patients. Mechanism of injury, hemorrhage and shock, soft tissue trauma, burns, head and facial trauma, spinal trauma, thoracic trauma, abdominal trauma, musculoskeletal trauma, and special considerations. Course offered with a required lab course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Health and Rehabilitation Sciences students only.

EM 1121 - TRAUMA LAB

Minimum Credits: 0
Maximum Credits: 0
This lab section teaches psychomotor skills of the management of the trauma patient. Skills include: trauma patient assessment, airway management of the trauma patient.
Academic Career: UGRD
Course Component: Credit Laboratory

Grade Component: No Grade Required
Course Requirements: School of Health and Rehabilitation Sciences students only.

EM 1122 - CARDIOLOGY AND RESPIRATORY

Minimum Credits: 3
Maximum Credits: 3
This course covers the specific pathophysiology, assessment, and management of the cardiac patient. Topics inlcude 3 lead and 12 lead ECG interpretion, cardiac anatomy and physiology, patient assessment and management, ACLS, pharmacological, and other therapies. This class is offered with a required lab course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1123 - CARDIOLOGY LAB

Minimum Credits: 1
Maximum Credits: 1
This lab section in conjunction with Assessment Based Management Lab provide case based learning for the students related to general adult emergencies. Students will participate in case based sessions that allow them to work on a simulated patient that is suffering from a specific illness or injury and allows the students to develop strong patient, resource, and scene management skills that they can take with them into their field practice. This lab helps to promote strong clinical decision making skills that will allow the students to function as a strong clinical provider in the field.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: H/S/U Basis
Course Requirements: PLAN: Emergency Medicine (BS or BPH or BS-H)

EM 1124 - ADULT MEDICAL EMERGENCIES

Minimum Credits: 3
Maximum Credits: 3
This course focuses on pre-hospital assessment and therapeutic intervention of acute and chronic adult pathophysiology. Students will explore the different processes of patient care for special populations across the life span. Learning strategies include scenario-based case presentations with a focus on critical thinking and decision-making. This course is paired with a required lab component.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1125 - OB/GYN, NEWBORN, & PEDS CARE

Minimum Credits: 3
Maximum Credits: 3
This course covers the specific pathophysiology, assessment and management of common medical and trauma conditions in pediatric patients. Additional information regarding obstetrics, neonates and gynecologic patients will be presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1126 - ASSESSMENT BASED MANAGEMENT

Minimum Credits: 1
Maximum Credits: 1
This lab section in conjunction with Cardiology Lab provide case based learning for the students related to general adult emergencies. Students will participate in case based sessions that allow them to work on a simulated patient that is suffering from a specific illness or injury and allows the students to develop strong patient, resource, and scene management skills that they can take with them into their field practice. This lab helps to promote strong clinical decision making skills that will allow the students to function as a strong clinical provider in the field.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: H/S/U Basis
Course Requirements: PLAN: Emergency Medicine (BS or BPH or BS-H)

EM 1131 - CLINICAL 1

Minimum Credits: 4
Maximum Credits: 4
Designed to accompany the fall semester courses, these clinical rotations focus on the development and documentation of history taking and assessment skills. Additionally psycho motor skill development in a clinical setting is emphasized.
Academic Career: UGRD

Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1132 - CLINICAL 2

Minimum Credits: 4
Maximum Credits: 4
Designed to accompany the spring semester courses, these clinical rotations focus on the integration of psychomotor skills with assessment and history taking. In addition to scheduled rotations students will spend the last weeks completing a summative field evaluation. This evaluation consists of 80 field hours with the student functioning as a primary care provider.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1133 - CLINICAL 3

Minimum Credits: 5
Maximum Credits: 5
Designed to accompany medical 3 and special consideration/ clinical decision making courses. Clinical rotations focuses on treatment of special patient populations and special clinical situations. Clinical rotations include: field, emergency department, rehabilitation, long term care, home health care, crisis intervention, gynecology, obstetrics, neonatology, pediatrics and gerontology.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: School of Health and Rehabilitation Sciences students only.

EM 1150 - PROFESSIONAL ISSUES IN EMS

Minimum Credits: 3
Maximum Credits: 3
This course will be to present to all EM students in SHRS a thorough review of the most current and pertinent issues confronting the ems industry today. Discussion and assignments will be designed to require students to investigate critical issues which affect health-care delivery, quality of service, cost of health care, manpower utilization, and the affects of various federal and state legislation on health-care delivery.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1151 - PRE-PROFESSIONAL PROJECT

Minimum Credits: 3
Maximum Credits: 3
This course is designed to allow the students to demonstrate their ability to integrate the knowledge and skills achieved during their course of study in the design, development and implementation of an ems project of local, regional or national significance. Students will meet with the instructor to determine an existing ems issue and formulate a process to address this issue. Significant independent effort will be required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1152 - ISSUES IN HEALTH CARE

Minimum Credits: 2
Maximum Credits: 2
This course is designed to engage students in current aspects of healthcare impacting patients and healthcare practitioners. Topics are extremely diverse in assuring all possible domains of healthcare are addressed. Various methods of presentation are utilized in this course. Healthcare delivery at national and international models is explored.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1153 - ISSUES IN HLTH CARE EDUCATION

Minimum Credits: 2
Maximum Credits: 2
Survey course designed to teach the principles of adult education, classroom management skills, selection of teaching aides and development of lesson plans. Students will function as teaching assistants in ems education programs.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1154 - HEALTH CARE RESEARCH

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1155 - LEGAL ISSUES IN HEALTH CARE

Minimum Credits: 2
Maximum Credits: 2
This course examines the current legal issues related to both in-hospital and out-of-hospital care. Issues of patient confidentiality, criminal and civil issues, and the EMTALA laws will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1157 - ISSUES IN HEALTHCARE EDUCATION

Minimum Credits: 3
Maximum Credits: 3
Survey course designed to teach the principles of adult education, classroom management skills, selection of teaching aides and development of lesson plans. Students will function as teaching assistants in EMS education programs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

EM 1158 - FINC & ACCT FOR HEALTH CARE

Minimum Credits: 2
Maximum Credits: 2
Finance and Accounting provides an introduction to the basic concepts of accounting and financial management in health care. The course is geared for professionals who do not anticipate serving primarily in a financial management role. The concepts will be studied in the context of their practical application.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS, BS-H, BPH)

EM 1159 - EMS ORGANIZATIONS

Minimum Credits: 3
Maximum Credits: 3
This course will provide student with an overview of EMS agencies through a behavioral science perspective. The course will offer multiple perspectives on organizational analysis and action.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

EM 1160 - PROFESSIONAL ISSUES

Minimum Credits: 3
Maximum Credits: 3
This course will provide the student with the tools necessary to promote the long-term viability of an EMS service. This course has been designed to prepare the student to be a leader of traditional or entrepreneurial ems opportunities. Guest speakers will be utilized for their expertise in the administration of EMS agencies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1162 - LEGAL ISSUES IN HEALTH CARE

Minimum Credits: 3
Maximum Credits: 3

This course is meant to provide students with a survey of some of the major legal issues facing emergency medical services providers and administrators, and those who aspire to those positions. This course will focus on the practical issues confronting EMS organizations. Major areas to be addressed include the law of negligence and medical malpractice; consent and refusal of emergency care; do not resuscitate" issues; the legal aspects of documentation; confidentiality and HIPAA; EMTALA and ER diversions; fraud and abuse; personnel management; OSHA; legal issues for non-profit EMS organizations; the basics of EMS reimbursement."
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

EM 1163 - ISSUES IN EMS

Minimum Credits: 3
Maximum Credits: 3
Examines current issues relating to the policies, procedures and future of EMS. Among the topics considered are medical errors, interaction with other healthcare fields, and potential roles for the EMS provider in non-traditional settings. This course is designed to encourage students to critically evaluate literature and formulate well-reasoned opinions through group discussion and writing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

EM 1166 - SENIOR INTERNSHIP

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Internship
Grade Component: H/S/U Basis
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1167 - SENIOR CLINICAL

Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: H/S/U Basis
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1168 - LEADERSHIP IN HEALTHCARE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1169 - CRITICAL CARE MANAGEMENT

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1172 - ISSUES IN HEALTH CARE - WEB

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade

EM 1173 - ISSUES HLTH CARE EDUC - WEB

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade

EM 1174 - HEALTHCARE RSRCH - WEB
Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade

EM 1175 - LEGAL ISSUES IN HC - WEB
Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade

EM 1176 - SENIOR INTERNSHIP-WEB
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Internship
Grade Component: H/S/U Basis

EM 1177 - SENIOR SEMINAR
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1178 - LEADERSHIP HLTH CARE-WEB
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade

EM 1179 - HEALTH CARE MGMNT - WEB
Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade

EM 1180 - HEALTH CARE MANAGEMENT
Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS, BPH, BS-H)

EM 1181 - PROFESSIONAL ISSUES-WEB
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade

EM 1182 - CRITICAL CARE MGT-WEB
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade

EM 1183 - FINC & ACCT FOR HC - WEB
Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

EM 1184 - SENIOR SEMINAR-WEB
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Internship
Grade Component: Letter Grade

EM 1185 - BEYOND THE BODY - WEB
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade

EM 1186 - CERTIFIED AMBULANCE CODER-WEB
Minimum Credits: 1
Maximum Credits: 1
The certified ambulance coder course is designed to provide the student with a comprehensive understanding of the complex rules and requirements related to effective and compliant ambulance billing. The course focuses on a baseline of critical knowledge and commitment to excellence necessary to be a well-informed, conscientious and compliant ambulance billing professional.
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade

EM 1187 - ORGANIZATIONAL THEORY-WEB
Minimum Credits: 3
Maximum Credits: 3
Organizational theory provides the EM major with an opportunity to investigate the structure and function of ems agencies. Through didactic and practical sessions, students will have the opportunity to discover organizational theory and to evaluate an ems agency. The objectives of this course will provide students with the ability to: describe, in detail, the 10 classic components of an ems system; evaluate an ems agency against the technical standards of the 10 classic components of an ems system; describe the basis for organizational theory; describe the assessment of an organization from the political, structural, human resources, and symbolic perspectives
Academic Career: UGRD
Course Component: Mass Media
Grade Component: Letter Grade

EM 1198 - INTERNATIONAL STUDIES
Minimum Credits: 1
Maximum Credits: 6
This course is designed for international emergency medicine students. It provides international emergency medicine students an opportunity to explore an area of emergency medicine that is of particular interest to them.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PLAN: Emergency Medicine (BS)

EM 1199 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
Provides students an opportunity to explore in depth an area of particular interest to them. It is the student's responsibility to find a faculty member willing to undertake such a tutorial.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

EM 1250 - INTRODUCTION COMMUNITY HEALTH

Minimum Credits: 2
Maximum Credits: 2
The role of paramedics in the healthcare system is evolving in many parts of the country to include helping patients avoid unnecessary 911 calls and hospitalizations. This introductory course will prepare the paramedic to function as a community paramedic. This course will describe the difference between traditional ems and community paramedic assessments; introduce therapeutic communication techniques; describe mental and behavioral health issues and their effect on chronic disease management; review professional boundaries and provider wellness techniques; and review potential patient populations that could be helped through these new services.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

EM 1251 - MOBILE INTEGRATED HEALTHCARE
Minimum Credits: 2
Maximum Credits: 2
Part two of the community paramedic introductory course will introduce therapeutic communication techniques that are essential for chronic disease management and the coordination of services needed to avoid the unnecessary utilization of EMS and hospital services. This course will discuss the business models used across the country for community paramedicine programs as well as how to design a program, describe documentation methods used and how to effectively become a patient advocate to help navigate the patient through the changing health care system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG

EM 1260 - COGV PSYCH OF DECISION MAKING
Minimum Credits: 2
Maximum Credits: 2
Healthcare providers make dozens of clinical decisions every day. Errors in cognitive processes have been determined to be one of the most common causes of preventable death and disability in this country. The goal of this class is to examine the current science of decision making and the treats to optimal decisions. Students will learn to recognize system I and system II thinking and the benefits and limitations of each. Unconscious cognitive biases and heuristics that are commonly relied upon in everyday as well as professional decisions will be analyzed. The class will be taught in seminar fashion with active learning and discussion.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG

Engineering

ENGR 0005 - INTRO TECHNLGY IN INT'L CONTXT
Minimum Credits: 3
Maximum Credits: 3
Often engineering and science are considered to be culturally independent. This, however turns out not to be the case. This course examines the constructs of science and engineering education, the practice of engineering, and industry and their underlying cultural bases. When offered off-campus in a foreign country, this course will also include site visits and field work.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 0006 - EXCEL FOR ENGINEERS
Minimum Credits: 1
Maximum Credits: 1
A first course in using excel to solve engineering problems. Also will provide an overview of the engineering approach to problem solving. This course is intended for students transferring into the school of engineering who have little or no background in the use of excel. It will not satisfy any degree requirements.
Academic Career: UGRD
Course Component: Practicum
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 0009 - INTRO TO ENGINEERING COMPUTING
Minimum Credits: 3
Maximum Credits: 3
The course is designed to teach students the fundamentals of computing and the concept of engineering design as applied to the design of software. Fundamentals include basic computer organization, formulation of algorithms, basic data structures, pseudo code and top down iterative refinement. In the concurrent laboratory, proficiency is developed in a high level language and a text editor/word processor.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0010 - ENGINEERING ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
This course is closely linked to engineering 0009 through use of the computer to solve engineering problems. Numerical methods are presented and these methods are then used in solution of problems in mechanics, heat transfer, electrical systems, and chemical processes. Economic and human factors are also included in the problem solutions. The fundamentals of computer graphics are also covered. The overall emphasis of the course is on computer-aided engineering (CAE).
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0011 - INTRO TO ENGINEERING ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Introduces students to basic topics in engineering, the role of the computer in engineering, ill structured problem-solving and report writing. The course includes material on the use of Unix, HTML, spread sheets, and MATLAB. Data analysis and curve fitting is done in both MATLAB and Excel. The writing component includes four detailed reports and includes an oral presentation. The course goals are: to introduce the fundamentals of what engineering is, what engineers do, why a diverse work force is needed and what values come with working in a group environment; to introduce the required library research skills and communication skills used by all engineers; to introduce the role of the computer in engineering problem solving, including the basic analytical, programming design, graphical, and problem solving skills used by most engineers in their profession; and to provide an overview of how material in the basic sciences and mathematics is applied by engineers to solve practical problems of interest to society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: ENGR 0081 or ENGR 0181; PROG: School of Engineering

ENGR 0012 - INTRO TO ENGINEERING COMPUTING

Minimum Credits: 3
Maximum Credits: 3
Introduces students to social topics in engineering, the role of the computer in engineering, ill-structured problem-solving and report writing. The course includes material on the use of MATLAB and C++. Students learn the fundamentals of computing in engineering, including program design, program development, and debugging. Applications to problems in engineering analysis with topics selected from ENGR 0011. The writing component includes four detailed reports and includes an oral presentation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0011 (MIN GRADE 'C'); CREQ: MATH 0220 or 0230 or 0235 or 0240 or 0245 or 0280 or 0290; PROG: School of Engineering

ENGR 0013 - STATICS AND PARTICLE DYNAMICS

Minimum Credits: 4
Maximum Credits: 4
A basic course in statics and particle dynamics. Topics covered include the effect of external forces acting on particles and rigid bodies. Use is made of computers for self-learning through tutorial software and for problem solving.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0014 - MECHANICS OF MATERIALS

Minimum Credits: 4
Maximum Credits: 4
An introductory course in the mechanics of deformable solids. Material covers the internal stresses, strains, and displacements which occur when a structure is subjected to applied loads. Open ended design problems are also discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0015 - INTRODUCTION ENGINEERING ANAL

Minimum Credits: 3
Maximum Credits: 3

Introduces students to basic topics in engineering, the role of the computer in engineering, ill-structured problem-solving and report writing. The course includes material on the use of UNIX, HTML, spread sheets, and MATLAB. Data analysis and curve fitting is done in both MATLAB and Excel. The writing component includes four detailed reports and includes an oral presentation. The course goals are: to introduce the fundamentals of what engineering is, what engineers do, why a diverse work force is needed and what values come with working in a group environment; to introduce the required library research skills and communication skills used by all engineers; to introduce the role of the computer in engineering problem solving , including the basic analytical, programming design, graphical, and problem solving skills used by most engineers in their profession; and to provide an overview of how material in the basic sciences and mathematics is applied by engineers to solve practical problems of interest to society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: (MATH 0220 or MATH 0235) and (PHYS 0174 or PHYS 0475)

ENGR 0016 - INT TO ENGINEERING COMPUTING

Minimum Credits: 3
Maximum Credits: 3
Introduces students to social topics in engineering, the role of the computer in engineering, ill-structured problem-solving and report writing. The course includes material on the use of MATLAB and C++. Students learn the fundamentals of computing in engineering, including program design, program development, and debugging. Applications to problems in engineering analysis with topics selected from ENGR 0015. The writing component includes four detailed reports and may include an oral presentation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ENGR 0011 or ENGR 0015) and (MATH 0220 or MATH 0235) and (PHYS 0174 or PHYS 0475)

ENGR 0020 - PROBLTY & STAT FOR ENGINEERS 1

Minimum Credits: 4
Maximum Credits: 4
An introductory course in statistics. Topics covered include: data analysis, probability, randon variables, selsected discrete and continuous probability distributions, one sample and two sample estimation, hypothesis testing, experiments with two factors and introduction to regression analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0150 or 0230 or 0231 or 0235; PROG: Swanson School of Engineering

ENGR 0022 - MATERLS STRUCTURE & PROPERTIES

Minimum Credits: 3
Maximum Credits: 3
An introduction to the basic concepts of materials science and engineering. The concepts of atomic, crystal, micro- and macro-structure, their control and effects on chemical, electrical, magnetic, optical, and mechanical properties. Modification of properties by heat treatment and control of processing. Fundamental considerations in materials selection.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (MATH 0150 or 0230 or 0231 or 0235) and (PHYS 0150 or 0174 or 0201 or 0475); PROG: School of Engineering

ENGR 0023 - PLUS 3 COSTA RICA

Minimum Credits: 3
Maximum Credits: 3
The course involves lectures, company visits and sightseeing, and culminates in a research paper and presentation that focuses on a global industry and its value chain.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 0023IS - PLUS 3 COSTA RICA - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0023OS - PLUS 3 COSTA RICA - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.

Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0024 - INT'L FIELD PROJECT - CHINA

Minimum Credits: 3
Maximum Credits: 3
The course involves lectures, company visits and sightseeing, and culminates in a research paper and presentation that focuses on a global industry and its value chain.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 0024IS - INT'L FIELD PROJ - CHINA - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0024OS - INT'L FIELD PROJ - CHINA - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0025 - INT'L FIELD PROJ-CZECH REPUBLC

Minimum Credits: 3
Maximum Credits: 3
The course involves lectures, company visits and sightseeing, and culminates in a research paper and presentation that focuses on a global industry and its value chain.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 0026 - INT'L FIELD PROJECT - GERMANY

Minimum Credits: 3
Maximum Credits: 3
The course involves lectures, company visits and sightseeing, and culminates in a research paper and presentation that focuses on a global industry and its value chain.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 0026IS - INT'L FIELD PROJ-GERMANY - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0026OS - INT'L FIELD PROJ-GERMANY - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0027 - INT'L FIELD PROJECT- FRANCE

Minimum Credits: 3
Maximum Credits: 3
The course involves lectures, company visits and sightseeing, and culminates in a research paper and presentation that focuses on a global industry and its value chain.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0028 - ENGR+2: INT'L FLD PROJ - CHILE

Minimum Credits: 2
Maximum Credits: 2
Engr+2 is an optional two-credit study abroad opportunity offered. In 2003 the course will involve a field study trip to Santiago Chile. The course involves lectures, company visits and sightseeing, and culminates in a research paper and presentation that focuses on a global industry and its value chain.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 0029 - INT'L FIELD PROJECT - CHILE

Minimum Credits: 1
Maximum Credits: 1
This one-credit project is for students who participated in the Chile summer program. Students will work in small groups to design, coordinate and create web pages. The project entails video processing and editing, source searching on the internet, and interviewing university experts on Chile. A short paper connecting the interviews and the special trading status that the US gave to Chile recently will also be required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

ENGR 0032 - INT'L FIELD PROJECT- BRAZIL

Minimum Credits: 3
Maximum Credits: 3
The course involves lectures, company visits and sightseeing, and culminates in a research paper and presentation that focuses on a global industry and its value chain.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0032IS - INT'L FIELD PROJ - BRAZIL - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0032OS - INT'L FIELD PROJ - BRAZIL - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0033 - INT'L FIELD PROJECT - VIETNAM

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 0033IS - INT'L FIELD PROJ-VIETNAM - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.

Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0033OS - INT'L FIELD PROJ-VIETNAM - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0034 - PITT IN FLORENCE: ENGR RENASNC

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 0034IS - PITT FLORENCE ENGR RENASNC- IS

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0034OS - PITT FLORENCE ENGR RENASNC- OS

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 0081 - FRESHMAN ENGINEERING SEMINAR 1

Minimum Credits: 0
Maximum Credits: 0
An in-depth orientation in the various areas of engineering and the related fields of employment. Includes small group meetings with departmental representatives and special freshman academic advisors. A formal departmental choice is made at the conclusion of these courses.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: CREQ: ENGR 0011 or 0711; PROG: Swanson School of Engineering

ENGR 0082 - FRESHMAN ENGINEERING SEMINAR 2

Minimum Credits: 0
Maximum Credits: 0
An in-depth orientation in the various areas of engineering and the related fields of employment. Includes small group meetings with departmental representatives and special freshman academic advisors. A formal departmental choice is made at the conclusion of these courses.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: CREQ: ENGR 0012 or 0712 or 0715 or 0716; PROG: Undergraduate Swanson School of Engineering

ENGR 0086 - INTRODUCTION TO ENGINEERING

Minimum Credits: 0
Maximum Credits: 0
This course is designed to introduce students to engineering as a career. The course will include presentations by professional engineers, plant visits, laboratory experiments, and readings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 0087 - TRANSFER SEMINAR

Minimum Credits: 0
Maximum Credits: 0
A 9 week seminar course for first semester regional and external engineering transfer students. The course discusses the transition to the Swanson School of Engineering and resources available to students at the University of Pittsburgh.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 0088 - LEARNING AND COUNSELING

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Practicum
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 0089 - COUNSELING

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Practicum
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 0090 - SWANSON SUCCESS PROGRAM

Minimum Credits: 0
Maximum Credits: 0
The Swanson success program is a course that provides students with a series of academically ' focused workshops critical to building academic success as an engineering student. In this course, the participants will use the textbook `The Seven Habits of Highly Effective College Students'. The focus will be to explore and develop strategies for personal development in the areas of goal-setting, time prioritizing, motivation, and learning strategies. This course is one part of the engineering student retention program, and successful completion will enhance participant's academic and personal efficiency in the classroom. Upon completion, students will be eligible to earn the personal leadership certificate through the franklin covey leadership certificate program.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis

ENGR 0109 - INTRO TO ENGINEERING COMPUTING

Minimum Credits: 3
Maximum Credits: 3
This is an accelerated course in computer fundamentals and engineering applications. The material of engineering 0009 is covered at an accelerated pace and then a variety of engineering design analysis and solution techniques are presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0110 - ENGINEERING ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
This is a continuation of engineering 0109.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0111 - ADVANCED ENGINEERING ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
This is an accelerated course in computer fundamentals and engineering applications. The material of ENGR 0111 is covered at an accelerated pace and then a variety of engineering design analysis and solution techniques are presented. The course introduces students to basic topics in engineering, the role of the computer in engineering, ill-structured problem-solving and report writing. The course includes material on the use of unix, html, spread sheets, and matlab. Data analysis and curve fitting is done in both matlab and excel. The writing component includes four detailed reports and includes an oral presentation. The course goals are: to introduce the fundamentals of what engineering is, what engineers do, why a diverse work force is needed and what values come with working in a group environment; to introduce the required library research skills and communication

skills used by all engineers; to introduce the role of the computer in engineering problem solving, including the basic analytical, programming design, graphical, and problem solving skills used by most engineers in their profession; and to provide an overview of how material in the basic sciences and mathematics is applied by engineers to solve practical problems of interest to society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0112 - ADVANCD INTRO ENGRNG COMPUTING

Minimum Credits: 3
Maximum Credits: 3
This is a continuation of ENGR 0111. It introduces students to societal topics in engineering, the role of the computer in engineering, ill-structured problem-solving and report writing. The course includes material on the use of matlab and c++. Students learn the fundamentals of computing in engineering, including program design, program development, and debugging. Applications to problems in engineering analysis with topics selected from ENGR 0111. The writing component includes four detailed reports and includes an oral presentation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0131 - STATICS FOR CIVL & ENVRL ENGNR

Minimum Credits: 3
Maximum Credits: 3
A basic course in statics. Utilizing the free-body diagram, the course covers forces and equilibria of particles, rigid bodies, surfaces, trusses, beams, cables, and other basic structural elements. Use is made of computers for problem solving.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHYS 0104 or 0150 or 0174 or 0201; PROG: Swanson School of Engineering

ENGR 0135 - STATICS & MECHC OF MATERIALS 1

Minimum Credits: 3
Maximum Credits: 3
First of a two course sequence covering statics and strength of materials. Topics covered include: concurrent force systems, equilibrium, axial loading, stress, strain, deformation, moments, equivalent systems, centroids, centers of mass, and distributed loads, free-body diagrams, equilibrium of rigid and deformable bodies, plane trusses, frames and machines, equilibrium in 3D, torsion and friction. Use is made of computers for problem solving.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0150 or 0230 or 0231 or 0235) and (PHYS 0150 or 0174 or 0201 or 0475); PROG: School of Engineering

ENGR 0141 - MECHC OF MATLS CVL & ENV ENGR

Minimum Credits: 3
Maximum Credits: 3
An introductory course in the mechanics of deformable bodies, with special application to the range of topics needed by civil engineers. The course material covers internal strains, stresses and deformations which occur when a structure is subjected to applied loads. Problems with tie-in to practical design issues will be covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGR 0131 or 0135 or ET 0051; PROG: Swanson School of Engineering

ENGR 0145 - STATICS & MECHC OF MATERIALS 2

Minimum Credits: 3
Maximum Credits: 3
Second of a two course sequence covering statics and strength of materials. Topics include: flexure; second moment of areas, shear force and bending moment diagrams, composite beams, shearing stresses, beam deflections, energy methods, Castigliano's methods, moment area method, combined static loading and columns.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ENGR 0135 or ET 0051); PROG: School of Engineering

ENGR 0151 - DYNAMICS CIVIL & ENVRN ENGNRS

Minimum Credits: 3
Maximum Credits: 3
A basic course in dynamics. Utilizing the Newtonian mechanics of particles, the course covers kinematics and kinematics of particles, kinetics of systems of particles, work and energy, introduction to vibration, single-degree-freedom systems, and two-degrees-of-freedom systems. Applications of dynamics in civil engineering problems. Use is made of computer solution to a two-story building vibration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (ENGR 0141 or 0145 or ET 0053) and (MATH 0250 or 0290 or 1035 or 0202); PROG: Swanson School of Engineering

ENGR 0181 - FRESHMAN SEMINAR 1 - HONORS

Minimum Credits: 0
Maximum Credits: 0
An in-depth orientation in the various areas of engineering and the related fields of employment. Includes small group meetings with departmental representatives and special freshman academic advisors.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis

ENGR 0182 - FRESHMAN SEMINAR 2 - HONORS

Minimum Credits: 0
Maximum Credits: 0
Continuation of ENGR 0181 honors freshman seminar. Provides students in the Fessenden Honors in Engineering Program (FHEP) with a vehicle for academically ambitious engineering students to meet each other, and research an in-depth term paper that will be presented at the freshman conference at the end of the term. A formal department choice is made at the conclusion of this semester.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PREQ: ENGR 0081 or 0181; PROG: Undergraduate Swanson School of Engineering

ENGR 0211 - ENGR ANLYSIS TRANSFER STUDENTS

Minimum Credits: 1
Maximum Credits: 1
Introduces the role of computers and software packages in engineering problem solving. Basic analytical, programming design, graphical, and problem solving skills used in the profession. Provides an overview of how material in the basic sciences and mathematics is applied by engineers to solve practical problems of interest to society. Emphasis on the relationship between the engineering sciences and engineering design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 0240 - NANOTECHN & NANOENGINEERING

Minimum Credits: 3
Maximum Credits: 3
This research-oriented course is a multidisciplinary course taught by a faculty team including a professor of electrical engineering and a professor of chemistry. The course introduces nanoscale devices created from a range of nanomaterials including carbon nanotubes (CNTS), nanoparticles (NPS), and nanowires (NWS). Theories of operation, fabrication techniques and applications of Nano devices will be discussed. The course combines lecture, laboratory work, and web-supported project-based learning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0230 or MATH 0235 or 0150 or 0221) and [PHYS 0175 or PHYS 0476 or (0201 and 0203) or (0150 and 0151)]; PROG: Swanson School of Engineering

ENGR 0241 - FABRICATION & DSGN NANOTECHN

Minimum Credits: 3
Maximum Credits: 3
This overview course examines approaches to top-down and bottom-up nanofabrication and device manufacture; engineering design with nanomaterials, components, and systems; case studies of cutting-edge nanotechnologies (e.g., The `ipod' microdrive, nanoparticle drug delivery, etc.), Commercialization, intellectual property, and venture capital; seminar series.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (PHYS 0175 or PHYS 0476 or 0770 or 0152 or 0202) and (CHEM 0120 or CHEM 0720 or CHEM 0770 or CHEM 0970 or 0102 or 0112); PROG: Swanson School of Engineering

ENGR 0501 - MUSIC ENGINEERING

Minimum Credits: 1
Maximum Credits: 1
A course directed toward development of basic skills in recording engineering through expanded understanding of the science and engineering of music. The course will use the music engineering laboratory (MEL) located in Benedum Hall. The mel is a state of the art sound recording facility with research and educational capabilities for sound recording and music engineering. Students are expected to have prior musical experience, working knowledge of fourier transforms, and working knowledge of basic electronics. Topics covered: recording engineering (microphones, amplifiers, mixing, filtering, special effects). Physics, mathematics, and psychophysics of sound and music (acoustics, speech and singing, hearing, pitch, stereo perception). Musical instrument function (mechanical and electronic)
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0711 - HONORS ENGR ANAL & COMPUTING

Minimum Credits: 3
Maximum Credits: 3
This is an accelerated course in computer fundamentals and engineering applications. The material of ENGR 0711 covers the material in both ENGR 0011 and ENGR 0012. The course is at an accelerated pace and then a variety of engineering design analysis and solution techniques are presented. It introduces students to basic topics in engineering, the role of the computer in engineering, ill-structured problem-solving and report writing. The course includes material on the use of Unix, HTML, spread sheets, MATLAB and C++. Students learn fundamentals of computing in engineering including program design, program development, and debugging. Applications to problems in engineering analysis are included in the course. The writing component includes four detailed reports and includes an oral presentation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 0712 - ADV ENGR APPLCS FOR FRESH

Minimum Credits: 3
Maximum Credits: 3
This is an honors course and a continuation of ENGR 0711. Students will be introduced to engineering research and various special topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0711; PROG: Undergraduate Swanson School of Engineering

ENGR 0715 - ENGR APPLICATIONS FOR SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This service learning course will initially focus on applications in medicine and rehabilitation treatment. Students will work in teams as they address a critical clinical problem, examining issues from both the patient and physician perspectives. Future years will introduce environmental and sustainability problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0711; PROG: Undergraduate Swanson School of Engineering

ENGR 0716 - ART HANDS-ON SYS DSGN ENGR

Minimum Credits: 3
Maximum Credits: 3
Engineering is fundamentally a creative process in which ideas are generated and transformed into new systems and devices in the world to meet human needs. The term engineer shares its origins with ingenious: one definition of engineer is 'a skillful inventor.' In this course, we will explore tools and techniques for inventing, designing and prototyping systems. Through discussion, small-team activities, workshops and hands-on projects, students will obtain an introduction to design thinking, 'maker culture' and systems engineering. We will explore user-centric design principles; sketch modeling; basic building elements for systems such as sensors, computer controllers, actuators and displays; materials and methods for prototyping; and ways to analyze and troubleshoot systems. Students will gain an introduction to 'smart systems': automated systems that can sense the world and automatically respond in useful ways. We will also focus on the user interface: how to create control and display interfaces that enhance users' ability to operate systems effectively and efficiently.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0711; CREQ: ENGR 0082; PLAN: Undeclared

ENGR 0718 - ENGR SOLUTIONS-ENGR & ENV PROB

Minimum Credits: 3
Maximum Credits: 3

The course will provide an overview of some of the key issues influencing our current energy situation and present some of the strategies that are being advocated for addressing these issues. These strategies will be evaluated and assessed from an engineering perspective to study their effectiveness and reasonableness. Barrier issues for implementing some of these new energy strategies will be discussed. These include economic impact, global warming, and infrastructure and social barriers to widespread implementation of new energy strategies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0765 - MATERIALS CHEMISTRY 1

Minimum Credits: 3
Maximum Credits: 3
This course develops the usual chemical principles governing the structure of matter and its changes with more emphasis placed on the solid state and polymeric materials. Furthermore, a special emphasis will be placed on relating atomic and molecular structure and bonding to the macroscopic properties of functional matter-engineering materials-such as metals, ceramics, polymers and semiconductors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 0775 - MATERIALS CHEMISTRY 2

Minimum Credits: 4
Maximum Credits: 4
Includes: phases of matter, phase diagrams, concepts of chemical equilibrium, applications to equilibrium in solid materials and aqueous solutions, synthesis of modern, Nano structured ceramics, metals and alloys; principles of electrochemistry: applications to solid state Ionics, solid oxide fuel cells, solid state sensors, corrosion mechanisms, prevention of corrosion. Chemical kinetics, reaction mechanisms, reactions between solids. Chemistry of transition metals, transition metal oxides including perovskites, and superconductors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1010 - COMMUNICTN SKILLS FOR ENGINRS

Minimum Credits: 3
Maximum Credits: 3
Utilizing a variety of spoken, written, and audio-video activities, the students learn how to give instructions, use feedback, listen, conduct the job and appraisal interview. Run meetings, use groups, make presentations, manage crises...Most of the skills they need to strengthen their personal, interpersonal, group and organizational communicative skills. The instructing-learning process emphasizes motivation, concentration, participation, organization, comprehension, repetition, articulateness, and confidence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1030 - ENGR HUMANITY SVC LRNG PROJECT

Minimum Credits: 1
Maximum Credits: 3
A service learning project in which social and/or environmental sustainability is a core thrust. The project is guided by an approved member of faculty from the Swanson school of engineering and satisfies a requirement of the engineering for humanity certificate program. The project can be international or based within the US and is subject to pre-approval.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1040 - INTRO TO REHABILITATION ENGR

Minimum Credits: 3
Maximum Credits: 3
Introduces undergraduate engineering students to the field of rehabilitation engineering by applying engineering concepts to reduce the barriers people with disabilities currently face. Topics include 1) analysis and design of sensory aids for vision and hearing; 2) electrical stimulation of nerve; 3) design of accessible accommodations; 4) analysis and design of prosthetics; 5) biomechanics of wheelchair propulsion; 6) solutions for interfacing technology and people with disabilities; 7) ethical considerations of designing technology for people with disabilities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1050 - PRODUCT REALIZATION

Minimum Credits: 3
Maximum Credits: 3
This interdisciplinary course will focus on product analysis, product redesign and product development. Student teams will work with industrial sponsors to develop product plans for emerging and existing products.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1051 - BUSINESS PLAN TO PRODUCT IMPLM

Minimum Credits: 3
Maximum Credits: 3
This independent study course will allow selected design teams (via the competitive judging process of ENGR 1050) to advance product ideas to prototyping and potential commercialization. Each student team will begin with their business plan and up to $2500 they will have been awarded from the venture capital committee for use in further developing their product using the new product incubator. We plan to raise sufficient funds so that up to ten design teams can be funded annually from the mini Pitt venture capital" fund."
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1055 - ENVIRNMNTL PROBLMS & SOLUTIONS

Minimum Credits: 3
Maximum Credits: 3
The course will introduce the students to basic environment al problems and allow them to develop possible solutions to these problems using tools from scientific disciplines (e.G., Chemistry, biology, etc.). The students will learn to apply traditional concepts in developing solutions to non-traditional problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGR 1060 - SOCL ENTREP-ENGRG FOR HUMANITY

Minimum Credits: 3
Maximum Credits: 3
The course will explore the concepts of social entrepreneurship through the three tenets of sustainability: environment, economy, and equity in the context of complex or `wicked' problems. An introduction will provide a foundation in sustainability and social entrepreneurship while exploring the impact of innovative business models, such as disruptive innovation and Prahalad and Hart's fortune at the bottom of the pyramid. Additional class time will explore different examples and challenges in the developed and developing worlds. Through weekly readings, the course will focus on classroom discussions about the tenets of sustainability and the relevance of engineering in crafting `solutions'. The course project will provide students with an opportunity to work with a multi-disciplinary team to design an engineering-based business plan targeting a specific challenge either locally or in the developing world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1065 - NANMAN & NANMATRLS FR PHOTVOLT

Minimum Credits: 3
Maximum Credits: 3
This course aims to prepare the undergraduate students in the development of low-cost, high-efficiency solar cells. Students will 1. Apply nanomanufacturing and nanomaterial concepts to photovoltaic application, 2. Learn how to use instruments for synthesis and characterization of nanomaterials and photovoltaic devices, 3. Examine the social implication of nanotechnology and photovoltaics, and 4. Practice problem solving and engineering design skills within a collaborative team.We will cover solar cell fundamentals, low cost solar cells, and high efficiency photovoltaic systems
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: PHYS 0175; PLAN: Swanson School of Engineering (UENGR)

ENGR 1066 - INT SOLAR CELLS NANOTECHN

Minimum Credits: 3
Maximum Credits: 3
Introduction to solar cells and nanotechnology this course aims to prepare Undergraduate students in the design and development of low-cost, high-efficiency solar cells. Students will learn the basics of solar cells, introduce themselves to nanotechnology and how this may enable next-generation solar cells, learn how to use instruments for synthesis and characterization of nanomaterials and solar cells, examine the social implication of

nanotechnology and solar cells, and practice problem solving and engineering design skills within a collaborative team. Portions of the class will be flipped (video lectures at home and assignments in class) in order to facilitate an active and engaged learning process.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: PHYS 0175; PROG: Swanson School of Engineering

ENGR 1070 - POWR GENRT FROM THE GROUND UP

Minimum Credits: 3
Maximum Credits: 3
More than 50 percent of today's power generation and consumption worldwide relies on fossil energy sources, i.e. coal, natural gas, and oil, all 'from the ground up,' and this trend is expected to continue for many decades. This course will address key technical, environmental and societal issues associated with today's fossil energy supplies, exploration, recovery (e.g., horizontal drilling and hydraulic fracturing) energy conversion, and power generation systems. Based on the fundamental principles of thermodynamics, student will understand how a variety of physical components can be combined into practical power generation systems. Both vapor power cycles, where the primary motivating force is phase change, and gas power cycles, where combustion plays a more significant role, will be explained, analyzed, compared, and contrasted. Once the overall system performance is understood, the detailed mechanics of components such as heat exchangers, pumps, and turbines will be discussed. In addition, the role of advanced power generating technologies, such as fuel cells, will be examined. The course will be concluded with an overview of carbon management strategy, particularly in capture and sequestration of carbon-dioxide.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1071 - ELCTL POWR TRNS DISTRB & GRID

Minimum Credits: 3
Maximum Credits: 3
This is an overview course designed to introduce students to electric power transmission and distribution grid technologies dedicated to reliably, efficiently, economically, and safely managing electric power across utility networks. The course will cover the application of various grid technologies from power generation through power consumption including transmission networks, grid automation, power electronics systems, communications and control, protection, grid operations, grid connectivity, renewable energy integration, cyber security, and other emerging areas, as well as an introduction to power utility markets, business processes, and policy/regulation. Students will gain an understanding of the how the broad spectrum of power grid technologies is integrated into the electrical energy industry, with an emphasis on transmission and distribution systems at the electric utility level. Since nuclear power often plays a significant role for near-term and future smart grid strategy in many developed countries, such as France, Japan and South Korea, part of this course will be directed to an overview of today's nuclear power generation and its relation to grid technologies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1090 - ENGINEERING COOPERTV PROGRAM

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1091 - ARTS AND SCIENCES CO-OP

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1092 - ENGRG INT'L COOPERTV PROGRAM

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1093 - CMP SCI COOPERATIVE PROGRAM

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD

Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1097 - INTERNATIONAL SPECIAL PROJECT

Minimum Credits: 3
Maximum Credits: 3
This course involves an individual project done under the supervision of a university of Pittsburgh engineering faculty member and a faculty member of a foreign university. The project is done on site at the foreign university and involves an experimental study, a design project, a literature review of a special topic, or instruction.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

ENGR 1098 - INT'L SENIOR DESIGN EXPERIENCE

Minimum Credits: 1
Maximum Credits: 1
This one credit course is focused on understanding globalization and technology with a particular emphasis on sustainability design and international experience. By the end of this course, students should understand the basic history, government, and economic strategies, related to their country; produce a final design that is the most cost-effective design possible, as funding for construction is limited and repairs in the future would be undertaken by members of the community; be able to define 'globalization' and 'sustainability' and identify how it is impacting their respective fields of study and future employment; gain awareness of differences in the business environments of the U.S. In relationship to the rest of the world.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

ENGR 1098IS - INT'L SR DESIGN EXPERIENCE-IS

Minimum Credits: 0
Maximum Credits: 0
This one credit course is focused on understanding globalization and technology with a particular emphasis on sustainability design and international experience. By the end of this course, students should understand the basic history, government, and economic strategies, related to their country; produce a final design that is the most cost-effective design possible, as funding for construction is limited and repairs in the future would be undertaken by members of the community; be able to define "globalization" and "sustainability" and identify how it is impacting their respective fields of study and future employment; gain awareness of differences in the business environments of the U.S. In relationship to the rest of the world.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1098OS - INT'L SR DESIGN EXPERIENCE-OS

Minimum Credits: 0
Maximum Credits: 0
This one credit course is focused on understanding globalization and technology with a particular emphasis on sustainability design and international experience. By the end of this course, students should understand the basic history, government, and economic strategies, related to their country; produce a final design that is the most cost-effective design possible, as funding for construction is limited and repairs in the future would be undertaken by members of the community; be able to define "globalization" and "sustainability" and identify how it is impacting their respective fields of study and future employment; gain awareness of differences in the business environments of the U.S. In relationship to the rest of the world.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1100 - STRUCTURE & PROPRTS OF MATRLS

Minimum Credits: 3
Maximum Credits: 3
New materials represent the underpinning technology in all branches of engineering, making possible the design of new structures, engines, appliances, and electromagnetic devices. Breakthroughs in composites, ceramics, polymers, magnet materials, high temperature alloys and super conductors promise to revolutionize industry. This course develops the principles governing the design, manufacture, and performance of metallic and non-metallic materials, emphasizing the relationship between structures, properties, and processing from super alloys to superconductors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 1101 - INTRO TO ENGINEERING EDUCATION

Minimum Credits: 0
Maximum Credits: 0
Introduces the role of computers and software packages in engineering problem solving. Basic analytical, programming design, graphical, and problem solving skills used in the profession. Provides an overview of how material in the basic sciences and mathematics is applied by engineers to

solve practical problems of interest to society. Emphasis on the relationship between the engineering sciences and engineering.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis

ENGR 1200 - STUDY ABROAD: MEXICO
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1201 - STUDY ABROAD: ISRAEL
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

ENGR 1202 - STUDY ABROAD: ISRAEL NP
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

ENGR 1203 - PITT ENGINEERING IN CHINA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1204 - PITT ENGINEERING IN CHINA NP
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1205 - PITT ENGINRING IN AUSTRALIA ET
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1206 - PITT ENGINRING IN AUSTRALIA 2K
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1207 - PITT ENGINRING AUSTRALIA ET NP
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1208 - PITT ENGINRING AUSTRALIA 2K NP
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD

Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1209 - STUDY ABROAD: COSTA RICA

Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1210 - STUDY ABROAD: FRANCE

Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1211 - PITT ENGINRING IN CHNA 3 WEEK

Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

ENGR 1212 - PITT ENGINRING CHNA 3 WEEK NP

Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

ENGR 1213 - ENGR SERVICE LEARNING: BRAZIL

Minimum Credits: 6
Maximum Credits: 6
This course examines the development and practice of science and engineering in the context of their underlying cultural bases (social, political, religious, and organizational). The goal of the course is not just to understand the practice of technology in one country versus another, but to develop analytical skills for analyzing technology in any international setting. The course is designed for students from a wide variety of backgrounds and majors; engineering background is useful but not necessary.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1214 - STUDY ABROAD: GHANA

Minimum Credits: 3
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1215 - STUDY ABROAD: HONG KONG

Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1216 - STUDY ABROAD: PERU

Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1217 - STUDY ABROAD: SINGAPORE

Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1218 - STUDY ABROAD: SEMESTER-AT-SEA
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1219 - STUDY ABROAD: ECUADOR
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1220 - STUDY ABROAD: CANADA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1221 - STUDY ABROAD CHILE
Minimum Credits: 3
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1222 - STUDY ABROAD: RUSSIA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1223 - EXCH ENGLAND-UNIVERSITY SUSSEX
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1224 - GE3 EXCHANGE: SINGAPORE
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1225 - STUDY ABROAD: SOUTH AFRICA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1226 - STUDY ABROAD: HUNGARY
Minimum Credits: 1
Maximum Credits: 18

Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1227 - EXCH GERMANY-FH MUNICH
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1228 - EXCH URUGUAY-UNIV MONTEVIDEO
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1229 - STUDY ABROAD: TURKEY
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1230 - STUDY ABROAD: DENMARK
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1231 - STUDY ABROAD: TANZANIA
Minimum Credits: 3
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ENGR 1232 - MEXICO EXCHANGE:MONTERREY TEC
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1233 - GE3 EXCH: HONG KONG UNIVERSITY
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1234 - EXCHANGE: UAS7 GERMANY
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1235 - STUDY ABROAD: CHINA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD

Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ENGR 1236 - STUDY ABROAD: BRAZIL
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1237 - STUDY ABROAD: CYPRUS
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1238 - STUDY ABROAD: ISRAEL
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1239 - STUDY ABROAD: URUGUAY
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 1240 - STUDY ABROAD: ENGLAND
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1241 - STUDY ABROAD: SCOTLAND
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1242 - STUDY ABROAD: INDIA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1243 - EXCHANGE: NAT'L UNIV SINGAPORE
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 1244 - EXCHANGE: FIPSE CAPES BRAZIL
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD

Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1245 - STUDY ABROAD: IRELAND
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1246 - GE3 EXCHANGE: SPAN
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ENGR 1247 - GE3 EXCHANGE: ENGLAND
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1248 - GE3 EXCHANGE: AUSTRIA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1249 - GE3 EXCHANGE: FRANCE
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1250 - STUDY ABROAD: JAPAN
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1251 - GE3 EXCHANGE: AUSTRALIA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ENGR 1252 - GE3 EXCHANGE: TURKEY
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1253 - GE3 EXCHANGE JAPAN
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ENGR 1254 - EXCHANGE: UNIVERSITY OF EXETER
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1255 - STUDY ABROAD: KOREA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1256 - ENGINEERING IN THE AMERICAS
Minimum Credits: 3
Maximum Credits: 3
Traveling throughout Latin America one can encounter stunning examples of engineering expertise, from the Aztec and Mayan pyramids and cities such as Tenochtitlan, Palenque and Tikal, to the lost city of the Inca, Machu Picchu, to name just a few. This course is designed to introduce students to the methods employed in the design and construction of these and other major Pre-Columbian structures, and to analyze why these structures have remained stable in the face of time and natural hazards. Factors which made pre-Columbian engineers so effective will be analyzed using basic principles of civil engineering. The class will consist of preparatory lectures, discussion, exercises, a site visit to Cuzco and Machu Picchu (Peru), and debriefings subsequent to the site visit.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1256IS - ENGINEERING IN AMERICAS - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 1256OS - ENGINEERING IN THE AMERICAS-OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 1257 - EXCHANGE: GLOBEX IN CHINA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ENGR 1258 - STUDY ABROAD: POLAND
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1259 - ENGINEERING EXCHANGE: YONSEI
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ENGR 1260 - STUDY ABROAD: AUSTRIA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1261 - GE3 EXCHANGE: ISRAEL
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ENGR 1262 - STUDY ABROAD: ARGENTINA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

ENGR 1263 - GE3 EXCHANGE: LUND UNIVERSITY
Minimum Credits: 3
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1265 - STUDY ABROAD: ITALY
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1270 - STUDY ABROAD: AUSTRALIA
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1275 - STUDY ABROAD: WALES
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1280 - STUDY ABROAD: GERMANY
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1285 - STUDY ABROAD: NEW ZEALAND
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1290 - STUDY ABROAD: SPAIN

Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1295 - STUDY ABROAD: SWEDEN
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1296 - STUDY ABROAD: ICELAND
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1300 - ENERGY TOMORROW
Minimum Credits: 6
Maximum Credits: 6
This course explores energy efficiency and renewable energy technologies. Areas addressed are: world energy, energy and environmental implications, energy storage, wind and solar thermal applications, energy and the built environment, biomass and liquid fuels, photo voltaic devices and systems, energy management and energy and transport.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1300IS - ENERGY TOMORROW - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 1300OS - ENERGY TOMORROW - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 1350 - SUMMER EDGE: MUNICH
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ENGR 1350IS - SUMMER EDGE: MUNICH - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1350OS - SUMMER EDGE: MUNICH - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.

Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1351 - SUMMER EDGE: AUSTRALIA
Minimum Credits: 1
Maximum Credits: 15
Summer edge: Australia
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ENGR 1351IS - SUMMER EDGE: AUSTRALIA - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1351OS - SUMMER EDGE: AUSTRALIA - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1352 - SUMMER EDGE: BRAZIL
Minimum Credits: 1
Maximum Credits: 15
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

ENGR 1352IS - SUMMER EDGE: BRAZIL - IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1352OS - SUMMER EDGE: BRAZIL - OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1410 - EXCH CTRL & SYS: ROUEN FRANCE
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1411 - EXCHANGE: KOREA UNIVERSITY
Minimum Credits: 1
Maximum Credits: 18
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ENGR 1420 - EXCH GLBL ENGR: ROUEN FRANCE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis

ENGR 1430 - PORTUGUESE 3 FOR ENGINEERS

Minimum Credits: 3
Maximum Credits: 3
This third semester of Brazilian Portuguese is specifically designed for engineering students who will be doing research and/or studying in brazil. The course covers technical and educational terminology through examination of Brazilian sustainable engineering case studies while further advancing the students' knowledge and ability in Brazilian Portuguese. The course will further enhance the cognitive skills of engineering students, and give them an appreciation of the interrelation of career paths, language skills, and cultural awareness. This course is required for all IGERT fellows.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1440 - INTRO KOREAN LANG & CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course is designed for students and scholars of all disciplines, especially in engineering and science, who plan to go to Korea to study or conduct research in the future. This course is unique in its intention and contents that it includes both Korean language lessons and the study of history and cultures in Korea. This course introduces basic linguistic skills in conjunction with the cultural aspect associated with the language. While learning Korean history and culture, the participants learn how the modern Korean history is intertwined with us foreign policy, and they are encouraged to position themselves in the context of global processes. They also learn to approach Korean culture as a dynamic process in relation to global economy and politics, rather than a static and contained structure.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

ENGR 1450 - ENGINEERING- THE GERMAN WAY

Minimum Credits: 1
Maximum Credits: 18
This course highlights the German approach to engineering from various perspectives. It is designed as mixture of in-class lectures and industrial experience in the form of factory tours. Four broad topics are addressed from the German perspective: (1) R&D management, (2) production and manufacturing systems, (3) digital factory layout and factory simulation, and (4) product-ergonomics and ergonomic aspects in manufacturing. In addition students select one of two additional options dealing with unique aspects of the German business economy: (1) the nature of cooperation between trade unions and employers or (2) the impact on technology law and harmonization on engineering in Europe.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

ENGR 1450IS - ENGINEERING - THE GER WAY - IS

Minimum Credits: 0
Maximum Credits: 0
This course highlights the German approach to engineering from various perspectives. It is designed as mixture of in-class lectures and industrial experience in the form of factory tours. Four broad topics are addressed from the German perspective: (1) R&D management, (2) production and manufacturing systems, (3) digital factory layout and factory simulation, and (4) product-ergonomics and ergonomic aspects in manufacturing. In addition students select one of two additional options dealing with unique aspects of the German business economy: (1) the nature of cooperation between trade unions and employers or (2) the impact on technology law and harmonization on engineering in Europe.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1450OS - ENGINEERING - THE GER WAY - OS

Minimum Credits: 0
Maximum Credits: 0
This course highlights the German approach to engineering from various perspectives. It is designed as mixture of in-class lectures and industrial experience in the form of factory tours. Four broad topics are addressed from the German perspective: (1) R&D management, (2) production and manufacturing systems, (3) digital factory layout and factory simulation, and (4) product-ergonomics and ergonomic aspects in manufacturing. In addition students select one of two additional options dealing with unique aspects of the German business economy: (1) the nature of cooperation between trade unions and employers or (2) the impact on technology law and harmonization on engineering in Europe.
Academic Career: UGRD

Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1500 - ETHCL DIL BALNC COST,RISK,SCHD

Minimum Credits: 3
Maximum Credits: 3
Students will explore the interfaces among engineering ethics, design, schedules, costs and risk assessment. Teamwork, communications and management skills will also be developed. Students will analyze a series of well-known cases, as well as discussing current ethical situations involving engineers and engineering managers. Students will learn to recognize and resolve the types of ethical dilemmas that they could encounter in the workplace. A term paper serves to integrate and extend the entire course material.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 1600 - GLOBAL ENGINEERING TECHNOLOGY

Minimum Credits: 3
Maximum Credits: 3
Globalization and innovation will be studied with a particular emphasis on China in conjunction with the Innovate 2012 conference. As such the course provides both the preparation for the conference and the post-conference synthesis of what was learned during the conference. The course will be jointly taught by University of Pittsburgh and Rice University faculty exclusively for those students who will be delegates to the Innovate Conference. Guest lecturers will be invited from the two participating universities who will discuss the history, government, religion, business climate and culture of China. This course requires participation in the Innovate 2012 Symposium that will visit Beijing, Suzhou, and Shanghai, China from March 1 - 11.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1600IS - GLOBAL ENGINEERING TECHNLGY IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 1600OS - GLOBAL ENGINEERING TECHNLGY OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 1601 - GLOBAL ENGR TECHNOLOGY (NP)

Minimum Credits: 3
Maximum Credits: 3
Globalization and innovation will be studied with a particular emphasis on china in conjunction with the Innovate 2012 conference. As such the course provides both the preparation for the conference and the post-conference synthesis of what was learned during the conference. The course will be jointly taught by university of Pittsburgh and rice university faculty exclusively for those students who will be delegates to the innovate conference. Guest lecturers will be invited from the two participating universities who will discuss the history, government, religion, business climate and culture of china. This course requires participation in the Innovate 2012 symposium that will visit Beijing, Suzhou, and Shanghai China from March 1- 11.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1610 - PRODUCT REALIZ GLOBAL OPPORT

Minimum Credits: 3
Maximum Credits: 3
This course covers all of the techniques and this course will have the same prerequisites as ENGR objectives of ENGR 1050, with an international component and perspective. For this course, students learn skills and strategies associated with product design and product realization in the context of complex, international product design teams from the perspective of creating sustainable products for developing markets. Students will work on sustainability projects under the guidance of faculty experts in product design and sustainability at the University of Pittsburgh through the Mascaro

sustainability initiative and at the University of Campinas (UNICAMP) in Brazil. Outcomes for students include learning how to develop viable, marketable products that address sustainable development needs and how to work cross-culturally, in diverse teams, in international settings, and in-person and in virtual collaborative environments. For the course, Pitt undergraduate students will travel to UNICAMP over spring break in order to collaborate in-person on real-world sustainable development product needs. In addition to this face-to-face collaboration, students will continually interact through videoconferencing and on-line collaboration environments, including the NCIIA rapid network. This course is supported through a grant from the NCIIA to defer costs of travel and protype construction.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1620 - PRODUCT DSGN & DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
The focus of product design and development is integration of the marketing design and manufacturing functions of firms in creating new products in a diverse economy that is experiencing rapid growth. Students will analyze several case-studies within the Indian context to study the multiple stages involved with new product creation, design, engineering, and production. The importance of creating new products suited for rural-agricultural settings which are eco-friendly and satisfy sustainable economic communities will be addressed throughout the course. Topics include: discuss the set of tools and methods for product design and development; develop abilities to create a new product; awareness of the role of multiple functions in creating a new product (e.g. Marketing, finance, industrial design, engineering, production); ability to coordinate multiple, interdisciplinary tasks in order to achieve a common objective (examine local conditions, needs and constraints; case studies (to be gathered from various sources).
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1621 - EMPOWER: ENGR FOR THE FUTURE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1622 - EMPOWER: ENGR FOR FUTURE (NP)

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1623 - ENGR FOR BETTER ENVRN: BRAZIL

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

ENGR 1623IS - ENGR BETTER ENVRN: BRAZIL - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1623OS - ENGR BETTER ENVRN: BRAZIL - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

ENGR 1625 - ENGR BUS COLLABORATIONS INDIA

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the studying modern engineering and business principles, methods, and tools, within the context of the Indian environment.

The three focal areas of study are: manufacturing systems, service engineering operations, and call centers. A visit to India will showcase challenges and opportunities available at the corporate level and at the individual level in this rapidly growing economy. It will also focus on the societal impacts of new technologies and rapid expansion of engineering industries in India. Students can utilize this forum to analyze and visualize service manufacturing engineering challenges and opportunities around the world. Plant visits and interfaces with engineering students and practicing engineers will allow students to appreciate the following professional characteristics: ethics, the ability to work with others, an appreciation for other disciplines, adaptability, and an appreciation for life-long learning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1625IS - ENGR BUS COLLBRTN INDIA - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 1625OS - ENGR BUS COLLBRTN INDIA - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 1626 - MOD INDIA: INDUST INNOV & EDUC

Minimum Credits: 1
Maximum Credits: 1
This short course will educate students on the impact of modern India on engineering solutions in a global and societal context, improve student's knowledge of contemporary issues relating to the engineering and business profession. At the end of the course, students will have a general understanding of the corporate, geo-political, cultural and social factors that define the Indian landscape at the present time. An in-depth paper exploring one of these factors will be required. This short course will explore how these three factors interact in India and in the perceived position of India as a world economy.
Academic Career: UGRD
Course Component: Workshop
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1627 - CHINA TODAY

Minimum Credits: 1
Maximum Credits: 1
This short course will educate students on the impact of modern china on engineering solutions in a global and societal context, improve student's knowledge of contemporary issues relating to the engineering and business profession. At the end of the course, students will have a general understanding of the corporate, geo-political, cultural and social factors that define the Chinese landscape at the present time. An in-depth paper exploring one of these factors will be required. This short course will explore how these three factors interact in china and in the perceived position of china as a world economy.
Academic Career: UGRD
Course Component: Workshop
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1628 - BRAZIL TODAY

Minimum Credits: 1
Maximum Credits: 1
This introductory course, offered jointly by Pitt and CMU, explores how current thematic factors interact to influence brazil's position in the world today and into the future. The 3-day, weekend course will touch upon issues including: education, industrial growth, economic development, business influence, exports and socio-economic shifts. Course requirements include attendance, brief written reflections, and a final paper.
Academic Career: UGRD
Course Component: Workshop
Grade Component: Letter Grade

ENGR 1630 - UNDERGROUND COAL MINING

Minimum Credits: 3
Maximum Credits: 3
This course is an introductory course that covers the exploration, development and mining of coal deposits, the history of coal mining, the modern

mining methods and operations, types of coal mining equipment, and the fundamentals of coal mine ground control and ventilation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 1631 - INTRO TO MINING ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
The course introduces students to: 1) the history and importance of mining, 2) the exploration and development of surface and underground mines, 3) modern mining methods and operations, 4) common mining equipment, 5) fundamentals of mine ground control and ventilation, 6) elements of coal preparation and mineral processing plants, and 7) mine health and safety management. It is designed to provide students with basic understanding of the primary elements of a mining operation and the engineering issues associated with operating a mine in a safe, effective, and sustainable manner. The mining industry is replete with technical jargon and specialized processes and machinery that require mastery by students prior to exploration of more technically complex engineering coursework. Introductory lectures and field trips help to prepare students for the rigors of studying the other mining engineering courses offered within the Swanson School of Engineering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: (PROG: Swanson School of Engineering) or (PLAN: Geology (BS or BPH))

ENGR 1632 - SUSTNBL DEVELM & MINRL INDSTRY

Minimum Credits: 3
Maximum Credits: 3
The course begins by examining the needs of society and commercial entities engaged in mineral production. Well conceived and designed mineral or solid fuel projects exercise a balance between economic prosperity, environmental health, and social equality. These concepts are then integrated into a case study, where the feasibility of a proposed mining project is analyzed. This examination forms the underpinnings of a course project report.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1633 - MINERALS INDUSTRY RISK MGMNT

Minimum Credits: 3
Maximum Credits: 3
Explores the concepts, models and methods used to create and support the implementation of risk management within minerals industry organizations. Models and methods include life cycle model, work process model, risk analysis methods and risk assessment methods used to implement a minerals industry risk management framework.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1634 - ENVIROMENTAL CONTROLS MINING

Minimum Credits: 3
Maximum Credits: 3
The course is designed to study the environmental impact of coal, stone, and other mining operation and examine the engineering controls used to mitigate these impacts. The examination begins with the exploration and permitting of the mine site, emphasizing important environmental issues. Next, the impacts of active mining on land and water use are outlined. Most of these issues are related to subsidence impacting surface structures and water movement both at the surface and underground. To complete the mine's life cycle, closure and remediation issues are investigated. Lastly, a detailed examination of the issues associated with abandoned mined-lands, i.e. Acid-mine drainage, mass-wasting, fires, etc., Are studied. Throughout the course, engineering controls that focus on mitigating the environmental impacts of mining are acknowledged and assessed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1635 - MINE VENTILATION ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
This course provides the skills needed to analyze and design ventilation systems for underground mines based on 1) regulatory requirements, 2) health concerns for workers, 3) levels of dusts and toxic or explosive gases present, 4) mining methods used, and 5) splitting and delivery of different quantities of air to various workplaces.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 1636 - ADVANCED MINING SYSTEMS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1637 - STRATA CONTROL ENGINEERING
Minimum Credits: 3
Maximum Credits: 3
This course provides the skills needed to analyze and design ground control systems for underground mines based on 1) regulatory requirements, 2) safety concerns for workers, 3) stress and displacement characteristics, 4) proposed mining methods, and 5) local geologic conditions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1638 - MINING HEALTH AND SAFETY
Minimum Credits: 3
Maximum Credits: 3
Presents an overview of the health and safety issues within the mining industry and to examine current efforts to address these issues. In-depth discussion of health issues affecting mining include: diesel control, noise induced hearing loss, silicosis, coal mine dust monitoring and control, toxic substances, and toxic fumes. In-depth discussion of safety issues affecting mining include: explosives, falls of ground, mine inundation's, fire prevention, mine explosions, ventilation, methane control, emergency response and rescue, training, ergonomics, machine safety, and electrical safety.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1639 - MINE EVALUATION AND MANAGEMENT
Minimum Credits: 3
Maximum Credits: 3
Mine evaluation, an essential component of mineral resource management, are examined in terms of performing, investigating and reporting on mine sampling, mine evaluation, grade control and reserve estimation. Mine management relates the economic, governmental, social, regulatory, cost, labor, health, safety and environmental aspects of mineral extraction to the management of the mining enterprise.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1700 - INTRO TO NUCLEAR ENGINEERING
Minimum Credits: 3
Maximum Credits: 3
Introduction to nuclear science and technology; applications of nuclear engineering; careers in nuclear industry; nuclear history; reactor types; elementary nuclear and reactor physics; nuclear radiation and safety; fuel cycle; regulations and sustainability.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (PHYS 0152 or PHYS 0175 or 0202 or PHYS 0476) and (CHEM 0102 or 0112 or CHEM 0120 or CHEM 0420 OR CHEM 0720 or CHEM 0770 or CHEM 0970); PROG: School of Engineering

ENGR 1701 - FUNDMS OF NUCLEAR REACTORS
Minimum Credits: 3
Maximum Credits: 3
Nuclear physics, fission and fusion; cross-sections; neutron flux and slowing-down; diffusion and transport; criticality condition and calculations; reactor kinetics and shielding; heat generation, transfer and cooling; reactor materials; reactor structure.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (PHYS 0152 or PHYS 0175 or 0202 or PHYS 0476) and (CHEM 0102 or 0112 or CHEM 0120 or CHEM 0420 or CHEM 0720 or CHEM 0770 or CHEM 0970); PROG: Undergraduate School of Engineering

ENGR 1702 - NUCLEAR PLANT TECHNOLOGY
Minimum Credits: 3
Maximum Credits: 3

Current and future reactor systems; nuclear power plants; balance of plant configuration; fuel cycle management; reactor operation principles; reactor plant economics; analysis and design of nuclear systems; design projects.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (PHYS 0152 or PHYS 0175 or 0202 or PHYS 0476) and (CHEM 0102 or 0112 or CHEM 0120 or CHEM 0420 or CHEM 0720 or CHEM 0770 or CHEM 0970); PROG: Undergraduate School of Engineering

ENGR 1704 - THE FRENCH NUCLEAR CYCLE

Minimum Credits: 3
Maximum Credits: 3
The French have the most complete implementation of the nuclear fuel cycle of any country in the world. Areva, a French public multinational industrial conglomerate, is mainly known for nuclear power. Their interests in the nuclear power field include mining, milling, conversion, enrichment, fuel fabrication, the design and construction of nuclear power plants, the service of nuclear power plants, used/spent nuclear fuel storage, the reprocessing of used/spent nuclear fuel, the fabrication and utilization of mixed oxide fuel. The French agency cea, commissatiat á l'energie atomique, conducts research on advanced fuel cycles, advanced applications of nuclear power, applications of radioactivity, and the long-term disposal of radioactive waste. This course will acquaint the student with the nuclear fuel cycle via the implementation of the French nuclear fuel cycle. The course will provide introductory material on the nuclear fuel cycel in the classroom at the University. Then the students will travel to France to interact with nuclear engineering academics, engineers and scientists working in the area, and tour facilities in France.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1704IS - THE FRENCH NUCLEAR CYCLE

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 1704OS - THE FRENCH NUCLEAR CYCLE

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

ENGR 1713 - RADIATION DETECTION & MSRMT

Minimum Credits: 3
Maximum Credits: 3
This combined lecture and laboratory course will proved students with an introduction to the principles of radiation detection and measurement and experimental techniques. The lecture material will provide students with an understanding of the theoretical bases of detector operation, radiation interactions with matter, signal conditioning and processing electronics, measurement techniques, and statistical considerations. Laboratory work will emphasize the practical aspects of radiation detection using an array of radioactive sources, detectors, and associated signal processing electronics. Through a series of laboratory experiments, students will learn to configure and operate instrumentation used in a wide range of radiation detection applications that are of interest to nuclear power, nuclear medicine, radiochemistry, and other scientific disciplines.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1716 - ART HANDS-ON SYS DSGN ENGR

Minimum Credits: 3
Maximum Credits: 3
Engineering is fundamentally a creative process in which ideas are generated and transformed into new systems and devices in the world to meet human needs. The term engineer shares its origins with ingenious: one definition of engineer is 'a skillful inventor.' In this course, we will explore tools and techniques for inventing, designing and prototyping systems. This course is based on experiential learning: through interactive discussions, small-team exercises, maker assignments, workshops and hands-on projects, students will obtain an introduction to design thinking, 'maker culture' and systems engineering. ENGR 1716 is an upper division version of freshman honors ENGR 0716. It is for sophomore, junior and senior level students. We will explore user-centric design principles, low-resolution prototyping and experience prototyping, basic building elements for systems such as sensors, computer controllers, actuators and displays, materials and methods for prototyping, and ways to analyze and troubleshoot systems. Students will gain an introduction to 'smart systems': automated systems that can sense the world and automatically respond in useful ways. We will also focus on the user interface: how to create control and display interfaces that enhance users' ability to operate systems effectively and efficiently.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 1770 - ENGINEERING FOUNDATIONS OF MUSIC

Minimum Credits: 3
Maximum Credits: 3
Since Paleolithic times, engineering has been applied to the production of music, but advances in the past few centuries, including sound recording, the introductions of electronics, and a greater understanding of the physics, mathematics, and psychology of sound, have greatly expanded what a student can learn in the field of music engineering. This is a lecture course about the engineering aspects of music, including the following general topics: the physics of sound and the mathematics of harmony; the means of creation through mechanical musical instruments, including the human voice, as well as electronic instruments; recording, reproduction, and enhancement though signal processing; interaction with human perceptual, cognitive, and motor systems. Assuming knowledge of differential and integral calculus, the course will develop (or review) a basic understanding of convolution and Fourier Analysis through examples in the engineering aspects of music. Starting with an historical perspective on technology, we will extrapolate a look into the future of music engineering. Students will be able to describe engineering aspects of musical instruments, reproduction, and processing and apply the mathematical and physical basis for sound and the theory of harmony in understanding the system of interaction between human and machine that constitutes music. Topics covered include: convolution and Fourier Analysis; physics of sound; mathematics of harmony; physics of mechanical instruments; recording and reproduction of music; electronic processing of sound; electronic synthesis of music; psychophysics of music.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG

ENGR 1830 - WEB BASED INTRACTV TUTORL DSGN

Minimum Credits: 3
Maximum Credits: 3
Tools and techniques for developing interactive educational world-wide-web pages will be presented. Topics may include html, Perl, cGI, java, and javascript. Emphasis is on developing working web pages that deliver technical content through interactive tutorials. Student must have working knowledge of one or more programming languages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

ENGR 1859 - PRODUCTRONICS

Minimum Credits: 3
Maximum Credits: 3
Goals of this course will be to develop a conceptual frame work to allow persons with little or no knowledge of current electronic design or fabrication to produce prototype discrete devices that cover a wide range of applications and develop modules that can be used by persons not familiar with electronic design. These modules would have the ability to be modified to fit a number of distinct applications. Specific areas of design covered include: energy source alternatives, selection of alternative sensors, rf communications, i/o port connections, custom prog, infor alt.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1869 - INTRO ELEC ENGRG FOR NON EE'S

Minimum Credits: 3
Maximum Credits: 3
Linear electric circuits, circuit elements and sources, mesh and node equations, the venin equivalent circuits, sinusoidal steady state analysis, three phase circuits, power concepts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ENGR 1900 - INT TO SUSTNBL WATER TEC &DSGN

Minimum Credits: 3
Maximum Credits: 3
In this course, students will be introduced to the complex and global interactions that make up the human-water interface and learn to design for water applications. Beginning with the physical/chemical and biological significance of water, this course will analyze the development of water technologies within their historical, cultural and geopolitical contexts. This introduction will serve as the foundation for quantitatively evaluating:
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGR 2210 - UNDST BRAZIL-PREP RES & STUDY

Minimum Credits: 2
Maximum Credits: 2
This seminar is specifically designed for students who will be doing research and/or studying in Brazil. It introduces the economic, political, social,

and cultural aspects of Latin America in general and brazil in particular. The seminar is organized and conducted by the center for Latin American studies, and features guest lectures from on brazil, readings from current popular literature and news sources (available from the Eduardo Lozano Latin American collection, a library resource of over 340,000 volumes spanning 30 years), and contemporary films (such as decade of destruction: killing for land and Brazilian populations: stories and myths). The first half of the course will introduce students to day-to-day life in brazil, as well as its current socio-economic situation, the influence of politics and ethnic relations, and the many aspects of Brazilian culture. The second half will focus on disciplinary perspectives that allow students to explore regional issues from a variety of viewpoints. The final seminars in the semester will be used for the presentation of individual student reports on a topic related to Brazilian life, such as the governmental structure, university system, or integration of technology with indigenous lifestyles and traditions. This course is required for all Igert fellows.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad Letter Grade
Course Requirements: Rich Text Editor, field_84_161578, Press ALT 0 for help
PROG: Swanson School of Engineering

Engineering Physics

ENGRPH 1803 - DEPARTMENTAL SEMINAR
Minimum Credits: 0
Maximum Credits: 0
This undergraduate seminar acquaints the student with aspects of engineering not normally encountered in classes. Such topics as the relation of engineering to current social problems, engineering as a profession and job interviews are discussed.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

Engineering Science

ENGSCI 1801 - ENGINEERING DESIGN 1
Minimum Credits: 3
Maximum Credits: 3
A major project involving literature search, planning, experimentation, analysis, an oral presentation and a final technical report. The project may be sponsored by the engineering physics program, one of its participating departments, or a local company. The project is conducted under the direction of a faculty advisor(s).
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering; PREQ: MEMS 1043 or ECE 1896

ENGSCI 1802 - ENGINEERING DESIGN 2
Minimum Credits: 3
Maximum Credits: 3
The continuation of ENGRPH1801, engineering design 1.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering; PREQ: ENGSCI 1801 and (MEMS 1043 or ECE 1896)

English

ENGCMP 0100 - INTENSIVE WORKSHP IN COMPOSITN
Minimum Credits: 3
Maximum Credits: 3
This course creates an intensive workshop in composition for students who have limited experience as readers and writers. Students engage in a rigorous program of college level reading and writing that introduces them to academic inquiry, analysis, and argument. Discussion of student writing is central to the course, and discussion of the readings will often focus on how students have written in response to them.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGCMP 0101 - INTENSIVE COMPOSITION WORKSHOP
Minimum Credits: 3
Maximum Credits: 3
This course creates an intensive workshop in composition for students who have limited experience as readers and writers. Students engage in a rigorous program of college level reading and writing that introduces them to academic inquiry, analysis, and argument. Discussion of student writing is central to the course, and discussion of the readings will often focus on how students have written in response to them.
Academic Career: UGRD

Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGCMP 0150 - WORKSHOP IN COMPOSITION

Minimum Credits: 3
Maximum Credits: 3
This course is designed to give students who have had limited experience with writing an opportunity to increase their control of written language and their confidence in performing academic inquiry, analysis and argument. Students write in response to weekly assignments, and instruction focuses on helping students to extend, revise, and edit their work.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: Enrollment restricted to students with a SAT English Verbal high score less than 560 or an ACT score of 24.

ENGCMP 0151 - WORKSHOP TUTORIAL

Minimum Credits: 2
Maximum Credits: 2
This course provides support for students who are taking ENGCMP 0150 workshop in composition. Students meet weekly with a writing center consultant to work on understanding and addressing writing assignments. Students can also expect to learn how to strengthen their writing at the sentence- and paragraph-levels. Students work one-on-one with a consultant, using the papers they produce in ENGCMP 0150 as materials for discussion.
Academic Career: UGRD
Course Component: Workshop
Grade Component: Satisfactory/No Credit
Course Requirements: CREQ: ENGCMP 0150 or ENGCMP 0152

ENGCMP 0152 - ESL: WORKSHOP IN COMPOSITION

Minimum Credits: 3
Maximum Credits: 3
This course is designed to give students learning English as a foreign language an opportunity to develop their ability to write in English and their confidence in performing academic inquiry, analysis and argument. Students write in response to weekly assignments, and instruction focuses on helping students to extend, revise, and edit their work.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0007 or LING 0009

ENGCMP 0200 - SEMINAR IN COMPOSITION

Minimum Credits: 3
Maximum Credits: 3
This introductory course offers students opportunities to improve as writers by developing their understanding of how they and others use writing to interpret and share experience, affect behavior, and position themselves in the world. Specific reading and writing assignments may vary from section to section, but student writing will be the primary focus in all sections. The course is designed to help students become more engaged, imaginative, and disciplined composers.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0002 or 0003 or 0005 or 0010 or 0100 or 0150 or 0152 or ENG 0101

ENGCMP 0201 - COMPOSITION TUTORIAL

Minimum Credits: 1
Maximum Credits: 1
This course is a series of tutorial sessions designed to help students with their writing at the sentence and paragraph levels. Students work one-on-one with a consultant in the writing center, using the papers they produce in ENGCMP 0200 as materials for discussion.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Satisfactory/No Credit
Course Requirements: CREQ: (ENGCMP 0200 or 0203 or 0205 or 0207 or 0208) or (FP 0003 or 0006)

ENGCMP 0202 - WRITING CENTER TUTORIAL

Minimum Credits: 1
Maximum Credits: 1
Individualized tutorial for students who have severe problems with writing.
Academic Career: UGRD
Course Component: Workshop
Grade Component: Satisfactory/No Credit

ENGCMP 0203 - SEM CMPSTN: GENDER STUDIES

Minimum Credits: 3
Maximum Credits: 3
Like other seminars in composition, this introductory course offers students opportunities to improve as writers by developing their understanding of how they and others use writing to interpret and share experience, affect behavior, and position themselves in the world. This particular seminar will include readings and writing activities that comment on gender difference and consider the ways in which language and culture construct socially acceptable gender and sexual norms.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0002 or 0003 or 0005 or 0010 or 0100 or 0150 or 0152 or ENG 0101

ENGCMP 0205 - SEMINAR IN COMPOSITION: FILM

Minimum Credits: 3
Maximum Credits: 3
Like other seminars in composition, this introductory course offers students opportunities to improve as writers by developing their understanding of how they and others use writing to interpret and share experience, affect behavior, and position themselves in the world. This particular seminar will include a series of films, along with discussions that focus on how films and other media shape the ways we view and understand the world.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0002 or 0003 or 0005 or 0010 or 0100 or 0150 or 0152 or ENG 0101

ENGCMP 0207 - SEMNR IN COMPOSITN: EDUCATION

Minimum Credits: 3
Maximum Credits: 3
Like other seminars in composition, this introductory course offers students opportunities to improve as writers by developing their understanding of how they and others use writing to interpret and share experience, affect behavior, and position themselves in the world. This particular seminar will include readings that consider issues of teaching and learning in American education and may be of interest to those who plan to become teachers.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0002 or 0003 or 0005 or 0010 or 0100 or 0150 or 0152 or ENG 0101

ENGCMP 0208 - SEM IN CMPSTN: SERVICE-LEARNG

Minimum Credits: 3
Maximum Credits: 3
Students will engage in service-learning, pairing meaningful service in the community with academic work. Discussions will focus on students' experiences and their reflections as guided by critical readings and short essay assignments. Essays will comprise the central course texts, and weekly work will include reading and discussing the essays that students produce for this course.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGCMP 0252 - CRITICAL WRITING: FILM

Minimum Credits: 3
Maximum Credits: 3
This course is a workshop in practical criticism for students interested in thinking and writing about film. Students will be required to respond to each film and read and reply to what both professional critics and class members have to say about the film.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGCMP 0254 - CTITICAL WRITING: EDUCATION

Minimum Credits: 3
Maximum Credits: 3
This course is designed for students planning to become teachers or for those who are simply interested in the subject of teaching and learning. Students will concentrate on developing and improving their reading and writing skills as we examine various issues, theories, and practices in American education.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGCMP 0400 - WRITTEN PROFESSNL COMMUNICTN

Minimum Credits: 3
Maximum Credits: 3
This course explores the methods of inquiry, analysis and composition characteristic of written communication in professional settings. The course will examine such writing's specialized use of language, conventions and formats, premises, motives, and purposes. By preparing letters, resumes, proposals, reports, etc. Students will get a feel not only for what professional" communication is, but also for how and why it does, or can, or should function."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGCMP 0410 - WRITING IN THE LEGL PROFESSNS

Minimum Credits: 3
Maximum Credits: 3
This course is especially useful for students preparing for classes in the legal professions. Students will be trained to understand the nature of assumptions and assertions, to examine the pertinence of evidence, to judge the appropriateness of tone to subject matter and audience, and to test the validity of an argument through an analysis of its components.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGCMP 0420 - WRITING FOR THE PUBLIC

Minimum Credits: 3
Maximum Credits: 3
This course explores the theory and practice of writing that serves the public interest, including writing for the nonprofit and the governmental sectors of American society. The course will explore the ethics of writing for the public, the impact of rhetorical contexts on writing, and the ways in which writing and revision can allow us to understand a problem or issue in a new way. Students can expect to read examples of writing for the public, conduct significant research, and write in different genres.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718) or ENGR 0716

ENGCMP 0425 - DIGITAL HUMANITY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGCMP 0440 - CRITICAL WRITING

Minimum Credits: 3
Maximum Credits: 3
Students in this course will be trained in the responsible development and articulation of written opinions. Material drawn from various media will be used to help students increase their powers of observation and analysis that they may learn the art of making discriminating evaluations of situations, events, issues, controversies, artifacts and objects.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGCMP 0450 - RESEARCH WRITING

Minimum Credits: 3
Maximum Credits: 3
This course trains students in the techniques of responsible library research. Students will learn how to locate and utilize the resources of a library. Students will also learn how to take notes and document, use primary and secondary sources, and write paraphrases, summaries and abstracts. Each student will write a major research paper on a topic of his/her choice, one which may legitimately serve as a term paper for another course.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGCMP 0500 - TOPICS IN COMPOSITION

Minimum Credits: 3
Maximum Credits: 3
These courses are offered as alternatives to meet the general writing requirement. Each section will use a specific theme or problem to develop students' facility with the sorts of inquiry and discursive practices that characterize academic work. Topics courses require regular reading, at lEast 35 pages of writing, and regular revision.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGCMP 0510 - NARRATIVES OF THE WORKPLACE

Minimum Credits: 3
Maximum Credits: 3
Narratives of the workplace builds on the work of general writing and 400 level course offerings such as written professional communication, writing in the legal professions, and writing for the public by providing students with the opportunity to diversify their writing skills through critically examining workplace narratives and creating an archived presentation based upon workplace experiences or histories.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGCMP 0515 - PERSASV WRIT-ADVRTNG/FUNDRSG

Minimum Credits: 3
Maximum Credits: 3
In this course, students will analyze and create the kinds of persuasive writing used in the fields of fundraising and advertising. Both types of writing attempt to influence the decisions people make about the money they spend, the attitudes they have, and the issues that shape our society.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGCMP 0520 - INTEGRATING WRITING AND DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course allows students to explore the rhetorical implications of design and invites students to consider design and writing as an integral process. The class will alternate lecture/discussion sessions with studio sessions, so that students can learn how to use Adobe InDesign to create both single- and multi-paged documents for particular rhetorical contexts. Student will create a number of designed pieces of writing, including a longer multi-page document for a specific audience.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or ENGCMP 0205 or ENGCMP 0207 or ENGCMP 0208 or 0250 or FP 0003 or FP 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or ENGR 0012

ENGCMP 0550 - TOPICS IN PUBLC/PROFESSNL WRIT

Minimum Credits: 3
Maximum Credits: 3
This topics course is intended for students beginning the public and professional writing certificate, and as a writing-intensive course for students fulfilling general education requirements or interested in writing as a subject as well as a mode of instruction. The course will focus on varied topics, addressing different forms and environments for public and professional writing.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGCMP 0560 - WRITING ARGUMENTS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

ENGCMP 0600 - INTRO TO TECHNICAL WRITING

Minimum Credits: 3
Maximum Credits: 3
This introductory course is for students in various technical fields. Representative technical reports will be studied, as well as abstracts, the presentation of visuals and oral communication. Writing assignments will emerge from case studies reflecting on-the-job challenges.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGCMP 0610 - COMPOSING DIGITAL MEDIA

Minimum Credits: 3
Maximum Credits: 3
This course requires students to compose digital media while exploring the rhetorical, poetic, and political implications of multiple writing platforms. Students will learn how to compose a range of critical media objects using web-authoring languages, text, sound, images, and video in proprietary and open-source software. Classes will focus on theories of writing, composing, design, critique, delivery, and networked distributions; critique and analysis of digital media produced by professional and amateur digital media practitioners; and analysis and revisions of digital media composed by the students themselves.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

ENGCMP 0620 - THEORIES OF WRITING & TEACHING

Minimum Credits: 3
Maximum Credits: 3
This course explores theoretical and practical questions regarding how we understand the practice of writing and how we teach it. Thus the goal of the course will be for students to engage various debates regarding literacy theories and experiment with different approaches to literacy instruction. The work of the class will be analytical, inventive, and experimental, as students will have the opportunity not only to study literacy theories and pedagogues but also to create imaginative responses to these theories by considering how teachers might translate theoretical understandings about literacy into classroom practice.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

ENGCMP 1095 - COMPOSITION TUTORING

Minimum Credits: 2
Maximum Credits: 2
This course is an internship in the writing workshop. It provides interns training in theory and techniques for individualized tutoring of students with writing problems and with practical experience in tutoring college students under the guidance of a master tutor.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGCMP 1100 - LANGUAGE OF BUSINSS & INDUSTRY

Minimum Credits: 3
Maximum Credits: 3
This course concentrates on how professional people in business and industry communicate among themselves and with the rest of the world. We will both analyze written material from professional areas and practice forms and languages of successful communication in those areas. This course is primarily for students who plan to enter or now hold positions in business and industry.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGCMP 1101 - LANGUAGE OF SCIENCE & TECHNLGY

Minimum Credits: 3
Maximum Credits: 3
This course analyzes the rhetorical character of scientific writing and examines the role of writing and the use of language in the scientific process. The course permits students to assess professionally prepared texts as well as texts produced by other students, to write and re-write their own text and to develop a critical awareness of the resources of language employed in science and technology.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or ENGCMP 0205 or ENGCMP 0207 or ENGCMP 0208 or 0250 or FP 0003 or FP 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or ENGR 0712 or ENGR 0715 or ENGR 0718)

ENGCMP 1103 - PUBLIC RELATIONS WRITING

Minimum Credits: 3
Maximum Credits: 3
This course studies the ways an organization communicates with its public through news releases, speeches, brochures, feature stories, annual reports, etc. The course examines the stylistic choices each writer makes and develops a critical language to describe how meaning is created through the way information is arranged. Issues of the media, ethics, propaganda and the uses of ambiguity will also be addressed.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: (ENG 0102) or (ENGCMP 0004 or 0006 or 0020 or 0200 or 0203 or 0205 or 0207 or 0208 or 0250) or (ENGR 0012 or 0712 or 0715 or 0718) or (FP 0003 or 0006)

ENGCMP 1104 - CREATIVE CORPORATE WRITING

Minimum Credits: 3
Maximum Credits: 3
This course examines four types of business writing that demand creativity and a polished writing style--executive speeches; advertisements; issue and position papers; and company magazine articles.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: (ENG 0102) or (ENGCMP 0004 or 0006 or 0020 or 0200 or 0203 or 0205 or 0207 or 0208 or 0250) or (ENGR 0012 or 0712 or 0715 or 0718) or (FP 0003 or 0006)

ENGCMP 1111 - PROF WRITING GLOBAL CONTEXTS

Minimum Credits: 3
Maximum Credits: 3
In order to create effective and powerful documents for diverse global audiences, students need to be able to negotiate the expectations, assumptions, conventions, and professional practices of different cultures. This course will help advanced undergraduate students better understand what is at stake in writing for international audiences, how to research issues relating to communication (and especially the use of English) in global contexts, and how to write professional publications for particular international audiences.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or ENGCMP 0205 or ENGCMP 0207 or ENGCMP 0208 or 0250 or FP 0003 or FP 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or ENGR 0012

ENGCMP 1112 - PROF USES OF SOCIAL MEDIA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG

ENGCMP 1200 - TOPICS IN COMPOSITION

Minimum Credits: 3
Maximum Credits: 3
Each course will use a specific thematic or methodological focus to enact, reflect on, and criticize a specialized mode of academic or professional discourse. Topics courses require regular reading, writing, and revision.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGCMP 1210 - TUTORING PEER WRITERS

Minimum Credits: 3
Maximum Credits: 3
This course prepares students to be effective tutors for peer writers by introducing them to issues and scholarship in teaching, writing and working as a tutor. Students from any discipline who are interested in careers in teaching, or students who recognize the importance and difficulty of responding well to drafts written by others will find this course of interest. The course is a prerequisite for those students wishing to work as peer interns in the writing center.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGCMP 1220 - THE ART OF THE ESSAY

Minimum Credits: 3
Maximum Credits: 3
This course offers students who have fulfilled the introductory composition requirement an opportunity to develop more advanced strategies as writers and a deeper understanding of how effective" writing gets defined in various contexts. As they work on their own writing, students will read and discuss work by writers whose prose has received acclaim. Weekly writing assignments and exercises will provide the occasion to explore different styles and approaches to an audience."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGCMP 1250 - ADV TOPCS PUBLC/PROFESSNL WRIT

Minimum Credits: 3
Maximum Credits: 3
This advanced topics course is intended for juniors and seniors pursuing the public and professional writing certificate, as well as students interested in advanced writing. The course will be offered with focus on varied topics, addressing theoretical, social, or historical issues of writing in public and professional environments.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGCMP 1400 - GRANT AND PROPOSAL WRITING

Minimum Credits: 3
Maximum Credits: 3
This course allows students to study the practices related to proposing change, requesting funds, and defining projects.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGCMP 1410 - ADV RSRCH/DOCUMENTARY WRITING

Minimum Credits: 3
Maximum Credits: 3
This course offers students the opportunity to study and use techniques of research that are used by writers in a range of professional settings.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGCMP 1510 - WRITING WITH STYLE

Minimum Credits: 3
Maximum Credits: 3
Designed with the writer in mind, this advanced-level, workshop-style course explores the sentence in its many forms and seeks to deepen students' understanding of grammar, syntax, punctuation, and style as opportunities for creative endeavor. Through the use of imaginative exercises, revisions, and discussion of texts written by students, poets, and essayists, we will immerse ourselves in the practice of writing compelling sentences that best express our thoughts and motives. The course involves a weekly workshop of works-in-progress and the creation of a chapter-length (20-25 pages) prose revisionary project by the end of semester.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGCMP 1551 - HIST & POLITICS ENGLISH LANG

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to both historical and present use and descriptions of the English language. Students also learn techniques for analyzing and understanding the language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGCMP 1552 - LANGUAGE, LITERACY, LEARNING

Minimum Credits: 3
Maximum Credits: 3
This course examines how individuals and societies acquire, develop, and make use of literacy. Students engage in questions concerning the social and personal consequences of literacy, and they explore various theories and practices of reading, writing, and schooling. The dual focus on how literacy functions in the development of individuals and societies makes this course especially appropriate for advanced students considering careers in elementary and secondary education.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGCMP 1900 - INTRNSHIP: PUBLC/PROFSSNL WRIT

Minimum Credits: 3
Maximum Credits: 3
This internship is intended for juniors and seniors who are pursuing the public and professional writing certificate. The internship is designed to give students a productive, substantive writing experience where they will learn from and contribute to the sponsoring agency or project. Students will consult with an advisor to arrange for intern ships and to construct the plan of work, writing, and over sight.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

ENGCMP 1901 - UTA: TEACHING & TUTOR WRITING

Minimum Credits: 1
Maximum Credits: 3
This experience is intended for students who wish to engage with the theory and practice of teaching writing under the mentorship of an English department faculty member. The undergraduate teaching assistantship is designed to give students a productive, substantive experience in which they will learn from and contribute to students' learning in a classroom or in the writing center. Students will consult with a faculty mentor to arrange the undergraduate teaching assistantship and to construct the plan of work, writing, and supervision.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Satisfactory/No Credit

ENGCMP 1902 - INDP STUDY PUBLIC PROF WRITING

Minimum Credits: 1
Maximum Credits: 6
This course will allow PPW students to define special projects and a course of study to explore over the course of a term.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ENGCMP 1903 - SRVC LRNG SEM PBLC PROF WRIT

Minimum Credits: 1
Maximum Credits: 1
This course is open to students who are enrolled in public and professional writing courses. It is taken concurrently with these anchor courses as a voluntary, one-credit add-on. The service-learning seminar pairs meaningful and sustained service activities in a professional non-profit organization with investigation of professional writing.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

ENGCMP 1904 - SERVICE LEARNING ADD-ON CREDIT

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

ENGCMP 1905 - INDEPENDENT STUDY SERVICE LRNG

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ENGFLM 0355 - VISUAL LITERACY

Minimum Credits: 3
Maximum Credits: 3
Visual literacy is an emerging area of study which deals with the growing importance of visual culture in our contemporary world and how we interpret what is seen. This course will emphasize the process of critically viewing specific media artifacts and provide tools to students that will allow them to comprehend and evaluate information presented by a variety of forms of visual media, including television, video, film, photography, and the internet.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 0400 - INTRODUCTION TO FILM

Minimum Credits: 3
Maximum Credits: 3
This is a basic course on the visual arts that offers the student abroad introduction to the medium of film. As part of this overview, the class will consider such issues as: the process of contemporary film production and distribution; the nature of basic film forms; selected approaches to film criticism; comparisons between film and the other media.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 0401 - INTRODUCTION TO VISUAL CULTURE

Minimum Credits: 3
Maximum Credits: 3
Introduction to visual cultures develops skills to interpret visual culture in contemporary life. Using a wide variety of media, including film, television, advertisements, fashion magazines, museum exhibits, comic books, painting, graffiti, video games, the web, and photography, the course focuses on understanding how conceptions of visuality, gender, race, and politics shape not only definitions of high and low culture but also questions of knowledge and being. The class aims to find connections amongst all elements of culture, often positioning the students as the active analysts of everyday visual objects.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 0520 - FILM THEORY

Minimum Credits: 3
Maximum Credits: 3
A course on a form of narrative called interactive fiction, a text-driven and turn-based narrative form that takes input from a reader and responds with some degree of 'intelligence.' The narrative advances as a result of the interaction between the player-character, who occupies a space within the fictional world, and the fictional work itself.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0004 or 0006 or 0020 or 0200 or 0203 or 0205 or 0207 or 0208 or 250 or FP 0003 or 0006 or ENG 0102 or ENGR 0012 or 0712 or 0715 or 0718

ENGFLM 0530 - FILM ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the art of the cinema, and to the techniques for its formal and iconographic analysis. It examines the nature of shot composition and visual framing, the use of color, the role of lighting as a pictorial element, the potentials of camera movement, the modes of editing and the nature of image/sound montage. It also introduces students to dominant cinema forms--narrative, experimental, documentary, etc.--And connects the cinema to visual arts (like painting and sculpture).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 0532 - INTRODUCTION TO FILM GENRES

Minimum Credits: 3
Maximum Credits: 3
This course surveys major film genres--the Western, the musical, the detective film, the screwball comedy, etc. We will trace the history of film genres from the studio era to the present, including European transformations. The course seeks to relate film genres to the culture that created them.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 0540 - WORLD FILM HISTORY
Minimum Credits: 3
Maximum Credits: 3
This course both introduces students to techniques of film analysis and acquaints them with major works and movements in international cinema. The course pays particular attention to the evolution of film narrative and visual style and landmarks in film development--European avant-garde films, the British documentary, the classic Hollywood film, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 0570 - INTRODUCTION TO NEW MEDIA
Minimum Credits: 3
Maximum Credits: 3
Over the past two decades, so-called "new media" -- ranging from television, computers, digital image production, video games, to the internet -- have begun to supplant the social and cultural prominence of film and other traditional media. This course will provide an introduction to a critical approach to new media. We'll look at how these media work: at the history and theory of their development, at the changes they have brought about in a broader media culture, and at their social status and significance (e.g., The place they occupy in culture, the kinds of interactions they make possible).
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGFLM 0590 - FILMMAKING: PROD & CRTCSM
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 1190 - BRITISH FILM
Minimum Credits: 3
Maximum Credits: 3
This course explores the status of British film as a national cinema. It examines the forms and styles indige nous to British cinema; the relationship of British cinema to British social reality; the changes in film language, production and forms as they relate to the development of British cinema.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1290 - HISTORY OF AMERICAN FILM 1
Minimum Credits: 3
Maximum Credits: 3
This course explores the development of American film from 1895 to 1939. Though the course will emphasize the evolution of American film style and genre, attention will also be paid to the history of the American film industry, and the relationship between Hollywood cinema and the broader cultural context of American society. The course will provide the student with the historical and aesthetic background with which to better appreciate the American cinema of today and yesterday.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1291 - HISTORY OF AMERICAN FILM 2
Minimum Credits: 3
Maximum Credits: 3
This course explores the development of American film from 1940 to the present. The course examines the evolution of American film style and genre, the history of the American film industry, and the relationship between Hollywood cinema and the broader cultural context of American society.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1293 - AMER PHOTOGRAPHY/AMER CULTURE
Minimum Credits: 3
Maximum Credits: 3
Photography's basic function is to record. So, what and who are worth documenting? Who has the right to photograph, who and what is represented and why? How do images affirm or debunk our stereotypes about "others," and how do difference and identity emerge through photography? Race and class in American photography explores these questions by examining American photography of African Americans, native Americans, the Japanese interned, union workers, celebrities, and more. Images by and of photographers of varying backgrounds is collectively viewed and

discussed in order to further understand photography's relationship to the social history of race and class in the United States, and to examine ourselves and our relationship to those like/unlike us. Race and class in American photography spans photography's nascent developments until the early part of the 21st century. Photography by those such as Bill Burke, Teenie Harris, James van der Zee, Walker Evans, P.H. Polk, Edward s. Curtis, Toyo Miyatake, and Beth Yarnelle Edwards is examined and discussed. Readings from the course packet include essays by leading photo critics and critical theorists such as Theresa Harlan, Bell Hooks, Vicki Goldberg, Andy Grunberg, Deborah Willis and Karin Higa.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 1390 - CONTEMPORARY FILM

Minimum Credits: 3
Maximum Credits: 3
Surveys international film from 1950 to the present and the major film movements of the period. It also demonstrates the stylistic and cultural interrelationships between the international film schools.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1391 - TOPICS IN CONTEMPORARY CINEMA

Minimum Credits: 3
Maximum Credits: 3
Since the late 19th century, world cinema has been ever changing. Cinema was transformed with the coming of sound, color, and large-screen format. The studio system" reigned from the 1920's to the 1960's then lost ascendancy. Changes also have to do with economics and financing, creating "global cinema". The woman's movement changed the stereo typical vision of women. This course will allow the program and faculty to respond to important changes in cinema."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 1410 - BOLLYWOOD AND INDIAN CINEMA

Minimum Credits: 3
Maximum Credits: 3
This course will offer an overview of various Indian cinema traditions in their historical, aesthetic, and cultural contexts. Students will learn how to analyze Indian films from the 1920s to the present in terms of formal techniques, narrative conventions, and viewing contexts and also in terms of broader historical contexts such as colonialism and the independence movement. The history and formal conventions of Mainstream Bombay Cinema will be counterpointed with other kinds of Indian film.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1420 - TRANSNTNAL EAST ASIAN CINEMAS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 1470 - FILM DIRECTORS

Minimum Credits: 3
Maximum Credits: 3
This course looks at the mode of production of films and works to understand the interweaving contributions to that mode of directors, producers and screenwriters. It will also consider less personal forces--social climate, studio style, genre and audience taste. It will, finally, examine the films of particular directors for signs of personal style, theme, or personal preoccupation.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1471 - ORSON WELLES

Minimum Credits: 3
Maximum Credits: 3
This course considers the screen career of Orson Welles. In considering his films, the course explores the evolution of Welles' cinematic style; the thematic concerns of his work; the ideological implications of his fictional universe; and his contribution to the development of American narrative cinema.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1472 - HITCHCOCK'S FILMS

Minimum Credits: 3
Maximum Credits: 3
This course will look at the development of Hitchcock's cinema as a way of touching upon issues central to the study of film as a cultural force; the relationship between art and entertainment; the social origins of suspense and fear; the role of the director in creating a film's meaning; the role and function of genre and cross-generic influence. We will closely look at films from all phases of Hitchcock's career and examine what their style, tone, and subject matter reveal about the powers of cinema and Hitchcock's influence on a new generation of directors.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1476 - THE FILMS OF STANLEY KUBRICK

Minimum Credits: 3
Maximum Credits: 3
This course aims to discover the extent to which Kubrick's films are unified in style and theme. We will explore their sources in other films, reputed novels and short stories. Special attention will be paid to themes commonly found in Kubrick; a satirical view of society, the links between violence and sexuality, etc.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1479 - CHILDREN AND MEDIA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 1480 - TOPICS IN FILM

Minimum Credits: 3
Maximum Credits: 3
Explores selected issues in the production and reception of film.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

ENGFLM 1481 - YOUTH FILM

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1482 - THE STAR SYSTEM AND THE MOVIES

Minimum Credits: 3
Maximum Credits: 3
This course will deal with all aspects of the phenomenon of stardom in film: the production of stars, film acting, and fandom. This is not a course on any particular star, but we will use case studies of individual stars for our weekly focus. We will draw on film examples from the old Hollywood studio system as well as from post-studio films and popular culture. A particular emphasis of the course will be differences between male and female star images. In addition, we will survey a variety of recent approaches to star studies through assigned readings.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1483 - FILM SOUND

Minimum Credits: 3
Maximum Credits: 3
In this course, we will learn to listen to films and to use the language and tools of audio analysis to analyze the aural environment produced by films. Topics include the history of film sound, the relation of sound and image, aural and visual pleasures, sound and narrative meaning, soundscapes and theories of shock and modernity, the aesthetics of analog and digital sound in cinema, the 'realism' of recorded sound, film sound and space, sound in documentary cinema, and culturally specific theories of sound.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1485 - FILM AND POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course examines film production, economics and forms of representation as reflections of political attitudes. We will study a variety of narrative and non-fiction films which reveal differing political points of view, ranging from those that legitimize the dominant culture to those which criticize, if not challenge, dominant attitudes. We will screen European, U.S., Soviet and third world cinema.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1486 - PHOTGRPHY & SOCL POLITC CONTXT

Minimum Credits: 3
Maximum Credits: 3
This course explores the nature and function of photography as social action. Social documentary images of labor, conflict, politics and social issues are discussed in relationship to their impact on American public consciousness, particularly through the media, reportage, activism, and independent media. The course explores how images have impacted the collective understanding of and reaction to historic events and trends such as the great depression, Vietnam, and civil rights. Points of inquiry: who propagates images and for what? What makes an image political? What deserves to be publicly seen and who decides? Photography and its social and political context primarily addresses images and events from 1935 until today. Photography by those such as Sebastião Salgado, Letizia Battaglia, Eddie Adams, Fazal Sheikh, and Robert Capa is examined and discussed. Readings from the course packet include essays by leading photo critics and critical theorists such as ken light, Susan Sontag, Barbara Trent and Martha Rosler. "Everything in the world must be shown and people around the world must have an idea of what's happening to the other people around the world. I believe this is a function of the vector that the documentary photographer must have, to show one person's existence to another."-Sebastião Salgado this course explores the nature and function of photography as social action. Social documentary images of labor, conflict, politics and social issues are discussed in relationship to their impact on American public consciousness, particularly through the media, reportage, activism, and independent media. The course explores how images have impacted the collective understanding of and reaction to historic events and trends such as the great depression, Vietnam, and civil rights. Points of inquiry: who propagates images and for what? What makes an image political? What deserves to be publicly seen and who decides? Photography and its social and political context primarily addresses images and events from 1935 until today. Photography by those such as Sebastião Salgado, Letizia Battaglia, Eddie Adams, Fazal Sheikh, and Robert Capa is examined and discussed. Readings from the course packet include essays by leading photo critics and critical theorists such as ken light, Susan Sontag, Barbara Trent and Martha Rosler. "Everything in the world must be shown and people around the world must have an idea of what's happening to the other people around the world. I believe this is a function of the vector that the documentary photographer must have, to show one person's existence to another."-Sebastião Salgado
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 1487 - FILM CENSORSHIP & AMER CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course considers some of the most important censorship battles in American history. As the first mass medium to pose a serious threat to the cultural hegemony of the genteel middle class, the movies initiated both a debate about the place of media in our society and a series of struggles over the control of commercialized leisure. This course seeks a deeper appreciation of the complexities of contemporary media politics through an engagement with the history of motion picture regulation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 1610 - TOPICS IN GENRE

Minimum Credits: 3
Maximum Credits: 3
A consideration of significant emergent literary forms or practices in relation to their social and cultural contexts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1613 - TOPICS IN FILM GENRE AND THEME

Minimum Credits: 3
Maximum Credits: 3
This course seeks to provide a forum for new issues that might arise in the area of film genre and/or the thematic of film representation. With the rise of high technology and popularity of Japanese anime a course in the genre of animation would be important in the future, as well as a course, following the horror of the world trade center attack, on the topic of disaster and the cinema. This course will consider a specific genre each time it is offered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 1615 - THE WAR FILM
Minimum Credits: 3
Maximum Credits: 3
Given the current resurgence of the war film in contemporary cinema, it is worth considering the history and changing form of this genre in relation to historical wars, beginning with World War I. In the context of film genre theory, this course will consider stable and changing elements of the genre, while remaining attentive to the specificities of specific cultural moments. Although the main emphasis of the course will be on the war film as genre, part of the semester will be devoted to documentary and non-fiction approaches to war in cinema.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1670 - GLOBAL ANIME
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Laboratory
Grade Component: LG/SNC Elective Basis

ENGFLM 1680 - ANIMATION
Minimum Credits: 3
Maximum Credits: 3
Animation is a course designed to survey the history of animation, both American and international. Providing an understanding of animation's history, technologies, and stylistic possibilities across national and international boundaries, the course will consider early animators through to contemporary uses of digital technologies with their fully realized characters inhabiting three-dimensional space. It will also have a thematic organization, focusing at times on specific techniques (e.g., Cell animation) and styles (e.g., Abstract).
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

ENGFLM 1681 - FILM COMEDY
Minimum Credits: 3
Maximum Credits: 3
This course surveys film comedy from the silent period through the sound era. It focuses both on major comic performers and directors as well as on comic forms and traditions. In addition the course examines issues of comic structure, psychological dynamics of comedy and its political proclivities.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1682 - PHOTGRPHR PHOTGRPHY SINC WWII
Minimum Credits: 3
Maximum Credits: 3
This course explores the tremendous range of photographic expression and examines the contributions of significant post-World War II image-makers.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1683 - DOCUMENTARY FILM
Minimum Credits: 3
Maximum Credits: 3
This course explores the nature and impact of the non fiction film, its changing forms, strategies for movies, audiences and claims to veracity and objectivity. It is concerned with identifying types of documentary, the motives" of such films, their audience and the problems posed by "documenting reality"."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1684 - MOCKUMENTARY: PROD & CRITM
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGFLM 1685 - FILM MUSICAL

Minimum Credits: 3
Maximum Credits: 3
This course studies the musical as an example of a popular art in the age of mass culture, looking at the aesthetics and history of this genre as it relates to the culture that produced it. We will be looking at musicals with pleasure but also with the goal of analyzing and understanding our reactions, and those of the mass audience.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1688 - FILM WESTERN

Minimum Credits: 3
Maximum Credits: 3
This course examines the meaning of the Western to a mass audience. More specifically we will explore the genre's popularity, the way it represents the past, the concept of the mythic hero, changes in the genre from 1939 to 1981, and the contributions to the genre of specific directors. Every effort will be made to connect changes in the Western to new concepts of America.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1692 - FILM MELODRAMA

Minimum Credits: 3
Maximum Credits: 3
This course seeks to identify melodrama's style and explore its cultural impact. After tracing its origins in 19th century theatre and fiction, we will examine its popularity in silent and sound films. We will explore the strategies it uses to create spectator involvement and pay particular attention to the way the form situates sexual roles and attitudes. Our major concern will be to identify how melodrama expresses social conflict and addresses issues such as sexual difference, the role of the family, upward mobility, conformity and deviance.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1695 - HORROR FILM

Minimum Credits: 3
Maximum Credits: 3
This course examines the kinds of narratives produced, the ways producers and directors have developed the genre, and the ways horror film exploits social attitudes and values to generate audience involvement.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1696 - FILM NOIR

Minimum Credits: 3
Maximum Credits: 3
The term film noir was coined by French critics in the mid-1950s to describe these black and white films. This course will explore the classic films noir of the period 1941-1958 as well as films considered to be 'neo-noir' of the seventies, eighties and nineties and beyond. We will look at these films from the perspective of film art, of the relationship of film to culture, and of their exploration of gender and sexuality. The course will explore debates as to whether film noir is a style, a period, a genre, an idea in criticism, or a marketing category in mainstream cinema. We will examine the roots of film noir in German expressionism and hard-boiled detective fiction. We will examine the work of significant directors of these films including Billy Wilder, Robert Siodmak, Fritz Lang, Orson Welles, Nicholas Ray and Joseph H. Lewis. We will look at the historical context of these films in terms of censorship and blacklisting and in terms of A and B film production. The last third of the course will examine what happened when 'film noir' took on a broader meaning and the term started to be applied to a wide range of crime films and thrillers both mainstream and independent, and as the style moved from black and white to color.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1699 - SCIENCE FICTION FILM

Minimum Credits: 3
Maximum Credits: 3
This course examines the development of science fiction as a cinematic form, its relationship to genres such as horror and melodrama, its structure, images and style. We attempt to trace linkages between the films and social, political, scientific and aesthetic attitudes within the culture.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1703 - GENDER AND FILM

Minimum Credits: 3
Maximum Credits: 3
This course examines and questions aspects of women's role in the international cinema. The class considers both women as filmmakers, and the portrayal of women in film. Attention will also be paid to the social and historical context in which these films were made, in an attempt to understand the relationship between art and ideology.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1752 - TELEVISION ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
This course increases students' awareness of television as a visual medium and as a cultural force by examining the forms television programming takes and the way these structures influence viewer response. We will examine specific television genres and move through the fictional forms television takes (sitcoms, cop shows, serials, etc.) To quality" forms of television."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1790 - FILM AND LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course will examine film's convergence with, and divergence from, the literary arts. From this discussion will emerge an understanding of film's debt to literary models, as well as its own unique and innovative contributions to narrative, poetic and essay form.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6
The independent study option permits students to design courses of their own with approval of a department faculty member. Students are required to submit a proposal to a faculty member; usually, this faculty member is one that the student has worked with before and is comfortable with the subject matter of the study. Specific forms for requesting faculty approval are available in the department advising office. The forms require a description of the project, a list of the requirements and readings that the student and the faculty sponsor have agreed upon, the signature of the faculty sponsor, and the signature of the department adviser. A student must have earned at least 6 credits in film studies courses and the study proposed must not duplicate the content of regularly offered courses.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ENGFLM 1904 - UTA IN FILM STUDIES

Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ENGFLM 1920 - ADVANCD SEMINR IN FILM STUDIES

Minimum Credits: 3
Maximum Credits: 3
This course is designed for film majors and can be taken only when all other major requirements are satisfied. It will focus on issues of film history (either as an historical survey or through an examination of particular themes and/or problems that have arisen in the critical literature). The class will be organized as a seminar, and will involve considerable writing and/or class presentation on the part of students.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGFLM 1930 - FILM STUDIES INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

ENGLIT 0300 - INTRODUCTION TO LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course examines the definitions, functions, and values of literature by reading across a range of genres, styles, historical periods, and cultures. It will also introduce various reading strategies for making sense of plays, poems, novels, short stories, and essays.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGLIT 0310 - THE DRAMATIC IMAGINATION

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the major dramatic forms and compares the ways playwrights from several centuries use ideas, characters and dramatic techniques. We will consider how social, historical, and dramatic contexts influence our interpretations and evaluation, or may lead to alternative understandings of a play.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGLIT 0315 - READING POETRY

Minimum Credits: 3
Maximum Credits: 3
Poetry is usually the first literary form to evolve in a culture. Yet many today reject it as artificial, overly refined and removed from ordinary human experience. By studying various kinds of poetry, this course aims to help students break down the barriers between classic poems, contemporary poetry, and a more general lyric impulse. As the most highly condensed literary experience, poetry invites very close reading, so we will explore various techniques for making sense of poems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGLIT 0320 - THE COMIC IDEA

Minimum Credits: 3
Maximum Credits: 3
The primary aim of this course is to increase students' understanding of the structure of the comic experience and of comedy's place in culture. We will use models of literary comedy in reading modern and contemporary works, older materials in English or translated from other Western cultures, and works translated from non-European cultures.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0321 - FORMS OF PROSE

Minimum Credits: 3
Maximum Credits: 3
This course examines different uses of prose narrative in both fiction and non-fiction. Texts include memoir, essay, novels, short stories, travelogue, and biography.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or ENGCMP 0205 or ENGCMP 0207 or ENGCMP 0208 or 0250 or FP 0003 or FP 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or ENGR 0712 or ENGR 0715 or ENGR 0718)

ENGLIT 0325 - THE SHORT STORY

Minimum Credits: 3
Maximum Credits: 3
This course studies short stories that explore a variety of themes. It seeks to define the short story as a specific literary genre and to distinguish it from earlier forms of short narrative literature. It then goes on to examine the effects of literary, cultural and historical traditions on these stories and their reception.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGLIT 0330 - GREAT BOOKS: MDRN HUM (PART 1)

Minimum Credits: 3
Maximum Credits: 3
The course centers on classic texts of world literature, from homer, to the Koran, to Emerson and Woolf. This course is meant for all students who have an intellectual interest in the complex resources of some of our shared traditions as well as a healthy curiosity about the history of our present. In other words, this seminar is intended to make available a demanding, but still selective encounter with works of high aesthetic, intellectual, and indeed even political importance. (Part 1 of a 2-semester course)
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0331 - GREAT BOOKS: MDRN HUM (PART 2)

Minimum Credits: 3
Maximum Credits: 3
The course centers on classic texts of world literature, from homer, to the Koran, to Emerson and Woolf. This course is meant for all students who have an intellectual interest in the complex resources of some of our shared traditions as well as a healthy curiosity about the history of our present. In other words, this seminar is intended to make available a demanding, but still selective encounter with works of high aesthetic, intellectual, and indeed even political importance. (Part 2 of a 2-semester course)
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0350 - LIT, TRADITION AND THE NEW

Minimum Credits: 3
Maximum Credits: 3
This course examines works from several different periods and cultures that both embody and challenge literary and cultural traditions. It explores the ways in which we are all active participants in the process by which traditions are reproduced and revised over time.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGLIT 0354 - WORDS AND IMAGES

Minimum Credits: 3
Maximum Credits: 3
This course explores the relationships between lanaguage and images. It studies how we describe and understand visual images and how they help us understand qualities that could not easily be defined otherwise. It considers how images function in literary texts and other writers as well as the unconventional images found in dreams, ads, and popular prints, etc.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGLIT 0365 - IMAGINING SOCIAL JUSTICE

Minimum Credits: 3
Maximum Credits: 3
This course questions the relationship between present and/or contemporary" literature and past literary traditions. It is not a course solely in contemporary literature but a course that compares contemporary texts with texts from other periods. It investigates the contemporary as both a complex reworking of past narratives and traditions and as the production of the experimental and the new."
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGLIT 0370 - LITERATURE AND IDEAS

Minimum Credits: 3
Maximum Credits: 3
This course studies invention and interpretation, and explores the various ways writers produce texts and readers make them make sense. Though texts may change from section to section and instructor to instructor, they always stimulate investigation into reading and writing as ways of knowing.

Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0380 - SLOVAK TRANSATLANTIC CULTURES

Minimum Credits: 3
Maximum Credits: 3
Slovak European history and the interaction of Slovak and American cultures during the 120-year history of Slovak immigration is conveyed through readings in Slovak and Slovak-American literature, and through issues in literary theory that concern this theme. The course is structured around the history of Slovak, and in a broader cultural sense central European immigration to the U.S. With a special focus on Pittsburgh. Students are encouraged to investigate Pittsburgh's rich ethnic heritage and to research and write on topics tailored to individual interests.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 0399 - NARRATIVE AND TECHNOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course examines the relationship between traditional literary forms and contemporary media such as hypertext, web logs, fan fiction, video games, comics, and interactive fiction.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or ENGCMP 0205 or ENGCMP 0207 or ENGCMP 0208 or 0250 or FP 0003 or FP 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or ENGR 0712 or ENGR 0715 or ENGR 0718)

ENGLIT 0500 - INTRO TO CRITICAL READING

Minimum Credits: 3
Maximum Credits: 3
This course studies three to five significant literary works in conjunction with influential criticism on each text. Students explore the uses and limits of different critical methods. The course seeks to develop a critical understanding of both classic literary texts and dominant modes of reading as changing cultural practices.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGLIT 0505 - HOW TO DO THINGS WITH LIT 1

Minimum Credits: 3
Maximum Credits: 3
We explore the historical, generic, and transnational range of literature in English as an object and field of study. A variety of lecturers introduce the concepts of periods and key moments"."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0506 - HOW TO DO THINGS WITH LITERATURE 2

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ENGLIT 0511 - HISTORICAL BACKGRNDS OF ENGLIT

Minimum Credits: 3
Maximum Credits: 3
This course surveys the major development in English social and political history, concentrating on those that had the greatest impact on the development of English literature.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0550 - INTRODUCTION TO POPULAR CULTUR

Minimum Credits: 3
Maximum Credits: 3

This course covers texts from American mass culture-popular fiction, advertising, popular music, television, etc. It will explore methods of analyzing these texts, discovering what these products have in common and what distinguishes them from other cultural artifacts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0560 - CHILDREN AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course studies children's literature through an investigation of the history of childhood through its representations in children's books and other media.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 0562 - CHILDHOOD'S BOOKS

Minimum Credits: 3
Maximum Credits: 3
This course surveys the field of children's literature from its earliest beginnings to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 0570 - AMERICAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This first course in American literature explores the characteristic features of writings from the colonial period to the present. It emphasizes the interaction between literary texts and their social contexts, and examines the emergence of a national literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 0572 - INTRODUCTION AFRCN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Examining major works by contemporary African writers in various genres, including fiction, poetry and drama. Some preliminary reading and discussion of social context of the works. Principal focus on recurring themes in African literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 0573 - LITERATURE OF THE AMERICAS

Minimum Credits: 3
Maximum Credits: 3
Literature of the Americas introduces students to important issues in the study of literature and culture by focusing on colonial and postcolonial traditions in regions of the Americas beyond the United States. Beginning with the European discovery" of the "new world", it examines comparatively literary and other texts from Britain, the West coast of Africa, the US, Canada, the Caribbean and Latin America, tracing the emergence of distinctive literary traditions and preoccupations of the Americas through to significant modern incarnations."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200

ENGLIT 0580 - INTRODUCTION TO SHAKESPEARE

Minimum Credits: 3
Maximum Credits: 3
This course will focus on a number of Shakespeare's major plays from all phases of his career. Class discussion will consider the historical context of the plays, their characterization, theatrical technique, imagery, language and themes. Every attempt will be made to see the plays both as poems and as dramatic events.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0590 - FORMATIVE MASTERPIECES

Minimum Credits: 3
Maximum Credits: 3

This course will study in some detail eight or nine of those masterpieces which form the largest part of what we now regard as the Western tradition of literature. The works chosen will come from various genres--epic poetry, drama, the novel, and satire. They will span the centuries from the classical periods of ancient Greece and Rome through the Renaissance and into the nineteenth century.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0597 - BIBLE AS LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This introductory course acquaints students with what is in the bible and provides background information drawn from various disciplines about the elements and issues that give it its distinctive character. Attention is necessarily given to its religious perspectives, since they govern the nature and point of view of the biblical narratives, but no specific religious view is urged.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0600 - HONORS: WHAT IS LITERATURE

Minimum Credits: 3
Maximum Credits: 3
In this course students will read selected modern and contemporary works of literature in relation to pre-modern traditions of writing and culture. Students will read broadly from literatures written in English and non-English literatures in English translation.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0610 - WOMEN AND LITERATURE

Minimum Credits: 3
Maximum Credits: 3
An exploration of writings by and about women. Through our reading of various literary forms -- poetry fiction, autobiography -- we will explore the aspirations and realities of women's lives. We will consider how social issues -- class, race, etc. -- Affect women writers.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (ENGCMP 0004 or 0006 or 0020 or 0200 or 0203 or 0205 or 0207 or 0208 or 0250) or (ENG 0102) or (FP 0003) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGLIT 0612 - LITERATURE AND SCIENCE

Minimum Credits: 3
Maximum Credits: 3
This course aims to restore and improve the dialogue between scientific and critical-humanistic ways of understanding the world. It examines the share both ways of knowing have had in shaping our culture and our ideas by studying (and developing critical perspectives on) both scientific and literary texts. Its goal is to produce an understanding of the common history of literature and science. The course usually focuses on a theme, issue, or topic that has historical range and contemporary relevance. Different versions of the course might focus on social, literary, and scientific understandings of gender; the social, literary, and scientific attitudes toward death and the dead; or the social, literary, and scientific definitions and theories about the "human." Though works of science fiction may be studied, this is not a course in science fiction. This course should be of particular interest to students in the sciences, students of literature, students of philosophy, and students of history.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0615 - LITERATURE AND RACE

Minimum Credits: 3
Maximum Credits: 3
This course examines the relations between literature and race. It views race as an idea `an 'invention' that works as a mechanism for organizing the world `which, though it emerged during the enlightenment, continues to have far-reaching implications for the literature produced in the us. It will consider the ways in which categories such as race and nation affect literary representations of different groups of people in us society. It will also look at a variety of narratives of race and racialized experiences, and how these are explored in different literary contexts, asking to what extent such discourses of race are both critical and formative elements in us American literature and culture.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0616 - LITERATURE AND MIGRATION

Minimum Credits: 3
Maximum Credits: 3

The course reads various reflections on the immigrant's experience of separation or exile, the problems of encountering a new society, and the processes of acculturation.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0617 - CHANGING FAMILIES

Minimum Credits: 3
Maximum Credits: 3
This course will explore varying literary representations of unconventional families including families made by adoption, foster families resulting from migration, multiracial families, and families involving gay, lesbian, or transgender parents or children. Considering different points of view, it will examine plots involving search for family, search for identity, construction of family, loss, conflict, poverty, prejudice, and reconciliation. The course will explore how these works portray and relate to changing attitudes toward childhood, parenthood, heredity, nurture, race, class, nation, and sexuality. As a literature course, it will train students in close reading and critical analyses of texts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0618 - WAR

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 0620 - THE GRAPHIC NOVEL

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 0621 - AFRICAN-AMERICAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 0625 - DETECTIVE FICTION

Minimum Credits: 3
Maximum Credits: 3
This course examines detective fiction in terms of its history, its social meaning and as a form of philosophizing. It also seeks to reveal the place and values of popular fiction in our lives.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0626 - SCIENCE FICTION

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the major ideas, themes, and writers in the development of science fiction as a genre. Discussions will help students to understand and use critical methods for the analysis of science fiction. The topics covered include problems describing and defining the genre, contrasting ideologies in soviet and American science fiction, the roles of women as characters, readers and writers of science fiction, etc.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0627 - LITERATURE OF SPORTS

Minimum Credits: 3
Maximum Credits: 3
The course places the literature of sports in various intellectual contexts. It reads novels by major American writers like Malamud, Roth, cover, DeLillo, exile and Harris, as well as serious" popular novels (North Dallas 40 and semi-tough) and personal reminiscences."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0628 - WORKING CLASS LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course explores writing produced by working-class men and women. It traces its textual traditions and explores questions of the status of the working class", its relation to self-understandings in ethnic or gender terms as well as the effect of class on social experience, social vision and cultural production. It explores as well the relation between worker-writers and the dominant literary tradition."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0629 - THE WILD WEST

Minimum Credits: 3
Maximum Credits: 3
This course examines Westerns, the most popular and characteristic of American genres. We will read works by both "popular" and "literary" (or "serious") writers, as well as viewing movie Westerns
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0630 - SEXUALITY AND REPRESENTATION

Minimum Credits: 3
Maximum Credits: 3
This course will explore the relations between cultural texts and the shifting conceptualizations and figurations of sexuality and sexual politics over the past 150 years. The main objective of this course will be to understand the necessary but problematic relations between sexuality, cultural expression, and the social.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0635 - NEW LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course's close reading of contemporary texts seeks to develop a broad theoretical framework to understand the production and cultural status of the diverse writings of the last twenty-five years. Topics include the problematics of race, gender and class; the question of post modernism"; and the status of national or regional literatures in a period of international capitalism."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0636 - THE GOTHIC IMAGINATION

Minimum Credits: 3
Maximum Credits: 3
This course examines the genre of gothic fiction, in Britain and the U.S., From its origins in the late 18th century until the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 0640 - ALLEGORY

Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to the subject of allegory.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0641 - TRAGEDY

Minimum Credits: 3
Maximum Credits: 3
This course will explore the properties of tragic literature from ancient Greece and Rome, through the Renaissance and into the twentieth century. In the process we will address issues often raised about tragic heroes and their flaws, about fate and justice, about the cathartic and the pathtic. Through our reading of the literature and the criticism we will seek understanding of tragedy as a literary form and of its changes through time and from culture to culture.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0642 - COMEDY
Minimum Credits: 3
Maximum Credits: 3
This course studies comedy, both its deep structural patterns and its surface humor. We will read works from many periods (from the Greeks through the 20th century) and genres to understand the literary and cultural meanings of comedy.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0643 - SATIRE
Minimum Credits: 3
Maximum Credits: 3
This course studies satire in general, the techniques of certain satires in particular and the expression of satiric attitudes. We will examine satires from various times and countries so that we can better understand what satire is, how it differs from other literary forms and its function within the culture that produces it.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0644 - MYTH AND FOLKTALE
Minimum Credits: 3
Maximum Credits: 3
This course examines myths, legends and folktales. It explores contemporary views of such works as cognitive categories, models for behavior, agents" for mediating "world" views, mirrors of culture, projections of sub conscious desires. In short it considers the connection between myth/folktales and the culture/intelligence that produced them."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0645 - FANTASY
Minimum Credits: 3
Maximum Credits: 3
Focusing on works that offer fantastic alternations to the world of ordinary experience, this course examines works produced from the middle ages to the present day. It raises questions about our perceptions of reality", and the effects of conscious or unconscious wishes, desires and fears on literary representations."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0647 - HARRY POTTER
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 0655 - REPRESENTING ADOLESCENCE
Minimum Credits: 3
Maximum Credits: 3
This course focuses on the question of how adolescence gets represented in a variety of genres, including young adult and children's literature; novels, plays and poetry aimed at adults that take adolescence as a theme; films and television programs; scientific, journalistic, or autobiographical commentaries on the nature of adolescence; and so on. This is one of the core courses for the children's literature certificate program, but all interested students are welcome.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 0700 - WITNESSING REVOLUTIONS
Minimum Credits: 3
Maximum Credits: 3
What role did a series of Facebook posts and tweets play in the Arab spring? When do a network of uncoordinated uprisings become a political force? How does individual protest gain world-changing power? How do revolutions happen? This course will examine fiction and nonfiction works that narrate revolutions, interpret their causes, and organize their events. We will pay special attention to the role of writing in witnessing and shaping events.
Academic Career: UGRD

Course Component: Seminar
Grade Component: Letter Grade

ENGLIT 0710 - CONTEMPORARY ENVIRONMENTAL LIT

Minimum Credits: 3
Maximum Credits: 3
This course examines the ways in which contemporary writers in English have engaged with the natural environment. We will read a range of authors, from the 1960s to the present day, to consider how they have looked critically at the human effects on ecosystems, and we will also study the interdisciplinary scholarly field of ecocriticism and its responses to such writings. Throughout, we will be attentive both to the literary qualities of writings about the environment and to their historical and political contexts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

ENGLIT 0720 - GLOBAL FICTIONS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGLIT 1000 - INTRO TO TRANSLATION STUDIES

Minimum Credits: 3
Maximum Credits: 3
This class introduces students to translation studies, an emerging discipline critical to an understanding of world literature. The focus is on English versions of literary texts in other languages and the theory underlying the transformation. The course examines translation as a form of writing which possesses a complex relationship to an earlier text to which it is similar but not equivalent. Students will consider the ways in which talented translators render influential literary works. We grapple with the following questions: how do English translations of the same text differ and what is the result? How does one evaluate a translation?
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1001 - INTERACTIVE LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGLIT 1005 - LITERATURE & THE ENVIRONMENT

Minimum Credits: 3
Maximum Credits: 3
This course examines the ways in which writers in English have engaged with the natural environment. We will read a range of authors, across time periods and up to the present day, to consider how they have looked critically at the human effects on ecosystems, and we will also study the interdisciplinary scholarly field of ecocriticism and its responses to such writings. Throughout, we will be attentive both to the literary qualities of writings about the environment and to their historical and political contexts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1020 - HISTORY OF LITERARY CRITICISM

Minimum Credits: 3
Maximum Credits: 3
This course considers influential critical theorists ranging from Plato and Augustine to Nietzsche and Freud. Neither the readings nor the approach of the class fall under the narroWest definitions of literary criticism; our focus instead will be on texts from several disciplines that offer powerful models of reading and writing and that raise interesting questions about the foundations of literature, culture, and interpretation.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1023 - CONTEMPORARY CRITICAL THEORY

Minimum Credits: 3
Maximum Credits: 3
An examination of several recent critical theories that re define the study of textual practices and cultural values. Class considers the problems each of these movements con fronts, and examines the consequences of their conclusions for an understanding of literary, cultural and social institutions.

Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1028 - LITERATURE AND PSYCHOANALYSIS

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to psychoanalytic contributions to understanding the processes of artistic creation and aesthetic response. It demonstrates how familiarity with psychoanalytic methodology enhances the alertness, subtlety and power in reading literary texts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1100 - MEDIEVAL IMAGINATION

Minimum Credits: 3
Maximum Credits: 3
This course explores some of the ways people in the middle ages saw the world around them. We will try to understand those perceptions by reading a variety of literary works, by comparing those works to other art forms and by examining similar kinds of experience in the modern world.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1101 - INVENTION OF ENGLISH

Minimum Credits: 3
Maximum Credits: 3
The English language and its literatures are in constant flux, but this was especially true in medieval england as waves of foreign invaders and immigrants shaped the language, and political, religious, and mercantile contact with other regions of Europe contributed new aesthetic and poetic ideals. Beginning with old English riddles, this course helps you discover the linguistic and literary DNA of English. You will discover the multiple "Englishes" and other languages that remain present in modern English and prefigure the global diversity of the anglophone world. Along the way, you will develop familiarity with old English and multiple dialects of middle English. You will begin to chart the continuities and ruptures involved in the transitions from tribal heroic culture to a growing sense of common identity as English people of an English kingdom. And on a parallel trajectory, you will track how the notion of a specifically English literature written by the English, in English, for the English, emerges from adaptations and negotiations with other European vernaculars. This focus forms a bridge to further study in early modern or Renaissance English literature. The tools of philology, historical language study, rhetorical analysis, and manuscript studies, lend themselves to this course's emphasis on language and history, and in developing facility with them, you will be better prepared for the study of any area of literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1103 - INTRODUCTION TO OLD ENGLISH

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to learn the fundamentals of old English as quickly as possible, in order to be able to read some of the very best old English poetry by the end of the term. While the course is not linguistically oriented, it can serve as a background to courses in middle English or old Norse, as well as leading to further study in old English literature.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1104 - OLD ENGLISH POETRY

Minimum Credits: 3
Maximum Credits: 3
The course focuses on Beowulf with attention paid to relevant historical and cultural matters. Careful reading of the original text in old English will highlight the artistry with which the poet makes use of the themes and conventions of old English heroic poetry to express his view of the world.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1105 - MIDDLE ENGLISH LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Reads the major works of English literature of the 14th and 15th centuries, exclusive of Chaucer, in the original middle English.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1115 - CHAUCER
Minimum Credits: 3
Maximum Credits: 3
This course closely examines major works by Chaucer--the Canterbury tales and Troilus and Cressida. Though most of the reading will be in modern English translations, some will be in the original middle English. We will view Chaucer's work in its historical, social, artistic and intellectual contexts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1121 - MEDIEVAL DRAMA
Minimum Credits: 3
Maximum Credits: 3
This course examines the first popular drama of England, that of the middle ages. Community produced and performed, with no distinction between audience and play, this drama flourished from the late 14th century until nearly Shakespeare's time.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1125 - MASTRPCS OF RENAISSNC LIT
Minimum Credits: 3
Maximum Credits: 3
This course studies prose, poetry and drama written in England between 1550 and 1660--an age of religious reformation, economic and social instability, intellectual revision and political revolution. It seeks to make sense of the renaissance in terms appropriate both to that time and to our own.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1126 - ADVANCED SHAKESPEARE
Minimum Credits: 3
Maximum Credits: 3
This upper level course in Shakespeare assumes some prior work with his writings. It seeks to develop a more detailed appreciation of his writing by examining selected texts in relation to some historical, cultural or critical issue.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1127 - SHAKESPEARE ON FILM
Minimum Credits: 3
Maximum Credits: 3
This course examines how Shakespeare's works have been adapted to film and television. In this study, we will be concerned with Shakespeare as a cultural icon and with the expectations surrounding both high art and popular entertainment. Central to this examination are the relationships between a film and a text.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1128 - SHAKESPEARE'S SEXUALITIES
Minimum Credits: 3
Maximum Credits: 3
This course explores the roles of shakespeare's female characters as they relate to cultural ideas about gender and sexuality. We will examine beliefs about proper" behavior of both women and men and the relationship of representations of gender to social power."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1132 - ELIZABETHAN AND JACOBEAN DRAMA
Minimum Credits: 3
Maximum Credits: 3
This course focuses on shakespeare's contemporaries- playwrights whose contributions are often overshadowed by shakespeare's reputation. Their work embodies the energy, challenge to authority, intellectual and artistic ferment and diversity of Renaissance england. We will trace this theatre's roots in folk plays, pagan festivals, religious ritual, etc.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1135 - LIT, MEDIA, SCI IN AGE SHAKESP

Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to the broad range of styles, genres, and concerns of literature written in English in the early modern period, particularly the 17th century. The designation early modern" is capacious enough to straddle the renaissance as well as the early enlightenment. Readings could include English writers, writers from the Americas, and writers who composed in English but wrote about countries other than England, Ireland or new England."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1150 - ENLIGHTENMENT TO REVOLUTION

Minimum Credits: 3
Maximum Credits: 3
This course focuses on literature and culture of the late 17th and 18th centuries--a period of revolutionary changes in the way writers and readers viewed their world. We will read widely in the important texts of the period in order to explore the interplay of enlightenment and revolution.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1154 - 18TH CENTURY NOVEL

Minimum Credits: 3
Maximum Credits: 3
This course explores the literary and historical conditions that gave rise to the development of the novel in 18th century England.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1170 - ROMANTIC NATURE

Minimum Credits: 3
Maximum Credits: 3
This course concentrates on writings from 1790 through the 1830's that have come to be associated with romanticism. It explores the social, intellectual and aesthetic concerns of this movement and its relationships with its British and European cultural contexts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1175 - 19TH CENTURY BRITSH LITERATURE

Minimum Credits: 3
Maximum Credits: 3
A study of the major writers and cultural issues of 19th century Britain situated in relation to the social and intellectual developments of the time.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1180 - HUMNS, ANMLS, MACHS VICT LIT

Minimum Credits: 3
Maximum Credits: 3
This course studies the poetry and prose produced during the reign of queen Victoria, and places these works in relation to changing practices of science, industry, empire and culture.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1181 - VICTORIAN NOVEL

Minimum Credits: 3
Maximum Credits: 3
This course will analyze the emergence and development of the victorian novel--careful reading and focused discussion of such writers as Dickens, Eliot, Trollope, Thackeray, Hardy and Meredith will attempt to define the social, moral, and political concerns of their work as well as their narrative technique.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1199 - TOPICS IN BRITISH LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Explores thematic, formal, historical or cultural topics in British literature. It ties these issues to critical and social concerns in the development of British literature and culture.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1200 - AMERICAN LITERATURE TO 1860

Minimum Credits: 3
Maximum Credits: 3
This course surveys literature produced in America before the Civil War. In the process it explores the historical, political, social and cultural factors that affected the development of that literature. It examines the work of writers who saw themselves as powerful framers of the national experience yet fearful they would have little effects on a culture confronting problems of slavery, divisiveness, literacy, economic change, immigration, etc.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1210 - THE AMERICAN RENAISSANCE

Minimum Credits: 3
Maximum Credits: 3
This course surveys the flowering of American literature during the first half of the nineteenth-century. It analyzes the struggle of American writers to develop a new national literature.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1212 - THE AMERICAN WEST

Minimum Credits: 3
Maximum Credits: 3
This course examines literature, cultural history, and film portraying the American West during the 19th and 20th century.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1220 - CVL WAR TO WW1 IN AMER LIT

Minimum Credits: 3
Maximum Credits: 3
An examination of changing literary practices from the civil war to the beginning of World War I. The course explores the interactions of economic and social developments on American culture.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1225 - 19TH CNTUR AFRICAN AMER LIT

Minimum Credits: 3
Maximum Credits: 3
This course will cover a wide range of materials, beginning with the late eighteenth-century poetry and prose of authors such as Phillis Wheatley and Olaudah Equiano and ending with Civil War, reconstruction, or gilded-age authors such as William wells brown, Frances Harper, Pauline Hopkins, or Paul Laurence Dunbar. Readings will include a variety of different genres of writing (slave narratives, poetry, drama, fictive and non-fictive prose) as well as pay passing attention to the significant African American intellectual and cultural movements that had a role in shaping these various literary productions.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

ENGLIT 1227 - HARLEM RENAISSANCE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1230 - 20TH CNTUR AFRICAN AMER LIT

Minimum Credits: 3
Maximum Credits: 3
The first half of this course begins by examining some of the major authors from the 1920s who were a part of what came to be known as the 'new negro renaissance' or 'Harlem renaissance,' such as Langston Hughes, Nella Larsen, Countee Cullen, Claude McKay, and Zora Neale Hurston. We will then study a range of modernist and naturalist writers of the 1930s and 1940s, such as Richard Wright, Ann Petry, and Gwendolyn Brooks. In the second half of the course we will focus on several post-WWII writers that were associated with the civil rights and black arts movements, from the 1950s to the 1970s, including such figures as Ralph Ellison, James Baldwin, and Toni cade Bambara. Finally, we will consider the recent wave of African American writers that emerged with the popularization, in the 1980s, of several new genres of African American literature.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

ENGLIT 1240 - TOPICS IN AMERICAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Investigates thematic, formal, historical or cultural topics in American literature. It ties these issues to critical and social concerns in the development of American literature and culture.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1247 - AUGUST WILSON

Minimum Credits: 3
Maximum Credits: 3
This course closely examines the work of the American dramatist august wilson. A significant amount of the playwright's work, including his epic 10-play 'Pittsburgh Cycle,' is set in Pittsburgh and notably in the hill district, where wilson spent his first 33 years. The course will engage with Wilson's plays as well as criticism, history and literature by other authors. Course goals include increased insight and skill in reading, in close analysis, and in discussing and writing about this imaginative world in its historic, social, and literary contexts. Assignments may include viewing plays and videos, researching Pittsburgh history, and field trips to the hill district.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1250 - 20TH CENTURY AMERICAN LIT

Minimum Credits: 3
Maximum Credits: 3
This course focuses on literature produced in this century in relation to changing social and cultural contexts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1255 - THEATER & ACTIVISM

Minimum Credits: 3
Maximum Credits: 3
This course examines modern American drama and its representations of America as a democratic ideal, as a mythological construct and as an ideological force. The plays considered stress the social and political implications of the Tyranny of Commerce, the Loss of a Positive National Identity, the Exclusion of Women, the Disintegration of the Individual and the Devaluation of Language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGLIT 1272 - THE ROARING 20'S

Minimum Credits: 3
Maximum Credits: 3
A reading of influential literary texts from the American 1920's. The course explores changing literary techniques in relation to new views of the past, war, youth, class, politics, etc.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1280 - CNTMPRY AMERICAN WOMEN WRITERS

Minimum Credits: 3
Maximum Credits: 3
This course examines writings by American women from the 1950's to the present. It draws upon feminist literary criticism to explore issues such as the symbolic significance of gender, power relations between the sexes, and differences in representation across race, class and ethnicity.
Academic Career: UGRD

Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1295 - JEWS AND THE AMERICAN CINEMA

Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to: the prominent roles of Jews in the American cinema (as producers, directors and performers); the manner in which issues of Jewish identity (including the negative aspect of ethnic stereotypes) and topics such as anti-Semitism and the holocaust have been treated in the American cinema; and the way in which film genre intersects with issues of Jews in American film (e.g. Comedy and so-called Jewish humor", the appeal to melo drama in the social problem film, etc.)."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1300 - REALIST TRADITION

Minimum Credits: 3
Maximum Credits: 3
This course studies literature from the late 19th and early 20th centuries that sought to establish a relation between art and life. Topics to be examined include: changing patterns in education, the changing status of women and the working class, associated movements in the other arts, and new developments in politics, economics and psychology.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1310 - THE EUROPEAN NOVEL

Minimum Credits: 3
Maximum Credits: 3
This course explores the broader cultural context within which the English and American novel can be understood. The class considers novels selected from a Western European culture and literary context. Novels will be read not only for their formal characteristics but also in relation to their literary, critical and cultural contexts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1325 - MODERNISM

Minimum Credits: 3
Maximum Credits: 3
This course examines major works in the modernist tradition poetry, fiction, drama--to determine the role these texts have played in creating the world that seems so familiar to us now.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1350 - POSTMODERN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1360 - TOPICS IN 20TH CENTURY LIT

Minimum Credits: 3
Maximum Credits: 3
Considers thematic, formal historical or cultural topics in late 19th and 20th century literature. It ties these issues to critical and social concerns in international modernism and post modernism.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1370 - MAKERS OF MODERN DRAMA

Minimum Credits: 3
Maximum Credits: 3
This class will read intensively and comparatively plays written by late 19th and early 20th century continental, English, Irish and American dramatists. Plays selected will reflect major dramatic movements of the period (realism, naturalism, symbolism, expressionism) and will be analyzed not only by theatrical characteristics but also in relation to their dramatic, critical and cultural contexts.
Academic Career: UGRD

Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1372 - CONTEMPORARY DRAMA

Minimum Credits: 3
Maximum Credits: 3
This course surveys drama of the last thirty years and examines the ways in which role-playing and the theatre itself function as metaphors for the philosophical, social and aesthetic issues that trouble contemporary writers.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1380 - WORLD LITERATURE IN ENGLISH

Minimum Credits: 3
Maximum Credits: 3
This course examines contemporary literature, primarily in English, written in eastern Europe, Africa, Latin America, etc. It pays particular attention to its depiction of social, political and moral concerns.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1382 - PRIZED BOOKS

Minimum Credits: 3
Maximum Credits: 3
How do metropolitan taste and recognition affect dominant and emergent literatures and nations? How do particular contexts and award-winning texts exert pressure on existing criteria and values? How does the category "prized books" also implicitly constitute and comment upon a body of literature that is "unprized"? How do prized books redefine notions of readership and citizenship in the world of globalization and electronic access? Such questions will open up the idea of "world literature" not as an afterthought to the canon of "English" literature, but as an integral and definitive part of it. Students will read literature, speeches, and essays by winners of the nobel and other global literary prizes such as the booker and the commonwealth.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1383 - LITERATURE AND COLONIALISM

Minimum Credits: 3
Maximum Credits: 3
This course examines novels that fall into two main categories: British literature focusing on colonialism as it appeared in the British empire and third world novels dramatizing responses to colonialism.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1384 - BANNED BOOKS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1406 - U.S. LATINO LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course will focus on U.S. Latino literature. While Mexican-Americans have roots in North America that go back to colonial times, the Latino explosion has happened mainly in the last thirty years, giving rise to new processes and forms of cultural expression, including an emerging literature that is neither a subset of U.S. Literature nor an ex tension of modern Latin American literature, though it has connections to both. To get an idea of what this literature involves and where it is going, we will look at some representative novels, poetry, memoirs, plays and films.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1510 - KAFKA AND THE MODERN WORLD

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD

Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1552 - HISTORY OF THE ENGLSH LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
A survey of the linguistic development of English from Anglo-Saxon times to the present. Attention given to basic linguistic structures and discursive practices and to the social and historical conditions under which they change.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1574 - LEGENDARY FIGURES

Minimum Credits: 3
Maximum Credits: 3
An examination of recurrent legendary characters or plots in myth and folktale that surveys the historical transformations of the figure in relation to various mythic structures and social or psychological forces.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1578 - FANTASY WRITERS

Minimum Credits: 3
Maximum Credits: 3
A study of major writers of fantasy up to the present day. The course explores the differences between anonymous folklore and authored texts, the relationship of modern fantasies to earlier forms of romance and legend, and the uses of fantasy in contemporary culture.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1579 - TOLKIEN AND LEWIS

Minimum Credits: 3
Maximum Credits: 3
This course investigates the fantasy worlds created by C.S. Lewis and J.R.R. Tolkien. Class discussions will focus on the literary qualities of the work and critical approaches to assess that value.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1587 - UTOPIAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course explores the value or uses of imagining utopian societies and the controversies raised by influential works in this mode.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1600 - CMPTTNL METH IN THE HUMANITIES

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the use of computational modeling and programming to conduct text-based research in the humanities. The goals of this course are to learn how to identify research questions in the humanities that are amenable to computational analysis and processing, along with designing and implementing xml-based computational systems to explore those questions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1607 - ADVANCED SHORT STORY

Minimum Credits: 3
Maximum Credits: 3
By studying individual collections of short fiction, most by acknowledged masters of the form and some dating from the nineteenth century, this course seeks to broaden the student's understanding of its range, history and potential in a manner consonant with the university distribution requirements for a second course in literature. It assumes some familiarity with the basic techniques for analyzing fiction.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1610 - TOPICS IN GENRE
Minimum Credits: 3
Maximum Credits: 3
A consideration of significant emergent literary forms or practices in relation to their social and cultural contexts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1611 - DEVELOPMENT OF THE NOVEL
Minimum Credits: 3
Maximum Credits: 3
This course studies the development of the novel as a literary practice. Readings will reveal significant contributions to the definition of the novel; the characteristics that identify the novel, historical developments that led to its creation, and its dominant subjects.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1612 - THE AFRICAN NOVEL
Minimum Credits: 3
Maximum Credits: 3
The novels studied will be drawn from several parts of the African continent and will all be available in English or translation. The emphasis will be on recurring themes in the works and on the influence of traditional African narrative forms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1620 - POETRY: FORM AND ARGUMENT
Minimum Credits: 3
Maximum Credits: 3
This upper-level literature elective course investigates concepts of form and argument and considers their implications for the study and practice of poetry. Course readings, class discussions, and student papers will articulate and address questions of poetics that emerge in the writing and the reading of poetry, and will also explore some of the contentions that inflect our understanding of poetry's presence in cultural life, its purpose, and its situation as an art form.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1640 - LITERATURE FOR CHILDREN
Minimum Credits: 3
Maximum Credits: 3
This course examines literature that has been and is being read by children. There are units on fairy tales, myths and legends, poetry and fiction as well as more realistic" fiction. The approach is historical, critical and creative."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1645 - CRITL APPRCH TO CHILDREN'S LIT
Minimum Credits: 3
Maximum Credits: 3
This course examines a variety of children's books from a number of theoretical perspectives; historical, feminist, transactional, structuralist, etc. The implications of theory will be emphasized. We will place children's books and reading in the wider context of the emotional, cognitive, and moral development of the child, the popular culture of childhood, and contemporary multicultural society.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGLIT 0560 and 0562 or 0655

ENGLIT 1647 - LITERATURE FOR ADOLESCENTS
Minimum Credits: 3
Maximum Credits: 3
This course will read classics as well as modern works written specifically for an adolescent audience. We will also read and discuss sociological and psychological constructions of adolescents and books on pedagogy.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1649 - TOPICS IN CHILDREN'S LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Selected issues in the production and reception of writings designed for children. Attention given to the relationship between literary representations and social, psychological and historical considerations.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1701 - TOPICS IN WOMEN'S STUDIES

Minimum Credits: 3
Maximum Credits: 3
Investigates issues raised by the woman's movement in literature written by and about women. It ties these issues to critical and cultural concerns both at the time the text was written and to the present day.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1704 - WOMEN NOVELISTS

Minimum Credits: 3
Maximum Credits: 3
This course explores the important role women have played in the development of the novel and how they have used and transformed its generic traditions. We will place novels in the contexts of issues important to their own time and discuss questions raised by recent feminist criticism.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1705 - WOMEN AND DRAMA

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the work of playwrights who came of age during the feminist movement in the 1970s and won critical and /or popular acclaim. Students will choose one of the playwrights to research for a class presentation and term paper.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1715 - GLOBAL BLACK LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Despite their geographical and cultural differences, writers from Africa, the Caribbean, and the United States undergo similar experiences of oppression. Problems of self-identity, and the quest for self-respect. These similarities will be discussed in class along with a comparative approach to the texts with supplementary films, slides, and recordings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1716 - TOPICS IN BLACK LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Addresses recurrent issues in the relationship of black race to literary culture. Addresses recurrent issues in the black experience as it relates to dominant literary cultures.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1719 - INTRO TO HOLOCAUST LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course surveys the central texts of the literature of the holocaust, while introducing students to the main issues and preoccupations of holocaust testimony in literature and film.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1730 - CHINESE AND WESTERN POETRY

Minimum Credits: 3
Maximum Credits: 3
A comparative study of Chinese and Western lyric poetry. This course explores the world of feeling as expressed in the poetry of two vastly different worlds: china and the West and focuses on the language of feeling in a poetic medium. The purpose of this course is to appreciate how differences between the two poetic traditions is essential to a better understanding of the two cultures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGLIT 1731 - TOPICS IN ETHNIC LITERATURE

Minimum Credits: 3
Maximum Credits: 3
A study of the literature produced by and about different ethnic groups. It examines the social and historical contexts within which this literature was produced.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1738 - IRISH LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course samples the work of major figures in Irish literature. It seeks to define its national character through careful reading of selected texts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1740 - IRISH DRAMA

Minimum Credits: 3
Maximum Credits: 3
As Ireland struggled in the early 20th century to define itself, one result was a dynamic, word-luscious dramatic literature. Many of the greatest English playwrights were Anglo-Irish all along, but this course focuses on the more specifically Irish drama that began with W. B. Yeats, Lady Gregory and J. M. Synge. Then we will consider Sean O'Casey, Brendan Behan and the greatest, Samuel Beckett. Finally, we read some of the latest wave of young playwrights from the 1990s, Maria Carr and Martin McDonagh. The "question of Ireland" infuses what we read and see.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1756 - BALLADS AND BLUES

Minimum Credits: 3
Maximum Credits: 3
This course acquaints students with folk and literary aspects of ballads and blues in the Anglo-American and Afro-American traditions. It surveys both forms from their separate beginnings to contemporary examples. Organized both historically and topically, the course explores influences on these forms as well as their historical, social and cultural context.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1760 - TOPICS IN POPULAR CULTURE

Minimum Credits: 3
Maximum Credits: 3
Focuses on the emergence of popular culture, the relationship of modern social and economic practices, mass audiences, and modes of cultural representation, or specific popular forms.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1771 - THEMES IN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Examinations of recurrent themes and significant cultural issues that traverse national, historical and generic categories. A primary focus of each course is the specific contributions of literary representations to an understanding of the topic.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1772 - ADOPTION LITERATURE
Minimum Credits: 3
Maximum Credits: 3
This course will examine how literature has portrayed adoption, adoptees, adoptive parents, and birth parents. It will deal with fiction, poetry, drama, and memoir, showing the presentation of heredity, nurture, and definitions of parents" and "family". It will show changing treatments of issues such as identity, ethnicity, connections, loss, commodification, and secrecy."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1797 - BIBLE AS LITERATURE 2
Minimum Credits: 3
Maximum Credits: 3
This course continues the bible as literature and it provides an opportunity to consider more carefully books read in the earlier course as well as to consider other books that were entirely neglected. This second semester will permit us to address some fascinating problems; what happens to narratives as they pass from an oral tradition to written form; problems of translation; the formation of a canon; the ways the bible influences later literature. The generally historical approach will permit the student to understand the time and culture of the bible.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1900 - PROJECT SEMINAR
Minimum Credits: 3
Maximum Credits: 3
The junior seminar, required for English literature majors, offered in varied versions, will investigate methods and goals of literary historical study by directing attention to broad historical and theoretical issues and to long-durational developments and transformations of literacy cultural practices. Will include a range of literary, theoretical and historical texts selected to enable exploration of issues and problems that cut across traditional designations of literary historical periods.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
This option permits students to design their own course with the approval of a department faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ENGLIT 1903 - DIRECTED RESEARCH LITERATURE
Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

ENGLIT 1904 - UTA IN LITERATURE
Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ENGLIT 1907 - LITERATURE INTERNSHIP
Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

ENGLIT 1909 - SENIOR SEMINAR
Minimum Credits: 3
Maximum Credits: 3
Intensive study of a single topic or figure that assumes previous work in related literary historical and critical areas. Each seminar moves toward a

final paper that integrates earlier literary study with the specific critical perspective developed in this course.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0020 or any MATH greater than or equal to MATH 0031 (Min Grade 'C') or MATH PLACEMENT SCORE (61 or greater)

ENGLIT 1910 - SENIOR SEMINAR

Minimum Credits: 3
Maximum Credits: 3
Intensive study of a single topic or figure that assumes previous work in related literary historical and critical areas. Each seminar moves toward a final paper that integrates earlier literary study with the specific critical perspective developed in this course.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGLIT 1913 - ADVANCED RESEARCH/LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Working closely with faculty members on her/his senior thesis committee to do the primary reading, foundational research, and exploratory writing for the senior thesis, the student will read a majority of the primary literary works and a significant amount of criticism and complete a minimum of 20 pages of exploratory writing or a draft of the thesis.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

ENGLIT 1914 - SENIOR HONORS THESIS

Minimum Credits: 3
Maximum Credits: 3
In this course, the student will complete all remaining research for the senior thesis and will work closely with the faculty members on his/her committee to plan, write, and revise the senior thesis.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

ENGLIT 1925 - UNDERGRAD TEACHING IN LITRATUR

Minimum Credits: 3
Maximum Credits: 3
Students enrolled in this course will work with an instructor as an assistant to any upper-level course being offered to English majors. They will help with course materials and generate class discussion.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

ENGWRT 0400 - INTRO TO CREATIVE WRITING

Minimum Credits: 3
Maximum Credits: 3
This course offers the opportunity to experiment with forms of poetry and fiction and to read and discuss from a writer's point of view contemporary writing in these genres.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 0411 - INTRO TO CREATIVE NONFICTION

Minimum Credits: 3
Maximum Credits: 3
This course will introduce undergraduates to creative nonfiction, a genre that often borrows from fiction writer's techniques while sticking to the facts. Genre includes personal essay, new journalism, memoir and quality feature writing.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or ENGR 0012

ENGWRT 0520 - INTRO TO FICTION WRITING

Minimum Credits: 3
Maximum Credits: 3
This first course in the fiction sequence introduces students to aspects of prose fiction--plot, point of view, characterization, conflict, etc. Students may write exercises on these aspects of fiction, write one or more short stories and revise frequently. Students will also read representative stories and explore their use of particular fictional techniques.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0716 or 0718)

ENGWRT 0530 - INTRODUCTION TO POETRY WRITING

Minimum Credits: 3
Maximum Credits: 3
Through writing exercises, analysis of modern and contemporary poetry and frequent revision of their own poetry, students learn the basic elements of poetry writing.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 0540 - WRITING YOUTH LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course will introduce undergraduates to the art of writing for young people. It may focus on a single genre in depth (for instance, the young adult novel) or invite students to read and write broadly across a range of genres (picture books, children's poetry, nonfiction for the young, etc.). This course serves as an approved category 1 elective for the children's literature certificate program, but all interested students are welcome.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or ENGCMP 0205 or ENGCMP 0207 or ENGCMP 0208 or 0250 or FP 0003 or FP 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or ENGR 0712 or ENGR 0715 or ENGR 0718)

ENGWRT 0550 - FUNDAMENTALS OF NEWS REPORTING

Minimum Credits: 3
Maximum Credits: 3
The internet has led newspapers, corporations and non-profit agencies to create websites that dispense news and information 24 hours a day, seven days a week, and these agencies need people who can write efficiently in that style. This makes clear, concise, accurate writing - the basis of all news reporting - more important than ever. In fundamentals of news reporting, students will learn to identify news, write effective summaries of the information, structure stories well, conduct research, and identify sources of reliable facts and informed opinions. Students will write about their surrounding communities: the University, Oakland, the city of Pittsburgh. The course will also include lectures and discussions about media law and ethics.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGWRT 0560 - SCREENWRITING AND NARRATIVE

Minimum Credits: 3
Maximum Credits: 3
This course will explore developing character-based stories in the screenplay form. Students will be exposed to a variety of readings including original screenplays, related prose, and texts which reinforce basic tenets of good story telling. Students will write rigorously building from idea to outline with great attention to structure and character development. Students will develop writing abilities, critical facilities in approaching work, and an understanding of principles of storytelling common in narrative forms.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or 0205 or 0207 or 0208 or 0250 or FP 0003 or 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or 0712 or 0715 or 0718)

ENGWRT 0610 - INTRO JOURNALISM & NONFICTION

Minimum Credits: 3
Maximum Credits: 3
This course is designed to develop your skills as a nonfiction writer. Through a combination of required readings, creative exercises, peer critiques and critical discussions, you will develop an understanding of the fundamentals of journalism as well as an introduction to the wide-ranging possibilities of nonfiction writing as a genre: narrative long form, the personal essay, immersion journalism and forms of creative nonfiction. This

class will be divided into two components; gathering information and shaping stories.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0200 or (ENGCMP 0203 or ENGCMP 0205 or ENGCMP 0207 or ENGCMP 0208 or 0250 or FP 0003 or FP 0006 or ENGCMP 0004 or 0006 or 0020 or ENG 0102) or (ENGR 0012 or ENGR 0712 or ENGR 0715 or ENGR 0718)

ENGWRT 0630 - INTROD READINGS: CRTV NONFICTN

Minimum Credits: 3
Maximum Credits: 3
This course will prepare journalism students to make the shift from standard news reporting and writing to the dramatically different genre often referred to as creative nonfiction" (or "literary journalism"). Students will read articles and essays from the New Yorker, Atlantic, Harper's, along with works from major figures in creative nonfiction, focusing on the methods for obtaining the information needed to create nonfiction narrative."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 0650 - READINGS IN JOURNALISM

Minimum Credits: 3
Maximum Credits: 3
This course is intended to introduce journalism students to news, feature, and column/op-ed writing as practiced by the best papers - and the best writers - nationally. The course will focus on the methods for obtaining the information needed to create solid news stories, and strategies ranging from extensive, in-depth interviewing, background reading, and the journalistic legwork" and "digging" that produces incisive, accurate accounts and the very best "investigative reporting"."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 1010 - INTERMEDIATE FICTION

Minimum Credits: 3
Maximum Credits: 3
Students work on writing short stories and read a wide range of stories. Students can expect to revise their work regularly. Class sessions will address problems in fiction writing -- from plot to characterization, from point-of-view to style.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0520; MIN GRADE: 'C'

ENGWRT 1020 - ADVANCED FICTION

Minimum Credits: 3
Maximum Credits: 3
This course will continue the development of literary devices introduced in the prerequisite fiction writing courses (introduction to fiction and intermediate fiction), and introduce new core writing skills to master such as narrative voice and narrative time, point-of-view, methods of characterization, the use of suspense and tension as functions of plot, scene-setting, dialogue, elements of style, and the importance of "place" in fiction. The class time will be divided between work- shopping, student writing, and discussion of readings.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 1010 (MIN GRADE 'C')

ENGWRT 1090 - MASTERING POINT OF VIEW

Minimum Credits: 3
Maximum Credits: 3
This course acquaints the student with a variety of first and third person points of view. Through readings, class discussions and written work, students develop a mastery of the internal monologue, dramatic monologue, letter, diary and other forms.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0520 or 0530 or 0550 or 0610

ENGWRT 1091 - AUTOBIOG & CREATIVE IMPULSE

Minimum Credits: 3
Maximum Credits: 3
This advanced level, mixed-genre course will explore various ways autobiographical material might be generated, structured, modified, and revised. In addition to frequent in-class writing and a final project, students will read and respond to published essays, poetry, and fiction.
Academic Career: UGRD

Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0520 or 0530 or 0550 or 0610

ENGWRT 1092 - WRITER'S JOURNALS

Minimum Credits: 3
Maximum Credits: 3
This course studies the journal as an art form. It also questions the purpose and value of journal keeping for a writer.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0520 or 0530 or 0550 or 0610

ENGWRT 1093 - DEVELOPMENT OF A WRITER

Minimum Credits: 3
Maximum Credits: 3
This course investigates the writing process as it functions within the experience of a specific writer. That process is in a perpetual state of fluctuation because writers within societies are not static and readers themselves respond to change. A specific writer will be selected and his/her work will be investigated in the context of his/her particular situation as a writer within a dynamic civilization.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 1094 - READINGS IN CNTMPRY FICTION

Minimum Credits: 3
Maximum Credits: 3
This course acquaints students with a variety of contemporary writers. This study helps students raise questions about their own developing esthetics as they are reflected in form and take into account their dual roles as creative writers and critics. It also helps students access their relationship to reviewing and criticism, including its benefits to a creative writer developing a career, and to discover techniques of reviewing and criticism which aid and do not transgress upon their esthetics and its expression.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0520

ENGWRT 1095 - TOPICS IN FICTION

Minimum Credits: 3
Maximum Credits: 3
This course concerns itself with matters of interest in fiction writing; form and technique, contemporary production, and the relation of the fiction writer to his/her society.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 1101 - SENTNC SHOP:EXPRMTS TIME&SPACE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGWRT 1200 - WRITING THE CITY

Minimum Credits: 3
Maximum Credits: 3
The course's goal is to encourage your personal recording of experiences through which you gain insight and self-discovery. Journal entries reflect the significance of travel experiences that others can share and expand. Travel narratives and oral presentations are evaluated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ENGWRT 1210 - POETRY WORKSHOP

Minimum Credits: 3
Maximum Credits: 3
For this advanced poetry writing course, the central text will be the student's own writing. Students will read recently published poetry, regularly write their own poetry and frequently rewrite it.
Academic Career: UGRD

Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0530; MIN GRADE: 'C'

ENGWRT 1290 - READINGS IN CNTMPRY POETRY

Minimum Credits: 3
Maximum Credits: 3
This course focuses on American poets who have come to prominence since 1963. We will read widely in the poetry of this period to understand its unique contribution to the development of poetic form and its relationship to the culture that produced it.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0530

ENGWRT 1293 - TOPICS IN POETRY

Minimum Credits: 3
Maximum Credits: 3
This course concerns itself with matters of interest in poetry writing; form and technique, contemporary production, and the relation of the poet to his/her society.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 1310 - NEWSPAPER 1

Minimum Credits: 3
Maximum Credits: 3
Students in this course learn how to profile individuals, report trends, take polls and write about a community. The course provides hands-on practice in feature writing and a workshop approach to critiquing students' and professionals' work.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0550; MIN GRADE: 'C'

ENGWRT 1320 - NEWSPAPER 2

Minimum Credits: 3
Maximum Credits: 3
This course offers students an opportunity to further develop reporting skills and to learn the 'art' of feature writing. The course begins as an extension of ENGWRT 0550 and 1310 with deadline assignments. Students will learn to write news-feature stories and profiles of individuals and communities in the news. Regular reading of local and national newspapers will be required. Much of the course will be a workshop in which students analyze and criticize their work and the work of professionals. Students will be encouraged to publish their work.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 1310; MIN GRADE: 'C'

ENGWRT 1330 - INTERMEDIATE NONFICTION

Minimum Credits: 3
Maximum Credits: 3
Students in this course will study, practice, produce and revise short pieces of literary nonfiction while examining basic structures of the essay, the profile, and long form narratives. We will study the anatomy of a scene and explore techniques of scene-by-scene construction. Students will be expected to master the basics of point-of-view, and to begin experimenting with voice. We will develop research techniques including the art of the interview and immersion research. This course will place emphasis on digital forms of publishing. Students will develop personal blogs. Workshopping of student work will be limited.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0550 or 0610; MIN GRADE: 'C'

ENGWRT 1340 - ADVANCED NONFICTION

Minimum Credits: 3
Maximum Credits: 3
This course focuses on developing students' skill as magazine writers by producing articles for widely different markets. It emphasizes professional preparation from the idea stage to a final, revised, polished version suitable for submission. Students analyze their markets, and discuss both those markets and student writing in class.
Academic Career: UGRD
Course Component: Seminar

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 1330; MIN GRADE: 'C'

ENGWRT 1370 - JOURNALISM BOOT CAMP:WRITE NOW

Minimum Credits: 3
Maximum Credits: 3
The course is a journalism boot camp-like experience where students will work closely with the instructor and editors on the Pitt news to prepare for the real world of journalism.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 1375 - GREAT MODERN JOURNALISTS

Minimum Credits: 3
Maximum Credits: 3
This course explores the lives of men and women who have made significant contributions to the craft of journalism and to society's understanding of how history unfolds. Students read and discuss works by and about great journalists, beginning turn-of-the-century and ending with more contemporary works. Selections highlight the contributions made to journalism and society, while also documenting the evolution of the press and how it experienced and presented signal events to the American public such as social movements, wars and elections. Speakers and outside assignments augment readings and discussion.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 1390 - READINGS IN CNTMPRY NON-FICTN

Minimum Credits: 3
Maximum Credits: 3
This course familiarizes students with a number of different forms of and approaches to contemporary non-fiction writing.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0550 or 0610

ENGWRT 1391 - WRITING THE REVIEW

Minimum Credits: 3
Maximum Credits: 3
This course explores various types and styles of reviews. Students read a variety of critics as well as write original reviews of film, television, theatre, music, books, etc.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (ENGCMP 0004 or 0006 or 0020 or 0200 or 0203 or 205 or 207 or 208 or 0250) or (FP 0003 or 0006) or ENG 0102 or ENGR 0012

ENGWRT 1392 - DOCUMENTARY FILM WRITING

Minimum Credits: 3
Maximum Credits: 3
This course traces the evolution of documentary films and uses them to demonstrate how documentaries are put together. The course emphasizes choosing good subjects, seeing how best to present them and assembling video and audio segments to form the documentary.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 1393 - SPORTS WRITING

Minimum Credits: 3
Maximum Credits: 3
The course affords students the opportunity of studying modern sports writing techniques, with an added goal of improving their writing skills. It deals with the differences between sports reporting and writing and news reporting and writing. Ideally, a student with an interest in sports writing will complete the course with an idea of how best to collect information, organize it and disseminate it in an appealing manner. Clear, entertaining prose will be stressed.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0550 or 0610

ENGWRT 1394 - SCIENCE WRITING

Minimum Credits: 3
Maximum Credits: 3
The emphasis of this introductory science writing course will be two fold: you will learn to find, read, assess, and interpret scholarly scientific writing; you'll also read books and articles that use creativity, imagination and poetic acuity to make scientific ideas clear to the lay reader. Through the deep study of pieces of science writing and the completion of a series of short exercises, you will gain the skills you need to write and revise feature-length articles.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (ENGCMP 0004 or 0006 or 0020 or 0200 or 0203 or 0205 or 0207 or 0208 or 0250) or (FP 0003 or 0006) or ENG 0102 or ENGR 0012

ENGWRT 1399 - TOPICS NON-FICTION: NEWSPAPER

Minimum Credits: 3
Maximum Credits: 3
This course examines the history, lives and livelihoods famous female journalists who made exceptional contributions to journalism despite institutional and gender obstacles. Starting with the turn-of-the century, we look at women and their writing who covered domestic and international beats such as Nellie Bly, Martha Gellhorn, Gloria Steinem, and Lara Logan who have left their mark on women's history.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 1401 - TOPICS NON-FICTION: MAGAZINE

Minimum Credits: 3
Maximum Credits: 3
This course concerns itself with matters of interest to the general feature journalist; form and technique, the history of magazines, contemporary production, and the general relation of the magazine journalist to his/her society.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0550 or ENGWRT 0610; MIN GRADE: 'C' FOR ALL LISTED COURSES

ENGWRT 1402 - STRUCT/TECHNQS CREATV NONFCTN

Minimum Credits: 3
Maximum Credits: 3
The course concentrates on strategies in research, interviewing, and saturation reporting, as well as the use of fictional techniques in creative nonfiction. The class combines lectures and hands-on experience. Students are required to come up with a topic suitable for a piece of in depth creative nonfiction and then spend the semester gathering material for that story through research and inter views. They learn how to use print and electronic resources, conduct effective interviews and report on nonevents like their subject's everyday lives.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 1403 - TOPC NON-FCTN:ELECTRNC MEDIA

Minimum Credits: 3
Maximum Credits: 3
This course concerns itself with the varieties of writing for the electronic media, and with related matters of interest; form and technique, contemporary production, ethical and legal matters, and the general relation of the writer in this field to his/her society.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 1405 - BROADCAST WRITING

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the role of writing for the broadcast industry. It investigates all areas of local broadcast operation including news, continuity, promotion, variety and dramatic writing.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0550 or 0610

ENGWRT 1430 - LITERARY AND ONLINE PUBLISHING

Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to the art and craft of literary and online publishing. Students will research independent literary magazines and

small presses, both online and in print. They will learn the basics of literary publishing from both an editorial and an authorial perspective. They will use what they learn to produce an online site featuring the work of Pitt-Greensburg writing program graduates, as well as individual print chapbook-length collections from the English writing program capstone.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGWRT 1501 - TOPICS IN CREATIVE WRITING

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ENGWRT 1510 - ADVANCED POETRY

Minimum Credits: 3
Maximum Credits: 3
In this course, students will spend time reading and exploring poetry written by established contemporary authors, thereby furthering their understanding of literary device, craft, practice and form. They will also identify and consider the literary transitions embedded within the contemporary works they study. As part of the analysis of texts in question, students will write imitations of several of the poems discussed in class. Class time will be divided between workshopping, student writing and discussing the required reading.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 1210; MIN GRADE: 'C'

ENGWRT 1515 - THE BOOK AS ART: TEXT & IMAGE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: English Writing (BA)

ENGWRT 1650 - PLAYWRITING 1

Minimum Credits: 3
Maximum Credits: 3
A beginning course in writing for the stage. Starting with short scenes, students will work towards understanding the craft and art of constructing theatre stories to be performed by actors. The final project will be a one-act play. Throughout there will be emphasis on the stage effectiveness of the writing and opportunity for informal performance of student scripts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ENGWRT 1651 - PLAYWRITING 2

Minimum Credits: 3
Maximum Credits: 3
This is an advanced course in the study of playwriting. The goal is to create performable plays.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: THEA 1365 or ENGWRT 1650

ENGWRT 1710 - SENIOR SEMINAR IN FICTION

Minimum Credits: 3
Maximum Credits: 3
In this seminar students are expected to criticize student work intelligently and constructively. It is designed for students familiar with the craft of writing who wish to refine their writing skill and make their stories more subtle, original and meaningful. Analysis of student writing will be supplemented by the reading of professionally written stories.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 1010

ENGWRT 1730 - SENIOR SEMINAR IN POETRY

Minimum Credits: 3
Maximum Credits: 3
A fairly broad knowledge of 20th century poetry in English is assumed. Most class hours will be devoted to workshop critiques; a portion of class time will be spent discussing the work of younger contemporary poets.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 1210

ENGWRT 1750 - SENIOR SEMINAR IN NONFICTION
Minimum Credits: 3
Maximum Credits: 3
This is a workshop-intensive class in which students will work on one research-intensive piece of long form narrative nonfiction of about 8,000 words. This course will place heavy emphasis on digital forms of publishing. Students will maintain personal blogs and personal websites where they will publish their own work and participate in the editing and publishing of a class-wide digital magazine.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 1330

ENGWRT 1760 - ADVANCED REPORTING
Minimum Credits: 3
Maximum Credits: 3
This course will stress in-depth-interpretive reporting in specialized areas such as science, business, and politics.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGWRT 0550 or 0610

ENGWRT 1900 - INTERNSHIP: WRITING
Minimum Credits: 3
Maximum Credits: 3
This course offers students an opportunity to work as interns for local media, including newspapers, magazines and television stations. The internships are complemented by close supervision and seminars dealing with some of the ethical, legal, and practical issues facing the working professional.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

ENGWRT 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
This option permits students to design their own course with the approval of a department faculty member. Students must submit a proposal to the faculty member. Note: the proposed study must not duplicate the content of regularly offered courses.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ENGWRT 1904 - UTA IN WRITING
Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ENGWRT 1910 - INTERNSHIP: PUBLIC RELATIONS
Minimum Credits: 3
Maximum Credits: 3
This course offers students an opportunity to work as interns for local public relations firms or corporate public relations departments. The internships are complemented by close supervision and seminars dealing with some of the ethical, legal and practical issues facing the working professional.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

English Language Institute

ELI 0001 - ELI: ONE COURSE

Minimum Credits: 0
Maximum Credits: 0
The ELI offers English classes in speaking, listening, reading, writing, and grammar at three proficiency levels: low intermediate, high intermediate, and advanced. Eli students register for ELI 0001 when they are taking only one ELI course in any given semester.
Academic Career: UGRD
Course Component: Clinical
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0002 - ELI: TWO COURSES

Minimum Credits: 0
Maximum Credits: 0
The ELI offers English classes in speaking, listening, reading, writing, and grammar at three proficiency levels: low intermediate, high intermediate, and advanced. Eli students register for ELI 0002 when they are taking only two ELI courses in any given semester.
Academic Career: UGRD
Course Component: Clinical
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0003 - ELI: THREE COURSES

Minimum Credits: 0
Maximum Credits: 0
The ELI offers English classes in speaking, listening, reading, writing, and grammar at three proficiency levels: low intermediate, high intermediate, and advanced. Eli students register for ELI 0003 when they are taking only three ELI courses in any given semester.
Academic Career: UGRD
Course Component: Clinical
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0004 - ELI: FOUR COURSES

Minimum Credits: 0
Maximum Credits: 0
The ELI offers English classes in speaking, listening, reading, writing, and grammar at three proficiency levels: low intermediate, high intermediate, and advanced. Eli students register for ELI 0004 when they are taking only four courses in any given semester.
Academic Career: UGRD
Course Component: Clinical
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0005 - ELI: FIVE COURSES

Minimum Credits: 0
Maximum Credits: 0
The ELI offers English classes in speaking, listening, reading, writing, and grammar at three proficiency levels: low intermediate, high intermediate, and advanced. Eli students register for ELI 0005 when they are full-time ELI students in any given semester. Full-time students always register for five courses.
Academic Career: UGRD
Course Component: Clinical
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0006 - ELI: SIX COURSES

Minimum Credits: 0
Maximum Credits: 0
The eli offers English classes in speaking, listening, reading, writing, and grammar at three proficiency levels: low intermediate, high intermediate, and advanced. Eli students register for ELI 0006 when they are taking six courses in any given semester.
Academic Career: UGRD
Course Component: Clinical
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0007 - PROFSSNL & ACADMC ENG PROGRM

Minimum Credits: 0
Maximum Credits: 0
This is an intensive, 6-week program for international students planning to attend graduate programs in the US. Students must already be accepted to

a US graduate program or have a TOEFL 550/80 IBT score. Classes meet for five hours a day, four days a week. Class content will help students develop both language and academic/professional skills, including giving oral presentations, developing reading and listening strategies and understanding the educational culture of us graduate schools.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0021 - LISTENING LEVEL 2
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0022 - SPEAKING LEVEL 2
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0023 - READING LEVEL 2
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute0

ELI 0024 - WRITING LEVEL 2
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0025 - GRAMMAR LEVEL 2
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0031 - LISTENING LEVEL 3
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0032 - SPEAKING LEVEL 3
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0033 - READING LEVEL 3

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0034 - WRITING LEVEL 3
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0035 - GRAMMAR LEVEL 3
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0041 - LISTENING LEVEL 4
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0042 - SPEAKING LEVEL 4
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0043 - READING LEVEL 4
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: Graded
Course Requirements: PROG: English Language Institute

ELI 0044 - WRITING LEVEL 4
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0045 - GRAMMAR LEVEL 4
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0051 - LISTENING LEVEL 5

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0052 - SPEAKING LEVEL 5
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: Graded
Course Requirements: PROG: English Language Institute

ELI 0053 - READING LEVEL 5
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0054 - WRITING LEVEL 5
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0055 - GRAMMAR LEVEL 5
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: Graded
Course Requirements: PROG: English Language Institute

ELI 0061 - LISTENING LEVEL 6
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0062 - SPEAKING LEVEL 6
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0063 - READING LEVEL 6
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0064 - WRITING LEVEL 6

Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0065 - GRAMMAR LEVEL 6
Minimum Credits: 0
Maximum Credits: 0
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0110 - GENERAL ENGLISH EVENING COURSE
Minimum Credits: 0
Maximum Credits: 0
General English evening course
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

ELI 0120 - PROFSSNL AND ACADMC ENG PROGM
Minimum Credits: 0
Maximum Credits: 0
Professional and academic English program
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required
Course Requirements: PROG: English Language Institute

Environmtal & Occupatnal Hlth

EOH 1200 - INTRODUCTION TO RISK ASSESSMNT
Minimum Credits: 3
Maximum Credits: 3
This course will explore issues surrounding environmental and occupational risks with focus on adverse human health effect. It will provide an overview including risk assessment, risk perception, communications, and management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Film Studies

FILMST 0001 - MOTION PICTURE FUNDAMEMTALS
Minimum Credits: 3
Maximum Credits: 3
This course in an introductory course in a new film and video curriculum designed to optimize the ways in which students' knowledge and skills reflect changes in the field. This allows students to survey the motion picture field in a more general way before deciding on a specific track since part of the course involves shooting film and editing it. Digitally the course allows students to experience the convergence of technologies that characterizes the modern motion picture field.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0120 - BASIC DIGITAL PHOTOGRAPHY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0121 - ANIMATION PRODUCTION

Minimum Credits: 3
Maximum Credits: 3
This comprehensive workshop in single frame filmmaking is designed for the beginner in animation. Students work on individual projects using techniques such as drawing, clay, collage, time-lapse and others. Students are exposed to a wide variety of media and techniques through screenings and practical exercises. As a major course project each student will produce one short animated film. Most work for this course is done in super-8mm.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0001; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0130 - 3-D COMPUTER ANIMATION

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0151 - INTRODUCTION TO WEB DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course provides a solid, broad-based foundation for web page and site design. Designing for the world wide web includes an understanding of interface functionality and user-friendliness in addition to literate, visual communication. The class gives an introduction to html; image compression; using browser-safe color; and producing web pages with a WYSIWIG editor.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0200 - BLACK AND WHITE PHOTOGRAPHY 1

Minimum Credits: 3
Maximum Credits: 3
This is a production course where students, through a series of lectures and laboratory periods, will learn the process of seeing (making an exposure) and the craftsmanship (making a photographic print) that are the fundamental aspects of photography. The lecture will be divided into three main categories; technique, aesthetics, and assignments. Students must have access to a 35mm camera which has a full range of aperture settings and shutter speeds.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0201 - BLACK AND WHITE PHOTOGRAPHY 2

Minimum Credits: 3
Maximum Credits: 3
This course will give awareness and understanding of the technical and aesthetic implications of photography. Students will learn to visually articulate their ideas and discuss their work and the work of others through group critiques. The course will refine the basic knowledge of camera mechanisms, film developing, and printing. Areas of exploration will include lighting, high contrast film, solarization, infrared film, and sequential imagery. Other curricular areas include black and white filters; bleaching and toning prints; and archival preservation and mounting.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0200; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0220 - COLOR PHOTOGRAPHY 1

Minimum Credits: 3
Maximum Credits: 3
This is a production course where students, through a series of assignments, will put together a portfolio of color photographs. The student will learn to visually articulate their ideas, and examine their work, and the work of others through group critiques. The course structure will be one of lecture, demonstration, and critique.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0225 - STUDIO LIGHTING TECHNIQUES

Minimum Credits: 3
Maximum Credits: 3
This is a production course in studio photography. The emphasis will be on lighting techniques. Assignments will include portraiture, tabletop set ups and synchronizing flash units with daylight. Considerable outside time is required to complete assignments.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0230 - NON-SILVER PRINTING 1

Minimum Credits: 3
Maximum Credits: 3
Acting as both picture-maker and chemist, the student will study photographic history. The artist/student will also choose the most appropriate combination needed to suit specific photographic ideas. This course will allow the student to work within the whole photographic process, that is, the student will be mixing the chemicals and applying the photosensitized emulsion to the support-base that he/she chooses. The processes examined will be cyanotype, van dyke brown, and gum bichromate.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0235 - DOCUMENTARY PHOTOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
The primary objective of this course will be to concentrate on a cohesive visual statement about Pittsburgh. Areas of concentration will revolve around the landscape, social landscape (people in their environment), cityscape, and portraiture. Discussions will be held during class time to discuss different approaches to the objective. Individual attention will be given to aesthetic and technical problems that may arise. Lab techniques in advanced negative and print processing, and seminars to review student work will also be part of this course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0245 - PHOTOSHOP FOUNDATIONS

Minimum Credits: 3
Maximum Credits: 3
This course explores digital imaging as a method for manipulating and presenting work. Techniques covered include scanning, image retouching, correction and manipulation, printing and creative use of layers, selections, and masks. Assignments include restoration, digital colorizing of black and white imagery and digital color printing.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0001 or FILMST 0120 or FILMST 0200 or FILMST 0400; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0275 - HISTORY OF PHOTOGRAPHY 1

Minimum Credits: 3
Maximum Credits: 3
This course will examine the overall development of photography in Europe and the United States up to 1900, with demonstrations of early processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0276 - HISTORY OF PHOTOGRAPHY 2

Minimum Credits: 3
Maximum Credits: 3
This course will examine the evolution of photography, as an art form in Europe and the United States, after 1900.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0400 - INTRO TO DIGITAL EDITING

Minimum Credits: 3
Maximum Credits: 3
This course introduces students from film, video and photography to the desktop Macintosh computer-the preferred interface when dealing with graphics-related applications. Students will first become acquainted with and proficient in the mac operating system. The course will survey the most popular applications for manipulating photographic images, combining text with images, and doing simple video and audio editing on a mac. Students will integrate readings, lecture and in-class lab sessions to complete their own projects.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0410 - ADVANCED DIGITAL PHOTOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
This course offers advanced Photoshop techniques. Learn to make complex selection and color correction, texture maps, advanced layering and masking principles. Learn to make custom color profiles along with essentials of digital color management. Emphasis is on the development and exploration of a personal vision and the creation of a digital portfolio.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0420 - ADV DIGITAL EDITING TECHNIQUES

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0500 or FILMST 0601; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0500 - FILM PRODUCTION 1

Minimum Credits: 3
Maximum Credits: 3
This course is intended for freshmen and sophomore students who have taken photographic and motion principles, but do not have advanced skills in the methods of film production. This is an intermediate course in a new film production. Curriculum designed to optimize the ways in which students' knowledge and skills reflect changes in the field. In particular, digital non-linear editing has replaced film editing almost completely in the film industry, and the technologies of film are increasingly converging and overlapping. This course should increase their skill sets most commonly employed in the industry.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0001; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0601 - VIDEO PRODUCTION 1

Minimum Credits: 3
Maximum Credits: 3
This course is intended for freshmen and sophomore students, who have taken the introductory course, photographic and motion principles. This is an intermediate course in a new video production curriculum designed to optimize the ways in which students' knowledge and skills reflect changes in the field. For students who pursue video, video production 1 is an intermediate level course similar to video production. Students will edit video on computer workstations using final cut pro and DVD studio pro.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0001; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 0610 - DIGITAL EFFECTS & COMPOSITING

Minimum Credits: 3
Maximum Credits: 3
This course covers digital methods of combining video, photographs, graphics, text and other visual elements, and manipulation of those elements to tell a story. Course includes software such as Adobe After Effects, Adobe Photoshop and Illustrator. Topics include gaining an understanding of the structure of digital images, transparency and masking, Chroma keying, using layers and depth, key frame animation, image processing, effects and their use, formats, input and output of imagery and workflow methods.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PREQ: FILMST 0601; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1120 - DIRECTING ACTORS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 1130; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1130 - TECHNICAL DIRECTING
Minimum Credits: 3
Maximum Credits: 3
This course addresses some of the basic problems of designing and directing scenes for motion pictures. Some of the problems discussed are the relationship of film to reality, the meaning of cinematic techniques, continuity, shot selection, cut selection and visualization techniques. The format is a combination of lecture, screening and interactive group exercises. Extensive outside work is necessary.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0001; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1132 - INTRODUCTION TO SCREENWRITING
Minimum Credits: 3
Maximum Credits: 3
As an introduction to writing for the audiovisual media, this course combines theory, analysis and practical exercise. Students will address the basic issues of screen writing; idea, story, structure, scene, character, dialogue and action. Concurrent with the theoretical discussion will be a series of practical exercises. Students will develop stories and characters and mold them into scenes. Students will also submit written analysis on a current film from a screenwriting perspective.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1133 - SCRIPT DEVELOPMENT
Minimum Credits: 3
Maximum Credits: 3
This course is designed for students who have a knowledge of basic screenwriting principles and who wish to develop an original idea into a full treatment. Each student is required to complete a 30 to 40 page scene by scene treatment for a feature-length film script. Considerable outside work is necessary.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 1132; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1134 - WRITING & PRODUC SHORT SCRIPT
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1140 - ACTING FOR THE CAMERA
Minimum Credits: 3
Maximum Credits: 3
This course is designed for actors who would like to improve their craft by better understanding the differences between acting for the stage and acting for the camera. The course will describe and demonstrate the contrasts between stage and screen acting in specific shooting scripts and follow that with appropriate script study, character analysis and exercise in film acting techniques. Each class will include lecture, videotaped examples of performances for analysis and critique and the practical experience of working in front of the camera.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1141 - ACT FOR CAMERA: ADV TECHNIQUES
Minimum Credits: 3
Maximum Credits: 3

This course explores some of the special problems and challenges facing television and motion picture actors. Designed for students who are serious about their artistic expression in front of the camera, the course concentrates on dramatic acting. It is a course for filmmakers as well as actors because the quality of an actor's performance is an essential of a film. Students learn to direct actors as well as to perform in front of the camera.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1145 - SOUND FOR FILM AND VIDEO

Minimum Credits: 3
Maximum Credits: 3
Beginning with the basic principles of sound, the course will examine the problems of converting sound to an electrical analogy, processing it and storing it magnetically. Particular emphasis will be placed on the special problems associated with motion picture sound; intelligibility in voice reproduction, achieving and maintaining synchronism, academy standards, optical recording, 16 mm multi-track production methods and the relationship between voice, music, sound effects and story.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0500 or 0601; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1156 - CINEMATOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
This course examines the tools, technology and creative options available to a cinematographer. Cameras, lenses, light meters, emulsions, sensitometry, light sources, color, printing and the film laboratory are among the topics covered. Students participate in group shooting sessions and are encouraged to show their work in class in order to examine it in terms of cinematography.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0500; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1157 - LIGHTING FOR FILM AND VIDEO

Minimum Credits: 3
Maximum Credits: 3
This course allows students from both the film and video disciplines to expand their aesthetic boundaries by overcoming technical limitations. Students will learn theories of lighting to create a particular emotional, psychological, or physiological effect in the viewer, and will participate in lighting and shooting a variety of situations in class. Differences between lighting for film and video, light metering, and various lighting tools are among the topics covered. Contemporary film and tape examples will be examined and discussed in class.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1160 - CREW PRODUCTION WORKSHOP

Minimum Credits: 3
Maximum Credits: 3
This is a course for experienced filmmaking students. Its purpose is to give students an understanding of, and experience in, a collaborative film production situation. The goal of the class will be to produce collectively one or more short films or video tapes. Each student is required to perform at least one of the following roles: director, camera person, sound person, camera assistant, production manager, gaffer, or editor.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1200 - BLACK AND WHITE PHOTOGRAPHY 3

Minimum Credits: 3
Maximum Credits: 3
Photography 3 is an introductory course to large-format photography. An in-depth look at the technical aspects of the 4 x 5 view camera-its controls, film development, as well as the aesthetic possibilities of the images produced. Students will also be exposed to advanced printing methods and mural printing techniques.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0201; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1201 - VIEW CAMERA TECHNIQUES

Minimum Credits: 3
Maximum Credits: 3
View camera photography is a large format single exposure technique which can be used to produce high quality, fine grained images. Students will learn to use view cameras under a variety of circumstances. This is an advanced course in which there is an emphasis on creating a personal vision" and the effective presentation of furnished images."
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1205 - ADVANCED PHOTO SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This course is designed to help advanced photography students create a portfolio suitable for exhibition and view it in the context of contemporary art photography. Emphasis on producing a cohesive body of work by shooting, developing and printing their work as an ongoing assignment. Course will provide a blue print for a working artist.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1210 - COLOR PHOTOGRAPHY 2

Minimum Credits: 3
Maximum Credits: 3
This is an advanced color techniques course. Students will learn color posterization utilizing black and white high contrast film and negative manipulations such as reticulations, etching and recoloring. Other areas that will be covered include print manipulation techniques and the polaroid transfer process.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1220 - THE ZONE SYSTEM

Minimum Credits: 3
Maximum Credits: 3
This course will explore the zone system in photography. The zone system is a concise method of exposure and development of photographic materials which enables the photographer to have the complete control and predictability necessary for conveying a particular feeling or emotion about the subject. Students will achieve this through a series of exposure and development tests.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1225 - NON-SILVER PRINTING 2

Minimum Credits: 3
Maximum Credits: 3
This course will allow the student to work within the whole photographic process, that is, the student will be mixing the chemicals and applying the photo-sensitive emulsion to the support/base that he/she chooses. The course will also consider the 19th century process in which the photographer was both picture-maker and chemist.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1230 - EXPERIMENTAL DARKROOM

Minimum Credits: 3
Maximum Credits: 3
Experimental darkroom will deal with a variety of techniques utilizing different photographic materials in the darkroom. Black and white posterization plus a series of other darkroom manipulations that use both continuous tone and graphic arts film will be discussed and demonstrated. Students will re-work the surface of their prints. Techniques explored are hand coloring, collage and multiple imaging.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1235 - EXPERIMENTAL CAMERA

Minimum Credits: 3
Maximum Credits: 3
This will be a workshop course dealing with a variety of techniques utilizing the camera as a tool for visual information outside of its normal use and function. The course will look at the history of cameras and the many image making devices that were invented to date. Students will make their own pinhole cameras and purchase a Holga camera for their assignments.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1500 - FILM PRODUCTION 2

Minimum Credits: 3
Maximum Credits: 3
This course is intended for sophomore and junior students who have taken an intermediate course in film production, but do not have advanced skills in the methods of film production. This advanced course in a new film production curriculum is designed to optimize the ways in which students' skills and knowledge reflect changes in the field. For students who decide to pursue filmmaking over video production, this course is an advanced level course. There is less stress on mechanical film editing, and students are encouraged to release their final film projects on video rather than film prints.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0500; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1550 - FILM THESIS 1

Minimum Credits: 3
Maximum Credits: 3
This course is intended for senior students, who have taken advanced courses in film production and have advanced skills in the methods of film production. The first in a two-semester thesis sequence is the final part of a new film production curriculum designed to optimize the ways in which students' knowledge and skills reflect changes in the field. Along with lecture courses such as cinematography, this curriculum should give students thorough knowledge of the aesthetics, techniques, and technologies of film production. Students should create a finished film of high enough quality to show in film festivals.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 1156 and FILMST 1500; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1575 - FILM THESIS 2

Minimum Credits: 3
Maximum Credits: 3
This course is intended for senior students, who have taken advanced courses in film production and have advanced skills in the methods of film production. The second of a two-semester thesis sequence is the final part of a new film production curriculum designed to optimize the ways in which students' knowledge and skills reflect changes in the field. Along with lecture course such as cinematography, this curriculum should give students thorough knowledge of the aesthetics, techniques, and technologies of film production. Students should create a finished film of high enough quality to show in film festivals.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 1500; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1580 - ELECTRONIC CINEMATOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
This course is intended for advanced students, who have previously completed video production 2. This course is an advanced course in a new video production curriculum designed to optimize the ways in which students' knowledge and skills reflect changes in the field. It is an advanced level course that offers instruction in the most sophisticated techniques used in film production, but translates those techniques and their application to the realm of high-end digital video production.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1600 - VIDEO PRODUCTION 2

Minimum Credits: 3
Maximum Credits: 3
This course is intended for sophomore and junior students, who have taken video production 1. This is an intermediate course in a new video production curriculum designed to optimize the ways in which students' knowledge and skills reflect changes in the field. This course is similar to

advanced video production, but students will work at a slightly more advanced level. Students will edit video on a computer workstation using final cut pro HD, motion, DVD studio and soundtrack.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 0601; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1650 - VIDEO THESIS 1

Minimum Credits: 3
Maximum Credits: 3
This course is intended for senior students, who have taken advanced courses in video production and have advanced skills in the methods of video production. The first in a two-semester thesis sequence it's the final part of a new film production curriculum designed to optimize the ways in which students' knowledge and skills reflect changes in the field. Along with lecture courses such as cinematography, this curriculum should give students thorough knowledge of the aesthetics, techniques, and technologies of video production. Students should create a finished video of high enough quality to show in film festivals.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FILMST 1580 and FILMST 1600; PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1675 - VIDEO THESIS 2

Minimum Credits: 3
Maximum Credits: 3
This course is intended for senior students, who have taken advanced courses in video production and have advanced skills in the methods of video prod. The second in a two-semester thesis sequence it's the final part of a new film production curriculum designed to optimize the ways in which students' knowledge and skills reflect changes in the field. Along with lecture courses such as cinematography, this curriculum should give students thorough knowledge of the aesthetics, techniques, and technologies of video production. Students should create a finished video of high enough quality to show in film festivals.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1900 - INTERNSHIP IN FILM

Minimum Credits: 3
Maximum Credits: 6
Working in consultation with faculty, advanced students wishing to pursue careers in film have the opportunity to work with independent media artists or production companies. This course offering is designed to give students valuable experience in their chosen field of study outside the college and classroom environment.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1901 - INDEPENDENT STUDY IN FILM

Minimum Credits: 3
Maximum Credits: 3
Under certain circumstances students may elect to study film production on an independent basis. Such independent study will be closely supervised by an instructor and will entail the writing of a contract prior to beginning the course. Independent study will involve a minimum of eight meetings (between student and teacher) per term.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1910 - INTERNSHIP IN PHOTOGRAPHY

Minimum Credits: 3
Maximum Credits: 6
Working in consultation with faculty, advanced students wishing to pursue careers in photography have the opportunity to work with independent photographers or photographic studios. This course offering is designed to give students valuable experience in their chosen field of study outside the college and classroom environment.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1911 - INDEPENDENT STUDY PHOTOGRAPHY
Minimum Credits: 3
Maximum Credits: 3
Under certain circumstances students may elect to study photography on an independent basis. Such independent study will be closely supervised by an instructor and will entail the writing of a contract prior to beginning the course. Independent study will involve a minimum of eight meetings (between student and teacher) per term.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1920 - INTERNSHIP IN VIDEO
Minimum Credits: 3
Maximum Credits: 6
Working in consultation with faculty, advanced students wishing to pursue careers in video or television have the opportunity to work with independent media artists or television production companies. This course offering is designed to give students valuable experience in their chosen field of study outside the college and classroom environment.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

FILMST 1921 - INDEPENDENT STUDY IN VIDEO
Minimum Credits: 3
Maximum Credits: 3
Under certain circumstances students may elect to study video production on an independent basis. Such independent study will be closely supervised by an instructor and will entail the writing of a contract prior to beginning the course. Independent study will involve a minimum of eight meetings (between student and teacher) per term.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Dietrich Sch Arts and Sciences or College of General Studies

Finance

BUSFIN 1030 - INTRODUCTION TO FINANCE
Minimum Credits: 3
Maximum Credits: 3
Provides a survey and analysis of the problems and tools of financial decision-making by individuals and firms. The firm's role in the market system and the nature of its objective with reference to the welfare of investors and society is also treated. An analysis of the implications of this role to decisions regarding choice among alternative investment projects and capital budgeting decisions as well as an introduction to the structure of capital asset prices and the implications for financial policies of firms and individuals are also included.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (BUSACC 0030 or BUSERV 1920 or CDACCT 6030 or MGMT 0022 or BUS 0115 or ACCT 0201) and (STAT 1000 or 1100 or MGMT 0024 or STAT 1040 or ECON 0204 or STAT 1131); PROG: College of Business Admin; LVL: So, Jr or Sr

BUSFIN 1031 - INT TO FINANCE HONORS + 1
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSFIN 1311 - CORPORATE FINANCE
Minimum Credits: 3
Maximum Credits: 3
Investigates the investment and financing decisions of firms from the perspective of the corporate manager. The pedagogical format combines conceptual and case analyses so as to provide both a theoretical and practical foundation. Specific topics to be considered include the following: capital budgeting, cost of capital determination, capital structure decisions and dividend policy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1030 (MIN GRADE 'C'); PLAN: Accounting, FInance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1316 - ADVANCED CORPORATE FINANCE

Minimum Credits: 3
Maximum Credits: 3
Examines a variety of applied topics in corporate finance, including mergers and acquisitions, corporate restructuring, leasing, pensions, short term financial management, and the use of derivatives in corporate finance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1311; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1321 - INVESTMENT MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Emphasizes the development of tools required for investment decision-making. Reviews various financial instruments, examines their historical performance for evidence of risk return trade-off, presents basic portfolio theory and its implications for diversification, discusses the capital asset pricing model, and empirical estimation of beta riskiness. Other topics include mutual fund performance and the theory of efficient markets.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1030 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1326 - EFFICIENCY OF CAPITAL MARKETS

Minimum Credits: 3
Maximum Credits: 3
This course covers a central issue in finance: the Efficient Market Hypothesis (EMH). The EMH states that security prices reflect all relevant information and implies that investors cannot earn excess profits. Evidence in support of the EMH and contrary to it is studied. The implications of efficiency impact all financial managers and individuals in their financial decisions. Topics include: what actions can a financial manager take to maximize shareholder wealth, why do prices fluctuate, and technical versus fundamental analysis. The course focuses on valuation methods like DCF and CAPM.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1030 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1327 - FUTURES AND OPTIONS

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the growing area of derivatives. It describes the attributes of futures and options and the markets in which they are traded. The course develops techniques for valuation of futures and options and describes ways in which futures and options are used for risk management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1030 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1328 - CAPITAL MARKETS

Minimum Credits: 3
Maximum Credits: 3
This course provides an in-depth analysis of stock and bond valuation. The analysis of bonds covers bond pricing principals, the term structure of interest rates, and fixed income portfolio management. The analysis of stocks focuses on earnings and dividend-based valuation models, and a discussion of value investing" and indexing."
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1030 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1329 - FIXED-INCOME SECURITIES

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1030 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1331 - FINANCL INSTITUTIONS & MARKETS

Minimum Credits: 3
Maximum Credits: 3
Analysis of the behavior of financial intermediaries in the capital market. The performance of capital markets and examination of the role of regulations of financial markets, and the effects of decision-making by individuals and firms are covered. Sources of short-term and long-term financing will also be analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1030 (MIN GRADE 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1341 - INTERNATIONAL FINANCE

Minimum Credits: 3
Maximum Credits: 3
This course applies the principles of finance to international issues in financial management. It deals in topics such as the valuation of foreign subsidiaries, estimating the cost of capital of foreign investments, investing in foreign multinational firms, the correlation of returns across international security markets, hedging foreign exchange risk, and the use of foreign securities markets.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1030 (MIN GRAD 'C') and 1311 and 1321; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1345 - MARKETS AND TRADING

Minimum Credits: 3
Maximum Credits: 3
This course gives participants a broad understanding of the operations of various financial markets with special focus on liquidity, market structure and trading. The course concentrates on the ops of exchanges, trading systems and broker-dealer intermediaries. Students will be exposed to range of issues regarding the formulation of trading decisions and market structure design and regulation. Simulation software will be used to provide experience making tactical trading decisions in different market structure environments. Students will manage equity portfolios using OTIS
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1030 (MIN GRADE 'C') and BUSFIN 1311 and BUSFIN 1321; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1347 - MERGERS ACQISTN & CORPR STRUCT

Minimum Credits: 3
Maximum Credits: 3
This course examines the major structural transactions that corporations experience from an internal perspective, based on sound financial analysis conducted with an understanding of corporate governance, firm strategy, law, accounting, and organizational behavior. Particular emphasis will be on mergers and acquisitions (M&A), and include topics in venture capital, initial public offerings, buyouts, divestitures, and bankruptcy. Readings, case study analysis, and active class discussion are emphasized. Teams of students will put the M&A process into practice by searching out and analyzing potential target firms for a major corporation and presenting their analyses and recommendations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1311 and BUSFIN 1321; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1351 - FINANCIAL MODELING

Minimum Credits: 3
Maximum Credits: 3
The course applies economic theories to solve various problems in financial management and investments. Using a hands-on approach in building financial spreadsheet models, the student will gain knowledge of numerical and graphical practices. These include but are not limited to asset return calculations, portfolio theory, index models, and the capital asset pricing model, option pricing models, bond pricing and investment performance analysis. MS excel is the primary tool to implement these financial models, however the course will also make use of statistics and probability.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1030 (MIN GRADE 'C') and BUSFIN 1311 and BUSFIN 1321; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1355 - VALUATION
Minimum Credits: 3
Maximum Credits: 3
This course examines the topic of value ' what it is, how to measure it, and how to use it to guide managerial decisions. This is done by accomplishing three objectives: 1) provide students with a conceptual framework for thinking about value; 2) provide students with tools for estimating value and measuring value creation and destruction; and 3) teach students how to apply valuation models in different settings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1311 and BUSFIN 1321; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSFIN 1380 - GLOBAL FINANCIAL SYSTEMS
Minimum Credits: 3
Maximum Credits: 3
This course will examine the history and development of the global economy. It will examine the structure and principal operations of the global financial system. In doing so it will explore the impact of these operations in terms of trade, financial assets, capital movements and economic growth, putting into evidence the new global processes and its impact especially over the Brics and European markets.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSFIN 1390 - FINANCE INTERNSHIP
Minimum Credits: 3
Maximum Credits: 3
The finance internship provides business credits for project assignments that augment a professional finance work experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: PREQ: BUSFIN 1030 (MIN GRAD 'C'); PLAN: Finance (BSB)

BUSFIN 1391 - SPECIAL TOPICS IN FINANCE
Minimum Credits: 3
Maximum Credits: 3
Focuses on a variety of finance issues related to international business transactions. Issues addressed will vary by instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSFIN 1395 - FINANCE INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of finance issues or problems to which they have been introduced in other finance courses. The course involves directed reading and research under the guidance of a full-time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade
Course Requirements: PREQ: BUSFIN 1030 (MIN GRAD: 'C'); PLAN: Finance (BSB)

BUSFIN 1396 - TOPICS IN FINANCE
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

French & Italian Languages and Literatures

FR 0001 - ELEMENTARY FRENCH 1
Minimum Credits: 5
Maximum Credits: 5

This course will introduce the student to the oral-aural and reading-writing skills in the language. From the outset, students learn to use the spoken language and begin to work on good pronunciation, while at the same time developing the listening comprehension, reading, and writing skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0002 - ELEMENTARY FRENCH 2

Minimum Credits: 5
Maximum Credits: 5
This course introduces the students to the oral-aural and reading-writing skills in the language. From the outset, students learn to use the spoken language and begin to work on good pronunciation, while at the same time developing the listening comprehension, reading, and writing skills. This course is a logical continuation of elementary French 0001.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0003 - INTERMEDIATE FRENCH 1

Minimum Credits: 3
Maximum Credits: 3
This course is a logical continuation of the first-year sequence. Emphasis continues to be placed on the oral aural skills, but the reading and writing skills become increasingly stressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: College in High School - UGRD - students only.

FR 0004 - INTERMEDIATE FRENCH 2

Minimum Credits: 3
Maximum Credits: 3
This course is a continuation of French 0003. Reading skill is emphasized even more than in FR 0003 but continues to be accompanied by oral-aural and written work.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: College in High School - UGRD - students only.

FR 0005 - FRENCH FOR TRAVELERS

Minimum Credits: 3
Maximum Credits: 3
This course provides fundamentals of survival spoken French most likely to facilitate elementary communication for the tourist who has not previously studied the language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0006 - SPECIAL TOPICS IN CONVR & CULT

Minimum Credits: 1
Maximum Credits: 6
Designed for students at the second-year level of proficiency (French 3 or French 4), this course will treat topics in French and/or francophone cultures, with a focus on oral communication.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

FR 0007 - INTENSIVE FRENCH FOR READING 1

Minimum Credits: 4
Maximum Credits: 4
This beginning course is designed solely to teach the basic vocabulary and grammar of written French in order to develop a good reading knowledge of the language in the shortest possible time.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0008 - INTENSIVE FRENCH FOR READING 2

Minimum Credits: 4
Maximum Credits: 4

This course consists of translation and discussion in English of a variety of non-literary readings. It is a logical continuation of French 0007.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FR 0007 (MIN GRADE: 'C')

FR 0012 - FRENCH KISS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0015 - ELEMENTARY FRENCH REVIEW

Minimum Credits: 5
Maximum Credits: 5
Elementary French review is an accelerated language course for students who 1) already are familiar with some elementary-level French vocabulary and structures and 2) desire to complete the typical two-semester elementary French sequence in one semester. This intensive review course is both communicative, allowing students to interact in the target language with classmates and their instructor, and integrated, meaning language-learning skills will be used together to speak, read, listen, and write about university life, family and friends, pastimes, future goals, and personal opinions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0020 - FRANCE IN THE 21ST CENTURY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to lead students to a better understanding of France today. We shall pay particular attention to the perceptions the French have of themselves, and to the major aspects of contemporary French life and society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FR 0004 or 0021 or 0027 or 0055 or 0056 (MIN GRADE: 'C' for all listed Courses)

FR 0021 - APPRCHES TO FRENCH LITERATURE

Minimum Credits: 3
Maximum Credits: 3
The goal of this course is to illustrate ways of looking at literary texts. We shall examine plays, short prose works and poems focusing on textural elements such as narrative technique, characterization, societal factors and language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FR 0004 or 0020 or 0027 or 0055 or 0056 (MIN GRADE: 'C' for all listed Courses)

FR 0027 - THE FRENCH ATLANTIC

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FR 0004 or FR 0020 or FR 0021 or FR 0055 or FR 0056 (MIN GRADE: 'C' for all listed Courses)

FR 0031 - ELEMENTARY FRENCH 1 FOR MBAS

Minimum Credits: 1.5
Maximum Credits: 1.5
French 0031 is designed for business students who have no previous knowledge of French. It is an elementary language acquisition course and aims to teach students how to carry out basic functions likely to be necessary in dealing with others in the target language. The course aims to develop very basic abilities in all four language skills--speaking, listening, reading, and writing and deals with culture as an integral part of each skill.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0032 - ELEMENTARY FRENCH 2 FOR MBAS

Minimum Credits: 1.5
Maximum Credits: 1.5
French 0032 is designed for business students who have successfully completed French 0031 or who have placed into the course on the basis of the

department placement test. It continues with the presentation of the basic French functions, grammatical structures and vocabulary begun in French 0031. It emphasizes all four language skills--speaking, listening, reading, and writing and deals with culture as an integral part of each skill.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0055 - FRENCH CONVERSATION

Minimum Credits: 3
Maximum Credits: 3
This course is designed to help students already familiar with the basic grammatical structure of the language to improve their facility in oral expression.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FR 0004 or 0020 or 0021 or 0027 or 0056 (MIN GRADE: 'C' for all listed Courses)

FR 0056 - WRITTEN FRENCH 1

Minimum Credits: 3
Maximum Credits: 3
This course is designed to enable students to improve their understanding and use of essential elements of written French.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FR 0004 or 0020 or 0021 or 0027 or 0055 (MIN GRADE: 'C' for all listed Courses)

FR 0057 - WRITTEN FRENCH 2

Minimum Credits: 3
Maximum Credits: 3
This course is a sequel to FR 0056. Emphasis will continue to be placed on the mastery of essential elements of written French and on techniques of expository writing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0058 - ADVANCED FRENCH CONVERSATION

Minimum Credits: 1
Maximum Credits: 1
An advanced conversation course in French for majors and non-majors who wish to maintain or improve their command of the French language through a discussion of contemporary topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FR 0055

FR 0080 - MODERN FRENCH NOVEL

Minimum Credits: 3
Maximum Credits: 3
The French novel is to a great extent a genre in which psychological analysis has been brought to a high level of sophistication. This shall be studied through close analyses of approximately six works in English translation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0081 - FRENCH THEATRE

Minimum Credits: 3
Maximum Credits: 3
This course will explore comedy and tragedy of the classical period in relation to more recent developments in the 19th and 20th centuries in France. Close readings of selected plays by major authors will be stressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0085 - FRENCH FILM 1930-1960

Minimum Credits: 3
Maximum Credits: 3
A survey of the French sound film through the early new wave films. All films will be shown with English subtitles and no knowledge of French is

necessary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 0100 - FRENCH FOR THE PROFESSIONS

Minimum Credits: 3
Maximum Credits: 3
This course is designed for students interested in learning French for professional purposes. As an introductory course, students will learn the language practices necessary to initiate, carry out, and conclude basic professional transactions in the geographic and virtual French-speaking worlds.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: (College of Business Admin) or (School of Nursing) or (Swanson School of Engineering)

FR 1001 - POETRY

Minimum Credits: 3
Maximum Credits: 3
The study of poetry cannot be divorced from the special requirements of versification, we shall begin by examining the general aspects of French prosody. Then, the regular work of the class will be devoted to the close reading of poems by a number of poets, including Ronsard, Victor Hugo, Baudelaire, Rimbaud, Mallarme, Veraline and Apollinaire.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1002 - FRENCH THEATRE

Minimum Credits: 3
Maximum Credits: 3
In this course we shall consider the distinctive characteristics of French drama from the seventeenth century to the mid-Twentieth Century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1003 - NOVEL 1

Minimum Credits: 3
Maximum Credits: 3
This course will trace the development of the French novel from the mid-17th to the mid-19th century. We shall study the novel as a literary genre in process of change, reflecting or exploring in literary language moral, esthetic, social, intellectual and material forces at work in French society at different periods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1004 - NOVEL 2

Minimum Credits: 3
Maximum Credits: 3
This course traces transformation in the French novel from the mid-19th century to the mid-20th century new novel. We will read 6-7 novels in French chosen for their literary merit as well as their importance as landmarks in the evolution of the French novel.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1010 - MEDIEVAL & RENAISSANCE TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course will treat some aspect of the literature of the medieval or Renaissance periods in France.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1012 - 17TH CENTURY TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course will treat some aspect of the literature of the 17th century in France.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1014 - 18TH-CENTURY TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course will treat some aspect of the literature of the 18th century in France.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1016 - 19TH CENTURY TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course will treat some aspect of the literature of the 19th century in France.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1018 - 20TH CENTURY TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course will treat some aspect of the literature of the 20th century in France.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1020 - 21ST CENTURY TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course will treat some aspect of literature and/or culture of the 21st century in France.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1024 - THE MARVELOUS & THE FANTASTIC

Minimum Credits: 3
Maximum Credits: 3
In this course we read literary texts from the seventeenth to the twentieth century from two related genres--the marvelous and the fantastic. In texts considered here as marvelous (e.g., fairy tales) supernatural elements provoke no special reaction on the part of readers and characters. In the fantastic genre, readers and sometimes characters hesitate between natural and supernatural explanations of events. We apply a number of critical tools to understanding the texts we read stylistically and thematically and to exploring their relationship to one another, to historical events, to developments in psychology (including children's psychology) and the natural sciences, to major intellectual and literary movements, such as romanticism and social realism, and to children's literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1031 - FRENCH PHONETICS

Minimum Credits: 3
Maximum Credits: 3
A systematic study of the sounds and sound patterns of French in theory and in practice. Emphasis is placed on oral work designed to perfect the student's pronunciation of the language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1032 - ADV GRAMMAR AND STYLISTICS

Minimum Credits: 3
Maximum Credits: 3
This course focuses on reading and writing as complementary communicative acts. Students engage in practical and theoretical study of French grammar, the analysis and imitation of stylistic and grammatical features found in selected French prose texts, and comparative stylistic analysis of English and French. Writing assignments include original compositions in French and short translations from French to English and English to French. Conducted in French.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1033 - BUSINESS FRENCH

Minimum Credits: 3
Maximum Credits: 3
This course is a course in French language and francophone culture with a focus on business. Students will continue to perfect their general language skills and cultivate those special skills necessary to carry out commercial activities in French-speaking places.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FR 0004 and (FR 0020 or FR 0021 or FR 0055 or FR 0056); PROG: School of Arts and Sciences (UA-S) or College of Business Admin (UCBA)

FR 1038 - STRUCTURE OF MODERN FRENCH

Minimum Credits: 3
Maximum Credits: 3
This course will offer a problem-solving approach to the syntax of modern French and will focus on rule discovery and methods of syntactic argumentation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1040 - FRENCH LANGUAGE PAST & PRESENT

Minimum Credits: 3
Maximum Credits: 3
This course is designed to show how the language, as we know it today, has emerged, after two thousand years of change and reconstruction, from the language once known as Latin in the area once known as Gaul.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1050 - POWER, POLITICS AND AESTHETICS

Minimum Credits: 3
Maximum Credits: 3
This course will follow the evolution of French culture with the ultimate objective of illustrating the ways in which contemporary France has been formed by its rich heritage. In this first part of a two course sequence, the evolution of French society and culture from the middle ages to the French revolution will be surveyed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1051 - FRENCH CIVILIZATION 2

Minimum Credits: 3
Maximum Credits: 3
This course surveys the evolution of French society and culture from the revolution to the present. The course focuses mainly on the social, intellectual and artistic history of nineteenth and Twentieth-Century France.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1052 - SPEC TOPICS IN FR CIVILIZATION

Minimum Credits: 3
Maximum Credits: 3
This course, offered infrequently, will treat some aspect of French civilization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1053 - GLOBAL FRENCH

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1054 - MEDIEVL FR CIVLZTN: SPEC TOPIC
Minimum Credits: 3
Maximum Credits: 3
An exploration of some developments in thought, art, literature, and government that made France the cultural leader of Europe in the middle ages. Readings and class discussions in French.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1055 - 16THC FR CIVILZTN: SPEC TOPIC
Minimum Credits: 3
Maximum Credits: 3
This course will treat some aspect of 16th century French civilization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1056 - 17THC FR CIVILZTN: SPEC TOPIC
Minimum Credits: 3
Maximum Credits: 3
This course will treat some aspect of 17th century French civilization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1058 - 19THC FR CIVILZTN: SPEC TOPIC
Minimum Credits: 3
Maximum Credits: 3
This course will treat some aspect of 19th century French civilization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1059 - 20THC FR CIVILZTN: SPEC TOPIC
Minimum Credits: 3
Maximum Credits: 3
This course will treat some aspect of 20th century French civilization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1072 - REPRESENTING JUSTICE
Minimum Credits: 3
Maximum Credits: 3
How can one represent" the concept of justice? What are the "narratives of justice" which have been used in the past to explain this notion? What are the ones which talk to us most vividly today? This course will attempt to answer such questions by confronting philosophical definitions of justice with literary ones. From Aristotle's to Lyofard and from Sophocles to Camus, students will reflect on the way Western culture has approached and invented its notion of justice."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1073 - CULTURES OF LAW AND JUSTICE
Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to help the students understand the broadest philosophical and cultural principles on which the laws of a nation are built. In order to do so, there will be a comparison of the overall politico-legal structures of France (based on civil law) with its American counterpart (based on common law), as well as with the new institutions emerging within the European Union, and the Swiss model of direct democracy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1076 - FRENCH INTELLECTUALS
Minimum Credits: 3
Maximum Credits: 3

From environmental issues to gender politics, from the culture of capitalism to universal human rights, from media encroachment to esthetic values, French intellectuals had something to say about it all! In this class, we will discuss the tradition and the contemporary practice of public intervention on the part of writers, artists, sociologists and philosophers in modern France. The class starts with the contemporary figure of French economist Thomas Piketty, and then goes through a chronological review of the significance of enlightenment thinkers such as Voltaire and Rousseau, early critics of capitalist society such as the writers Balzac and Stendhal, Emile Zola's famous denunciation of anti-Semitism in the French military establishment at the turn of the 19th/20th century, 20th-century French existentialist Jean-Paul Sartre, feminist thinkers such as Simone de Beauvoir and Monique Wittig, environmental critics such as the un-growth advocate Serge Latouche and postmodern sociologist Jean Baudrillard.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1079 - CINEMA AND THE POSTCOLONIAL

Minimum Credits: 3
Maximum Credits: 3
This course draws on films from areas formerly colonized by France to explore the complex and frequently contested notion of the postcolonial. Through theoretical readings and analysis of films from North and sub-Saharan Africa and Vietnam, we will explore the shift from a binary model of colonizer/colonized to a recognition of the uneven, unsettled relations both within and between former colonies and the metropole. Introduction to concepts of film analysis and critical writing practice will encourage interrogation of your own viewing expectations along with the films on view.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1081 - SPEC TOPICS IN LIT (ENGLISH)

Minimum Credits: 3
Maximum Credits: 3
This course taught in English will treat some aspect of French literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1082 - CITZN STATE ERLY MOD FR THGHT

Minimum Credits: 3
Maximum Credits: 3
Course in English about French political thought of the 16th, 17th and 18th century. The aim is not only to introduce students to the evolution of French society and philosophy but also to show what the echoes are today of the philosophical problems discussed in the past centuries. Beyond the specifics of French history, the underlying questions are: what should be the role of the state? And what is a citizen?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1084 - POLITICS IN MODERN FR LITRATUR

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to the close relation between literature and politics in modern France. We will concentrate on the study of literary narratives and their role in popularizing as well as invalidating political movements. Through the readings we will investigate such concepts as the relation of the citizen, the state, the rise of the proletarian movement in France and the temptations of totalitarianism around World War II. Authors read include Hugo, Sand, Zola and Malraux. Students should come to a better understanding of the place of literature in society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1085 - WOMEN'S VOICES IN FRENCH LIT

Minimum Credits: 3
Maximum Credits: 3
We will read texts written by women authors in France from the middle ages to the 20th century. By following the evolution of the issues faced by women writers we will discover how a good number of the current claims were already clearly expressed several centuries ago. We will also be able to understand better what is specific to our period, and to reflect upon what it means today for a woman to inscribe her voice in a male dominated society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: FR 0021 (Min Grade 'C')

FR 1088 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3

Period and literary topics are determined by the instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1089 - FRANCOPHONE AFRCNA LITERATURE

Minimum Credits: 3
Maximum Credits: 3
An examination for the cultural, social and political relationships of French-speaking African and the Caribbean as reflected through different genres from the 1900's. Reading poetry, folklore, and novels produced by African writers sheds light on the issues confronting them such as polygamy, urbanization, assimilation, rituals, and the marginal man and woman.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1090 - INTRO TO TRANSLATION STUDIES

Minimum Credits: 3
Maximum Credits: 3
This course serves as a foundation course for the professional translation certificate program, and for related fields. It deals with translation theory and the general problematics of the translation process, providing a theoretical framework for translation and systematically linking theory and practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1095 - FR PROFESSIONAL TRANSLATION 1

Minimum Credits: 3
Maximum Credits: 3
The course is intended for those translators in training who want to gain experience in translating the types of material professional translators handle under on the job" situations. Emphasis is on practical translation skills. Introducing basic principles, pertinent technical terminology, and idiomatic expressions as they occur in original commercial, legal, scientific, and technical texts."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1096 - FR PROFESSIONAL TRANSLATION 2

Minimum Credits: 3
Maximum Credits: 3
This course continues development of skills begun in professional translation 1. As in professional translation 1, emphasis is on practical translation skills, basic principles, pertinent technical terminology, and idiomatic expressions as they occur in original commercial, legal, scientific and technical texts of a progressively greater degree of complexity and difficulty.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FR 1900 - PROF TRANSLATION INTERNSHIP-FR

Minimum Credits: 3
Maximum Credits: 3
This course is intended to provide on-the-job training for translators in training on a one-to-one basis in an office situation.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

FR 1901 - DIRCTED STUDY:FLD TRIP ABROAD

Minimum Credits: 1
Maximum Credits: 6
This course enables the student to complete, or nearly complete the French major to do research under the direction of a faculty member, on a topic of mutual interest.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

FR 1902 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 3
This course enables the student who has completed, or nearly completed, the French major to do research under the direction of a faculty member, on

a topics of mutual interest.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

FR 1903 - HONORS DIR RESEARCH:FR MAJORS

Minimum Credits: 1
Maximum Credits: 3
This course is offered to French majors who have high academic achievement, both in French and in general. These students are invited by the French faculty to engage in a research project under the direction of a faculty member with whom they have previously studied at the advanced undergraduate level.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

FR 1905 - INTERNSHIP IN FRENCH

Minimum Credits: 1
Maximum Credits: 6
The student will work in a job setting in which knowledge of French language and/or culture is useful.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

FR 1909 - UG RESEARCH ASSISTANTSHIP

Minimum Credits: 1
Maximum Credits: 2
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

ITAL 0001 - ELEMENTARY ITALIAN 1

Minimum Credits: 5
Maximum Credits: 5
An introduction to the Italian language, including basic grammar, vocabulary and speech patterns. Primary goal is to achieve competence in the spoken language, along with basic skills in reading and writing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 0002 - ELEMENTARY ITALIAN 2

Minimum Credits: 5
Maximum Credits: 5
An introduction to the Italian language, including basic grammar, vocabulary and speech patterns. Primary goal is to achieve competence in the spoken language, along with basic skills in reading and writing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0001 or ITAL 0011; (MIN GRADE 'C-' for all courses listed)

ITAL 0003 - INTERMEDIATE ITALIAN 1

Minimum Credits: 3
Maximum Credits: 3
This course is a logical continuation of the first-year sequence. Emphasis continues to be placed on the oral-aural skills, but the reading and writing skills become increasingly stressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0002 or ITAL 0012 or ITAL 0200; (MIN GRADE 'C-' for all classes listed)

ITAL 0004 - INTERMEDIATE ITALIAN 2

Minimum Credits: 3
Maximum Credits: 3
This course is a continuation of Italian 0003. Reading skill is emphasized even more than in Italian 0003 but continues to be accompanied by oral-aural and written work.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0003 (MIN GRADE 'C-')

ITAL 0007 - INTENSV ITALIAN FOR READING 1

Minimum Credits: 4
Maximum Credits: 4
This beginning course is designed solely to teach the basic vocabulary and grammar of written Italian in order to develop a good reading knowledge of the language in the shortest possible time.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 0008 - INTENSV ITALIAN FOR READING 2

Minimum Credits: 4
Maximum Credits: 4
This course consists of translation and discussion in English of a variety of non-literary readings. It is a logical continuation of Italian 0007.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 0011 - ELEM ITAL 1: PITT IN ITALY

Minimum Credits: 4
Maximum Credits: 4
An introduction to the Italian language, including basic grammar, vocabulary and speech patterns. Primary goal is to achieve competence in the spoken language, along with basic skills in reading and writing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 0012 - ELEM ITAL 2: PITT IN ITALY

Minimum Credits: 4
Maximum Credits: 4
An introduction to the Italian language, including basic grammar, vocabulary and speech patterns. Primary goal is to achieve competence in the spoken language, along with basic skills in reading and writing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 0050 - ITALIAN CONVERSATION

Minimum Credits: 1
Maximum Credits: 1
This course offers students the opportunity to improve their ability to converse in Italian. Discussions will center on topics of general interest.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ITAL 0052 - LANGUAGE PRACTICUM

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

ITAL 0055 - ITALIAN CONVERSATION & CULTURE

Minimum Credits: 3
Maximum Credits: 3
The course focuses on developing the students' listening and speaking proficiency in Italian by providing them opportunities to hear and speak Italian in a variety of contexts, expand their Italian vocabulary, practice different modes of communication (presentational. Interpretive and interpersonal), and learn specific verbal and non-verbal strategies to communicate successfully with others in Italian. Course work centers on a theme particularly relevant to Italian culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0004

ITAL 0060 - LITERARY ITALIAN 1
Minimum Credits: 3
Maximum Credits: 3
An introduction to Italian literature and culture. The majority of readings are in the prose and poetry of modern Italian writers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 0061 - LITERARY ITALIAN 2
Minimum Credits: 3
Maximum Credits: 3
We will read and discuss in Italian excerpts from Twentieth Century prose and poetry. The course emphasizes advanced language skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0004 (MIN GRADE 'B-')

ITAL 0080 - ITALIAN CULTURAL HERITAGE 1
Minimum Credits: 3
Maximum Credits: 3
In this course we will read, in English, excerpts from the works of Italy's three greatest writers, Dante, Petrarch, and Boccaccio.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 0081 - ITALIAN CULTURAL HERITAGE 2
Minimum Credits: 3
Maximum Credits: 3
In this course we will read, in English, the works of poets, story-tellers, and an artist who wrote his autobiography, to see how they described the society and culture in which they lived and worked, from the Renaissance to our own times.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 0086 - ITALIAN CINEMA
Minimum Credits: 3
Maximum Credits: 3
The course will present Italian movies from the forties to the present time. The films will provide us not only with the pleasure afforded by outstanding works of art but also with a means of assessing the central intellectual, historical, political, and economic phenomena that have shaped todays Italy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 0087 - FOOD FOR THOUGHT
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 0088 - ITALIAN AMERICA ON SCREEN
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 0100 - ITALIAN FOR THE PROFESSIONS
Minimum Credits: 3
Maximum Credits: 3
This course is a content-based introduction to the Italian language for students in professional contexts, including basic grammar, vocabulary, and speech patterns. The primary goals are to achieve competence in the spoken language, along with basic skills in reading and writing, while providing students the opportunity to learn about Italian industry and commerce.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: (College of Business Admin) or (School of Nursing) or (Swanson School of Engineering)

ITAL 1030 - ADVANCED COMPOSITION

Minimum Credits: 3
Maximum Credits: 3
This course is designed to enable students to improve their understanding and use of all essential elements of written Italian.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1031 - ITALIAN PHONETICS

Minimum Credits: 3
Maximum Credits: 3
A course in the sounds of the Italian language. We will deal with the way the speech sounds of Italian are produced, with problems of pronunciation, diction, and intonation, and with the relationship of sounds to meaning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0004 (MIN GRADE 'B-')

ITAL 1032 - INT TO ITALIAN LINGUISTICS

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to Italian linguistics, designed for the student who wants to gain more knowledge about the structures of Italian. It covers the following subfields of linguistics: phonetics, phonology, morphology, syntax, semantics, sociolinguistics and second language acquisition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (ITAL 0060 or ITAL 0061 or ITAL 1041)

ITAL 1041 - ITALIAN THEATRICAL WORKSHOP

Minimum Credits: 3
Maximum Credits: 3
The transition from the study of a foreign language to the study of its literature is often a very difficult one; this course has been designed as a third-year Italian course which will serve as a bridge between these 2 phases of the Italian major curriculum. Working both individually and in group, students will engage in: oral reading, storytelling, role-playing, improvisation, the creation and enactment of their own dialogues & scenarios, close reading, study, interpretation & performance of pre-existing theatrical texts, adaptation to a script & performance of narrative pieces.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0004 (MIN GRADE 'B-)

ITAL 1059 - SPEC TOPICS IN 20THC ITAL LIT

Minimum Credits: 3
Maximum Credits: 3
This course treats different aspects of 20th century Italian literature, history, and culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1060 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
Period and literary topics are to be determined by the instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1061 - DANTE 1

Minimum Credits: 3
Maximum Credits: 3

A reading of Dante's inferno, in Italian, but with the help of a bilingual edition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1062 - DANTE 2
Minimum Credits: 3
Maximum Credits: 3
A close reading of Dante's purgatory and prose. Readings and discussions are in Italian.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1063 - FROM PAGE TO STAGE
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1064 - NOVEL
Minimum Credits: 3
Maximum Credits: 3
The work of the course includes the reading of major representative 19th and 20th century novels and short narrative, and consideration of the novel as a literary genre.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1065 - SONGS OF THE ITALIAN SELF
Minimum Credits: 3
Maximum Credits: 3
In this course we will read some of the most famous poems written in Italian, from the time of Dante and Petrarch to the present day.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1066 - EPIC POETRY
Minimum Credits: 3
Maximum Credits: 3
An introduction to epic poetry in Italian literature. The course will concentrate on the poems of Boiardo, Ariosto, and Tasso, each of which represents a different Renaissance response to the epic tradition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1067 - ITALIAN THEATER
Minimum Credits: 3
Maximum Credits: 3
The course will deal with both stage plays and opera in Italy from Renaissance to our times. It will give the student an understanding of each play as a work of art and of the kind of society in which each form of theatre arose. The course is conducted in Italian.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1068 - ITALIAN NOVELLA
Minimum Credits: 3
Maximum Credits: 3
The novella is a characteristically Italian form of imaginative prose writing, with roots in medieval times. We will read works in the original, from the 1200's to the present.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1069 - LITERATURE INTO FILM

Minimum Credits: 3
Maximum Credits: 3
This course examines the cultural practice of cinematic adaptation of literary works in the Italian context. After an introduction to adaptation theory, students will engage with a number of literary texts and their cinematic counterparts in order to explore issues of genre specificity, cultural primacy, (in)fidelity, and historical contextualization
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: ITAL 0060 or ITAL 0061 or ITAL 1041; MIN GRADE: 'B-' for all listed Courses

ITAL 1070 - LITERATURE AND POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the relationship between Italian literature and politics. We will pay particular attention to the ways in which literary works reflect, embrace, or question political problems, movements, or ideologies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1078 - FULBRIGHT SEM IN ITAL STUDIES

Minimum Credits: 3
Maximum Credits: 3
The fulbright seminar in Italian studies is the spring-term undergraduate-level course offered by the visiting fulbright distinguished scholar from Italy. This course is typically offered in the fields of art history, cultural studies, film, history, literature, museum studies, political science, or urban studies.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ITAL 1079 - INTRO TO HOLOCAUST LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course surveys the central texts of the literature of the holocaust, while introducing students to the main issues and preoccupations of holocaust testimony in literature and film.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1080 - MASTERPIECES OF ITALIAN PROSE

Minimum Credits: 3
Maximum Credits: 3
In this course we will read some of the best known pieces of Italian short fiction, from Boccaccio's Decameron and Renaissance tales to short stories of contemporary Italian writers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1081 - DANTE'S DIVINE COMEDY

Minimum Credits: 3
Maximum Credits: 3
A reading of Dante's divine comedy in English, using a bilingual edition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1082 - ITALIAN RENAISSANCE LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the literature of Renaissance Italy. Readings include a mixture of poetry and prose.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1083 - MODERN ITALIAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
The course focuses on a half dozen masterpieces of Italian narrative and poetry. They come from different moments of Italian cultural history--the Romantic, naturalistic, decadent, and nonrealistic periods, stretching from Manzoni in the early 1800's to writers of our time.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1085 - DANTE, PETRARCH, AND BOCCACCIO

Minimum Credits: 3
Maximum Credits: 3
Dante, Petrarch and Boccaccio are not only the founding fathers of Italian literature but pivotal figures in Western civilization. This course will present the three writers against the historical and cultural background of pre Renaissance Europe.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1086 - ITALIAN THEATER IN ENGLISH

Minimum Credits: 3
Maximum Credits: 3
This course will be conducted entirely in English. It will deal with both stage plays and opera in Italy from Renaissance to our times.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

ITAL 1087 - FASCISM AND RESISTANCE

Minimum Credits: 3
Maximum Credits: 3
This course follows the development of fascism and anti-fascism in Italy. Main themes covered are WWI; irredentism; colonialism; gender and racial policies; autarchy; WWII; resistance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1088 - TOPICS ITALIAN AMERCN STUDIES

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the new interdisciplinary field of Italian-American studies with a particular focus on how that area of scholarship can shed light on our understanding of the past century of Italian-American culture in Western Pennsylvania and Pittsburgh. The class will consider the portrayal of Italian-Americans in literature and film from the interconnected perspectives of literary-historical interpretation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1089 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
Period and literary topics are determined by the instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1090 - INTRO TO TRANSLATION STUDIES

Minimum Credits: 3
Maximum Credits: 3
This course serves as a foundation course for the professional translation certificate program, and for related fields. It deals with translation theory and the general problematics of the translation process, providing a theoretical framework for translation and systematically linking theory and practice.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ITAL 0060 or 0061 or 1041

ITAL 1092 - CAPSTONE ITALIAN TRANSLATION

Minimum Credits: 3
Maximum Credits: 3
This course is the capstone experience in the Italian major curriculum and will constitute a reconsideration of the student's linguistic, cultural, and literary preparation in the context of translation theory and practice. Students will engage in translation work both from Italian to English and from English to Italian. There will also be an in-house internship" component with the Milan-based peace reporter on line newsletter."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

ITAL 1095 - ITAL PROFESSNAL TRANSLATION 1

Minimum Credits: 3
Maximum Credits: 3
This course is intended for those who want to gain experience in translating the types of materials professional translators handle in actual on-the-job situations. The course emphasizes acquisition of practical translation skills introducing basic principles. Technical terminology and idiomatic expressions as they occur in original commercial, literary, and technical texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1096 - ITAL PROFESSNAL TRANSLATION 2

Minimum Credits: 3
Maximum Credits: 3
This course is intended for those who want to gain experience in translating the types of material professional translators handle in actual on-the-job situations. The course emphasizes acquisition of advanced practical translation skills and idiomatic technical and commercial terminology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ITAL 1902 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 4
This course enables the student who has completed, or nearly completed, the Italian major to do research under the direction of a faculty member, on a topic of mutual interest.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

ITAL 1903 - HONRS DIR RESEARCH: ITAL MAJS

Minimum Credits: 1
Maximum Credits: 3
This course is offered to Italian majors who have high academic achievement, both in Italian and in general. These students are invited by the Italian faculty to engage in a research project under the direction of a faculty member with whom they have previously studied at the advanced undergraduate level.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

ITAL 1905 - INTERNSHIP IN ITALIAN

Minimum Credits: 1
Maximum Credits: 6
The student is placed in a job setting in which knowledge of Italian language and/or culture is useful.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

ITAL 1909 - UNDERGRAD RSRCH ASSISTANTSHIP

Minimum Credits: 1
Maximum Credits: 2
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

Freshman Program

FP 0001 - INTRO TO THE ARTS & SCIENCES

Minimum Credits: 1
Maximum Credits: 1
This course is designed especially for freshmen as an introduction to the Dietrich School of Arts and Sciences. Topics of discussion include: (1) the city and the campus; (2) academic skills and services; (3) academic honesty; (4) academic communication; and (5) educational goals. Through class work and out-of-class activities, students will gain knowledge of the educational opportunities at the University, the cultural events on and off campus and an understanding of what it means to be a liberal arts student. All students who enroll in this course will receive a free academic planner on the first day of class compliments of the Office of Freshman Programs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

FP 0003 - FRESHMAN SEMINAR

Minimum Credits: 4
Maximum Credits: 4
Freshman seminar fulfills the seminar in composition requirement and includes Introduction to the Arts and Sciences (FP 0001), an introduction to academic life in the School of Arts and Sciences. Topics of discussion include: (1) the city and the campus; (2) academic skills and services; (3) academic honesty; (4) academic communication; and (5) educational goals. Because freshman seminar is a four-credit course, students spend at least 10 additional hours during the term on out-of-class activities that complement and enrich coursework. All students who enroll in this course will receive a free academic planner on the first day of class compliments of the Office of Freshman Programs.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0002 or 0003 or 0005 or 0010 or 0150 or 0152 or ENG 0101

FP 0005 - IDENTITY AND ALIENATION

Minimum Credits: 3
Maximum Credits: 3
This course is about alienation, both as a literary theme and an authorial tool. Course readings loosely have a common theme: characters are thrown into unknown lands and situations without a map. The course examines the way the characters, as well as humans generally, one way or another are in the wilderness, with identity always at stake. The course examines how finding ways through requires emotional, ethical and actual navigation.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0006 - FRESHMAN SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This introductory writing seminar, open to freshmen only, fulfills the seminar in composition requirement. In this seminar, students have the opportunity to improve as writers by developing their understanding of how they and others use writing to interpret and share experience, affect behavior, and position themselves in the world. Each seminar has its own theme, and students may elect the theme they find most interesting. In all seminars, student writing is the primary focus.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ENGCMP 0002 or 0003 or 0005 or 0010 or ENGCMP 0150 or ENGCMP 0152 or ENG 0101

FP 0007 - ANTISOCIAL BEHAVIOR AND CRIME

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FP 0009 - ORIENTATION FOR TRANSFERS

Minimum Credits: 1
Maximum Credits: 1
This course is designed especially for transfer students as an introduction to the school of arts and sciences. Through class work and out-of-class activities, students will gain knowledge of the educational opportunities at the University, the cultural events on and off campus, and an understanding of what it means to be a liberal arts student. Topics of discussion include: (1) transition to Pitt; (2) academic skills and services; (3) academic honesty; (4) thinking about the liberal arts; (5) polite and professional communication; and (6) educational goals. All students who enroll in this course will receive a free academic planner compliments of the office of freshman programs on the first day of class.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Satisfactory/No Credit

FP 0010 - LITERATURE OF SPORTS

Minimum Credits: 3
Maximum Credits: 3
This course places the literature of sports in various intellectual contexts. Students read novels by major American writers like Malamud, Roth, Coover, DeLillo, Exley and Harris, as well as serious" popular novels (North Dallas 40 and Semi-Tough) and personal reminiscences."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0012 - GROWING UP IN JAPAN

Minimum Credits: 3
Maximum Credits: 3
This freshman seminar will use literature by anthropologists who study Japan to look at growing up in Japan. Documentary films and commercial films, novels and memoirs will also be used. Modern Japan from the 1950's to the present will be emphasized. All materials in English or in English translation. No knowledge of Japanese required.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0013 - LOVE AND ROMANCE IN CHINA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0015 - THE FRENCH LIEUTENANT'S WOMAN

Minimum Credits: 3
Maximum Credits: 3
This freshman seminar is devoted to a study of John Fowles' The French Lieutenant's Woman. Students will also do readings in Darwin, Freud, Marx, and Existentialism. These readings will provide the context for understanding the novel as part of the emergence of modernist thought and modernist literature.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0018 - CONTEMPORARY EUROPEAN NOVEL

Minimum Credits: 3
Maximum Credits: 3
This seminar introduces students to a number of trends and ideas expressed in European novels written after World War II.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0020 - POPULAR RELIGION IN AMERICA

Minimum Credits: 3
Maximum Credits: 3
A survey of religious behavior and religious beliefs in the United States outside of the formal institutional structures of religion.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FP 0025 - ANTHROPOLOGY OF THE PACIFIC

Minimum Credits: 3
Maximum Credits: 3
In this freshman seminar students will be introduced to a number of fundamental anthropological concepts through the study of the peoples and cultures of the pacific basin countries.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0028 - WORLD HUNGER

Minimum Credits: 3
Maximum Credits: 3
The topic of world hunger will be explored through the study of cross-cultural materials which will be examined with a critical eye toward contemporary global patterns of food distribution. Particular attention will be paid to the development of an international geographic perspective.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0030 - INTRODUCTION TO MODERN ART

Minimum Credits: 3
Maximum Credits: 3
The course will present a chronological survey of Western European, Russian, and American art from the mid-nineteenth century to the present (impressionism to post-modernism). In addition to charting the dramatic stylistic and conceptual changes in art during this time period, the course will consider the historical circumstances which caused a disintegration in accepted notions of what constituted a significant work of art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FP 0032 - PEACE AND MILITARISM

Minimum Credits: 3
Maximum Credits: 3
This seminar looks at issues of peace and militarism in German culture from a historical perspective. Students should gain greater appreciation of the significance of historical experience for contemporary politics as well as a better understanding of American perceptions of war and peace.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0033 - THE LANGUAGES OF EUROPE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FP 0034 - EMERGING EUROPE

Minimum Credits: 3
Maximum Credits: 3
Students in this seminar will study the exciting changes occurring in the European community as it becomes the world's largest trading block. Readings and discussions will address such questions as: which historical events led w. Europe to pursue the strategy of integration? How should this new govt be structured? How will these changes affect the US & E. Europe? We will look at post-WWII history leading to formation of the European community, economic aspects of integration, governing institutions, and policy areas such as defense, monetary, social, & foreign policy.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0035 - MAKING ART HIST IN 17THC ROME

Minimum Credits: 3
Maximum Credits: 3
Students study and compare the two most important artists of the 17th century: Michelangelo Merisi Caravaggio (1571 1610) and Gian Lorenzo Bernini (1598-1680). In addition to studying the lives and works of these artists within the context of their own society, efforts will be made to understand why they made art history and how later artists absorbed and used their ideas.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0036 - PILGRIMAGE

Minimum Credits: 3
Maximum Credits: 3
This seminar uses primary source texts in English translation and visual materials in the form of maps, photographs and slides to analyze pilgrim journeys across Europe to three major sites of pilgrimage: Jerusalem, Rome and Santiago de Compostela.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0038 - CONTEMPORARY CHINESE CINEMA

Minimum Credits: 3
Maximum Credits: 3
Students in this seminar will view a number of Chinese films as a way of increasing their understanding of contemporary Chinese culture and society.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0040 - MASS MEDIA IN THE SOVIET UNION

Minimum Credits: 3
Maximum Credits: 3
This seminar examines the specific role played in USSR mass media by the communist party, the soviet government, and soviet public organizations. What is the structure of soviet propaganda apparatus? How does soviet censorship operate? Are there any similarities--and what are the differences--between soviet and American mass media?
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0045 - MEN & WOMEN: IMAGES MDRN JAPAN

Minimum Credits: 3
Maximum Credits: 3
In the 1850s, Japanese women led restricted lives in a society controlled by traditional Confucian concepts of human relations. A hundred years later, women had become the legal equal to men and were on the way to finding their rightful place in many important spheres of Japanese life- in the workplace, socially, artistically, and intellectually. These changes in Japanese society will be explored by reading in translation a number of modern Japanese stories and novels written during the past eighty years.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FP 0046 - DRUGS & SOCIETY: PERSPECTIVES

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FP 0047 - WOMEN IN CENTRAL & EAST EUROPE

Minimum Credits: 3
Maximum Credits: 3
This seminar provides an overview of the current situation of women in several countries in central and eastern Europe. The seminar includes an historical overview of the countries of this area and a discussion of recent developments. The role of women in these countries will be studied and compared to the US.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0048 - HUSB, WIVES, SONS & DAUGHTERS

Minimum Credits: 3
Maximum Credits: 3
This seminar considers the history of the family in Western Europe. Students will study primary sources such as letters and diaries that deal with the relationships between husbands and wives and parents and children in the medieval and early modern period.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0050 - LATIN AMERICA

Minimum Credits: 3
Maximum Credits: 3
This course will stress the contrasts between the different cultures, the contradictions that have characterized the region for centuries, the relations between Latin America and the U.S. And the problems of reform and revolution. It begins with a survey of the conquest of Latin America and the main Indian cultures as well as the nature and goals of Spanish and Portuguese colonization. The differences between 19th century rural and urban society and different aspects of Latin American society in the mid-20th century will also be studied.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0053 - CONQUEST AND CULTURE CLASH

Minimum Credits: 3
Maximum Credits: 3
This seminar focuses on the Spanish conquest of each of the three major civilizations of the ancient Americas, stressing culture conflict, the significance of religion, and the quest for sovereignty.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0055 - MALAYSIA

Minimum Credits: 3
Maximum Credits: 3
This is an interdisciplinary seminar which combines sociology, anthropology, creative literature, religious studies, political science, and some economic analysis to understand contemporary and historical developments in Malaysia.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0060 - SELF AND OTHERS

Minimum Credits: 3
Maximum Credits: 3
Considering the writings of educators and philosophers, this orientation course will introduce freshmen to the relationship between the self and the academic community within the context of reading, writing, speaking, and critical skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

FP 0062 - CHILDREN LEARNING LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
This seminar considers children's language learning. Specifically, students will study the impact of adult behaviors on children's language learning and ways in which these behaviors vary across societies.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0063 - PERSONAL NETWORKS

Minimum Credits: 3
Maximum Credits: 3
This seminar examines a person's environment as a personal network of relations with other people. Basic principles of data collection and analysis will be conveyed during the course.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0065 - MYTH AND SELF

Minimum Credits: 3
Maximum Credits: 3
This seminar explores the role of myth in people's representations of themselves and their place in the world. Students read and discuss selections from ancient near eastern and Greek literature that present myths of the hero and his quest for self understanding. The course also considers contemporary treatments and uses of myth such as the work of Sigmund Freud and Joseph Campbell.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0068 - MYTHICAL JOURNEYS

Minimum Credits: 3
Maximum Credits: 3
After decades of being dismissed as trivial and mindless amusement, videogames have finally arrived as a unique form of contemporary art and entertainment, a form worthy of critical discussion on its own merits. In this course, we will set out to lay the groundwork for such discussion, examining a diverse range of titles from pong to half-life, from abstract puzzles to melodramatic role-playing, from simcity to liberty city, and everywhere in-between.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0069 - GREEK TRAGEDY AND ITS PEOPLE

Minimum Credits: 3
Maximum Credits: 3
Students in this seminar read one play a week and will view several films. Discussions will consider the plays from a literary viewpoint and will also examine the culture that produced the plays.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0070 - AMER ART & CULTURE: PITTSBURGH

Minimum Credits: 3
Maximum Credits: 3
This course is designed as an intensive introduction to American painting, sculpture, and architecture, with emphasis on painting. Students will learn to look at art and to think about its social functions, its political meanings, and its role in establishing cultural identities. Through frequent writing assignments and visits to Pittsburgh's museums and outdoor resources, students will get a hands-on" experience of art not possible in a large lecture class dependent on slides."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

FP 0075 - WOMEN AND MUSIC

Minimum Credits: 3
Maximum Credits: 3
This seminar explores the relationship of women to the music of Western culture. Study includes women composers and the reception of their work as well as the role played by women as performers, music educators, patrons, and impresarios. The seminar will also consider women as the subjects of musical works, and the role of musical works in gender construction.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0080 - SOME PLATONIC DIALOGUES

Minimum Credits: 3
Maximum Credits: 3
This is an intensive seminar for a small, select group of talented and highly motivated freshmen. Philosophical issues discussed vary considerably from year to year, but tend to be narrowly focused and topical.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0090 - AMERICAN FOREIGN POLICY

Minimum Credits: 3
Maximum Credits: 3
This seminar is an historical analysis of major events in the world since WWII. An examination of political, economic, and diplomatic developments will be emphasized and related to the social, cultural and intellectual events during the period 1945-present. Particular attention will be paid to the impact of imperialism throughout the world.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0095 - MATHEMATICS OF TIME AND MAPS

Minimum Credits: 3
Maximum Credits: 3
This seminar covers those aspects of mathematics needed for a more complex understanding of maps and calendars. The seminar is taught in an interactive fashion using the computer program Mathematica.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

FP 0100 - SP TOPICS: SUCCEEDING IN ARTSC

Minimum Credits: 1
Maximum Credits: 1
This course helps individual students develop strategies for success by focusing on opportunities and academic options, which will assist them in identifying and achieving their educational goals. Students will work in a classroom setting and with academic resources on campus to define goals, strengthen communication skills, and plan for sophomore year.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

Gender, Sexuality, and Women's Studies

GSWS 0001 - WOMEN AND LEADERSHIP

Minimum Credits: 1
Maximum Credits: 1
Students residing in the women lead LLC enroll in this course, which is a one-credit experiential course in the fall term. This seminar will expose students to information about women leaders and the challenges they experience during their ascension to, and acceptance of, various leadership positions. The course will include discussion, reflection, and attendance at speakers and events within the Pitt and Pittsburgh community.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

GSWS 0040 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
This lower-level course addresses a current topic in women's studies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GSWS 0100 - INT TO GENDER, SEXTY, & WOMNST

Minimum Credits: 3
Maximum Credits: 3
What is sex? What is gender? What is sexuality? How are these concepts related to culture? To nature? To help you answer these important questions, this course will introduce you to the exciting field of gender and sexuality studies. We will use a range of interdisciplinary concepts, tools, and methods to understand and analyze sex, gender, femininity, masculinity, and sexuality. Through readings, multimedia, and class discussion, we will study how gender and sexuality are socially and culturally constructed. In addition, we will consider how gender intersects with other identity categories such as race, class, ethnicity, nation, age, ability, and sexuality. Because we all have a gender, this course is crucial for any profession and for understanding the world around us. It is also a great opportunity for you to develop your written and oral skills. The course is open to all students regardless of background. As a prerequisite for more advanced courses in the program and as the intro course for current or future students in the "certificate in the study of women, gender, and sexuality," this course will prepare you for more advanced courses in the program. Also, you will learn to apply the critical vocabulary used in gender studies to your major and minor fields of study.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GSWS 0200 - SEX, RACE, & POPULAR CULTURE

Minimum Credits: 3
Maximum Credits: 3
Popular culture is often defined as a collection of ideas, images, beliefs and practices that have become an essential component of peoples' daily lives. While popular culture is dismissed by some as merely a mass consumer culture, others acknowledge that contemporary popular cultural forms may, in keeping with a history of once contemporary popular art, culture, and literature (e.g. Dickens, Warhol, etc.) Come to be understood as essential, canonical and elite. Ultimately, these materials may be read as a texts that inform our understanding of culture and social life and prompt such questions as: how does popular culture (re)construct our sense of "ordinary" life as something extraordinary? Why are some cultural forms dismissed and others more readily accepted? What social processes bring cultural forms into the public domain? This course will examine popular culture in a variety of forms such as: music, art, television, collectibles, internet, and social media. Students will consider examples from Western, non-Western, and "global" culture, but will use sex and sexuality, gender, and ideas of race to understand the relationship between popular culture, material culture, representation, and consumerism, and power and resistance. It will also address these phenomenon over time. This course will make especially strong use of contemporary and popular media such as video clips, internet media and images, and music.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GSWS 0300 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GSWS 0350 - SPECIAL TOPICS IN GSWS

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD

Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GSWS 0500 - INTRO TO FEMINIST THEORY

Minimum Credits: 3
Maximum Credits: 3
This course is an interdisciplinary introduction to the feminist ideas and debates concerning gender, women and men, and their political, social and economic positions over the last two hundred years. While we will focus on the United States, there will be some engagement with global feminist perspectives on gender, race, class, and sexuality. In keeping with the activist nature of feminist theory, this course will approach 'theory' as attempts to answer fundamental questions about the power relations that structure our everyday lives and consciousness. Theory in this sense is a tool for thinking systematically about how the world works, and for constructing arguments about how it should work. Consequently, we will pay particular attention to the (de)construction of power in both public and private relations as we critically analyze texts, discuss and present ideas in class, and complete written analyses. Students will have opportunities to apply feminist theories to their work in their home disciplines.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GSWS 0550 - SEX AND SEXUALITIES

Minimum Credits: 3
Maximum Credits: 3
How and why did sex and sexuality become subjects of study? How are our experiences of sex and sexuality shaped by a history of 'scientific' explorations of desire? Why has sexuality become so central to our understandings of identity? What was sex like before 'sexuality' was invented? This seminar explores these questions by approaching sex and sexuality as socially, historically, and culturally contingent concepts. We will consider sex and sexuality as they are related to other categories of identity, including race, class, ethnicity, nation, and ability. Our theoretical and historical investigations will create the groundwork for understanding and rethinking how sexuality is understood in culture today.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GSWS 0600 - GLOBAL LGBTQ LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

GSWS 1026 - STATES AND SEX IN THE AMERICAS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

GSWS 1140 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
This upper-level course addresses a current topic in gender, sexuality, or women's studies. Topic varies by instructor.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GSWS 0100 or GSWS 0200 or GSWS 0500 or GSWS 0550

GSWS 1141 - SP TOPCS GENDER, SEXTY, WOMNST

Minimum Credits: 3
Maximum Credits: 3
This course will treat a specific topic in gender, sexuality, and/or women's studies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GSWS 1142 - FEMINIST THEORY

Minimum Credits: 3
Maximum Credits: 3
This course will provide a critical analysis of gender from a variety of feminist perspectives, with particular attention to shifts and changes in this and related categories.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GSWS 1150 - GLOBAL FEMINISMS

Minimum Credits: 3
Maximum Credits: 3
This class will look at the situation of women in international perspective. We will examine how feminist organizations operate in difficult national and local contexts and how women's rights have been addressed through international organizations such as the united nations and the world court. Through case studies, we will consider a number of contentious issues in global feminism, including sexual assault, sex tourism, and the global assembly line, and the role of feminism in national liberation movements.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GSWS 1160 - RACE, GENDER, AND CLASS

Minimum Credits: 3
Maximum Credits: 3
Social diversity is a key item across academic disciplines as well as cultures at large. This course will examine the relationships among race, class, and gender in society, providing students with an understanding of how these terms get defined and mobilized in various contexts.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GSWS 1170 - QUEER THEORY

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to theories of how people think about and enact genders and sexualities. The course edicts both the assumption that people are naturally or normally heterosexual and the idea that being seen as "normal" should be the political or personal goal of sexual minorities. The course calls into question the idea of normal exploring how gender aims to "normalize" people by categorizing them. In recognizing the ruse of normality, the course examines sexual practices and gender expressions not attempting to dignify, deny or apologize for them.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GSWS 1180 - POLITICS OF GENDER AND FOOD

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GSWS 1190 - MASCULINITIES

Minimum Credits: 3
Maximum Credits: 3
An interdisciplinary examination of theories and select cultural constructs of masculinity, as related to and distinct from male bodies. Masculinity will be considered in its relation to race, ethnicity, nation, class, ability, and sex. Readings will likely come from literary studies, film studies, cultural studies, sociology, anthropology, linguistics, history, and other fields.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GSWS 1235 - LANGUAGE, GENDER AND SOCIETY

Minimum Credits: 3
Maximum Credits: 3
As a field of research, language and gender studies is interdisciplinary and relatively new. These studies seem to discover the nature of gender-related differences in language and their causes and effects. Gender here refers to social categories based on sex but encompassing behavior, roles and images that, although not biologically determined, are regarded by a society as appropriate to its male or female members. What is seen as appropriate to each gender thus differs in different societies and eras. Explanations for gender thus differ in different societies and eras. Explanations for almost all observed male/female language differences are to be found less in the biological constitution of the human body and more in the social and psychological formation of the human subject. These are the issues we will be concerned with in this course. Is women's language use in systematic ways different from that of men? If it is different, how is it different? Why is it different, what sorts of explanations are there? And maybe most important, does a difference of language use matter?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GSWS 1450 - GENDER AND SUSTAINABILITY
Minimum Credits: 3
Maximum Credits: 3
This course treats a special topic in gender, sexuality, and women's studies.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

GSWS 1522 - SEX AND RACISM
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GSWS 1620 - WOMEN AND RELIGION
Minimum Credits: 3
Maximum Credits: 3
This course will examine the role of women in the Bible, the way in which such roles were constructed and reinforced in the Western tradition, and the contemporary viability of this tradition as a meaningful one in our own world. Specifically, we will consider the polarity of "mother" vs. "fallen woman," as the prototypical models of female behavior and social acceptance, and the way in which "salvation" is construed for each type.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GSWS 1622 - WOMEN AND POLITICAL THEORY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GSWS 1900 - INTERNSHIP
Minimum Credits: 3
Maximum Credits: 3
An opportunity to extend academic training to a practical work experience in an area where the student has gained some expertise.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

GSWS 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 3
A variety of individual research and reading projects may be undertaken under the supervision of a core faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

GSWS 1910 - CAPSTONE
Minimum Credits: 3
Maximum Credits: 3
Designed as a capstone, this course is a seminar that allows students to explore feminist theory and methodology in greater depth. We will pay particular attention to the current state of feminist theory as we consider future directions and challenges, and address the ways in which feminist theories and methodologies can inform research in other disciplines. Students will respond to a series of intense readings that focus on the intersections of feminist theory with other theoretical approaches, such as queer theory, environmental ethics, and critical race theory, among others. Using this theoretical foundation, students will construct a research project of their own design that will apply academic work to a "real world" setting and prepare students for careers and/or graduate study.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GSWS 0100 or GSWS 0500

Geology & Planetary Science

GEOL 0040 - PHYSICAL GEOLOGY

Minimum Credits: 3
Maximum Credits: 3
Geology is the study of how the earth works. This class covers the classification and origin of basic rocks and minerals; examines the role of plate tectonics in shaping the earth and producing such hazards as earthquakes and volcanoes; and examines the forces that shape beaches and rivers and sometimes threaten our lives and property. We also survey the evidence for changing climate and the future of such resources as groundwater, fossil fuels, and ores.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

GEOL 0050 - PHYSICAL GEOLOGY

Minimum Credits: 4
Maximum Credits: 4
This lab class provides hands-on exercises related to rock and mineral identication, geologic time, geologic structures, geologic maps, and the analysis of landforms as revealed by topographic maps, satellite images, and air photos.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 0055 - GEOLOGY LABORATORY

Minimum Credits: 2
Maximum Credits: 2
The course consists of a laboratory structured to give students an overview as well as hands-on experience with the methodology used by earth scientists to study geologic processes.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: CREQ: GEOL 0800 or 0820 or 0860 or 0840

GEOL 0060 - HISTORY OF THE EARTH

Minimum Credits: 4
Maximum Credits: 4
This course surveys the evolution of the earth and its inhabitants from its origins to the present. Lectures and lab emphasize the identification and interpretation of rocks, geologic features, and geologic maps. Lab work also includes fossil identification, stratigraphic correlation, and sedimentary facies analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GEOL 0055

GEOL 0800 - GEOLOGY

Minimum Credits: 3
Maximum Credits: 3
Geology is the study of how the earth works. This class covers the classification and origin of basic rocks and minerals; examines the role of plate tectonics in shaping the earth and producing such hazards as earthquakes and volcanoes; and examines the forces that shape beaches and rivers and sometimes threaten our lives and property. We also survey the evidence for changing climate and the future of such resources as groundwater, fossil fuels, and ores.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 0802 - GEOLOGY OF THE NATIONAL PARKS

Minimum Credits: 3
Maximum Credits: 3
The magnificent scenery of the national parks provides a backdrop to an exploration of the basic geological principles that govern the creation and development of landscapes. The geological history of the North American continent will be explored in order to provide a framework in which to understand the development of the landscapes of our country.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 0820 - NATURAL DISASTERS

Minimum Credits: 3
Maximum Credits: 3
The geologic, hydrologic and atmospheric processes that impact the human environment in catastrophic ways are examined in this course. Natural disasters surveys energy cycles, plate tectonics with an emphasis on how they produce earthquakes, volcanic eruptions, tornadoes, hurricanes,

tsunamis, wildfires, flooding, landslides, climate change and mass extinctions. Students will get hands on experience in recitation. This course serves as an introductory course for three majors in geology and planetary science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 0840 - ENVIRONMENTAL SCIENCE

Minimum Credits: 3
Maximum Credits: 3
This class is an interdisciplinary introduction to the science underlying environmental issues. Focusing on the principles of geology, biology, and chemistry and in their application to human impacts on the environment, strategies for sustainable management of environment and natural resources, and global change.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 0842 - PLANET EARTH

Minimum Credits: 3
Maximum Credits: 3
Our home planet is a vast, interconnected machine whose study requires an interdisciplinary approach. This is a comprehensive overview of the workings of planet earth in the light of recent scientific discoveries. Topics will include geology from a plate tectonic perspective (the solid earth), interactions between continents and oceans and atmosphere, including aspects of oceanography and climatology (the fluid earth), what we have learned from space probes and how we can apply that knowledge to our own planet and the limits of our planet as a sustainer of life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 0850 - NATURAL SCIENCES 1

Minimum Credits: 3
Maximum Credits: 3
This 2-semester course will present non-science majors with a comprehensive picture of the natural world. Topics will include: the solar system; laws of motion; energy; structure of matter; the earth; cosmology; the science of living things; the living cell; genetics; evolution. Emphasis will be on fundamental concepts that underlie our present understanding. Connections will be made to historical developments and to scientific and technological issues that impact individuals and society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 0851 - NATURAL SCIENCES 2

Minimum Credits: 3
Maximum Credits: 3
This 2-semester course will present non-science majors with a comprehensive picture of the natural world. Topics will include: the solar system; laws of motion; energy; structure of matter; the earth; cosmology; the science of living things; the living cell; genetics; evolution. Emphasis will be on fundamental concepts that underlie our present understanding. Connections will be made to historical developments and to scientific and technological issues that impact individuals and society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 0860 - ENVIRONMENTAL GEOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course takes an integrated earth systems approach to understanding our planet and its resources. We will investigate geologic processes and hazards (e.g., earthquakes, volcanoes, landslides, and weather hazards), geologic resources (water, soil, minerals, energy) and the local and global ramifications of human interaction with the earth (e.g., air, soil and water pollution, ozone depletion, and climate change). This course also serves as an introductory course for three majors in the department of geology and planetary science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 0870 - THE PLANETS

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the worlds of our solar system. We will make extensive use of the most recent and dramatic images to discuss the nature, origin, and history of the planets and moons of our solar system
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 0871 - INTELLGNT LIFE IN THE UNIVERSE

Minimum Credits: 3
Maximum Credits: 3
This course attempts to answer the question of whether intelligent life exists elsewhere in the galaxy by considerations of the origin and subsequent evolution of the universe, our solar system, terrestrial life, and the human species.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 0890 - OCEANOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
The oceans play a central role in global climate and supporting a stunning diversity of life. This survey of oceanography examine the major physical, chemical, and biological processes that shape the modern oceans and the life they contain.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

GEOL 1001 - MINERALOGY

Minimum Credits: 4
Maximum Credits: 4
Physics and chemistry of minerals. Includes physical properties, crystal chemistry, crystal structure and symmetry, mineral identification using a petrographic microscope, and the processes of mineral formation and breakdown.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0110 and GEOL 0055

GEOL 1003 - IGNEOUS & METAMORPHIC PETROLGY

Minimum Credits: 4
Maximum Credits: 4
A lecture and laboratory course concerned with a study of the origin, occurrence, identification, and classification of igneous and metamorphic rocks. The primary purpose of the course is to familiarize the student with the physical and chemical processes that control the formation of the main igneous and metamorphic rock types.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GEOL 1001

GEOL 1015 - GEOLOGY COLLOQUIUM

Minimum Credits: 1
Maximum Credits: 1
Geology colloquium is open to undergraduate students in geology and planetary science. It is a formalization of the seminar series with weekly guest speakers from industry, academia and government. Each seminar will focus on a different research topic in earth sciences describing on-going projects of interest to students. The course may be taken multiple times.
Academic Career: UGRD
Course Component: Colloquium
Grade Component: Satisfactory/No Credit

GEOL 1020 - SEDIMENTOLOGY AND STRATIGRAPHY

Minimum Credits: 4
Maximum Credits: 4
Sedimentology is the study of the processes that produce modern and ancient sedimentary deposits. The lectures will focus on a variety of modern sedimentary systems (rivers, deltas, beaches, etc.) As well as their ancient equivalents. The class culminates with an exploration of how long-term changes in sediment supply and sea level act to shape regional-scale sedimentary sequences. The lab focuses on rock identification and interpretation and on a variety of stratigraphic problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GEOL 0055

GEOL 1030 - THE ATMOSPHERE, OCEANS & CLMTE

Minimum Credits: 3
Maximum Credits: 3
This course will examine the atmospheric and oceanic interactions that determine the nature of the global climate system. Specifically, the course will explore the origin, evolution, and structure of the earth's oceans and atmosphere, the earth's energy balance, atmospheric circulation patterns, and surface and deep ocean currents. The course will also consider records of past climate, evidence for recent warming, climate change projections, and climate change policy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1051 - GROUNDWATER GEOLOGY

Minimum Credits: 4
Maximum Credits: 4
This course focuses on physical and chemical processes controlling water movement and composition in sub-surface environments. The lab focuses on practical field methods for the characterization of groundwater.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: GEOL 0055 and CHEM 0110 and (MATH 0120 or MATH 0220)

GEOL 1052 - PALEOCLIMATOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course presents the different types of data used to study the earth's climatic history and long-term climatic variability. Particular emphasis is given to the climatic changes during the late Cenozoic -- the so called glacial ages. Topics of discussion include time scales of climatic change, types of paleoclimatic records and their limitations, numerical climate models, the causes of climatic change, and the importance of paleoclimatic research in forecasting the future.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GEOL 0800 or 0820 or 0860

GEOL 1055 - ENVRL ETHCS, SCI & PBLC POLCY

Minimum Credits: 3
Maximum Credits: 3
This course examines the interrelationships among environ mental science, ethics, and policy. It covers such topics as origin and development of the environmental movement, environmental values and attitudes, enactment and mechanics of environmental regulations and statutes, environmental economics and politics, and future environmental scenarios. The various socio-economic, legal, and political implications will be scrutinized within the context of specific case studies of environmental/ecological concern, ranging from local to global.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH) or Environmental Science (BS)

GEOL 1056 - UHC ENV ETHCS, SCI & PBLC POLC

Minimum Credits: 3
Maximum Credits: 3
This course examines the interrelationships among environmental science, ethics, and policy. It covers such topics as origin and development of the environmental movement, environmental values and attitudes, enactment and mechanics of environmental regulations and statutes, environmental economics and politics, and future environmental scenarios.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH) or Environmental Science (BS)

GEOL 1060 - GEOMORPHOLOGY

Minimum Credits: 4
Maximum Credits: 4
This course is a survey of the major landform features found on the earth's surface. Each landform type is first described qualitatively and then examined in terms of the processes, such as stream flow or glacial activity, which cause its development. The purpose of the course is to familiarize students with geomorphic principles.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GEOL 0055

GEOL 1079 - FIELD METHODS

Minimum Credits: 1
Maximum Credits: 1
Hands-on practical experience in using a variety of geological mapping tools. This course is designed as a preclude for students going on to field camp.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

GEOL 1080 - GEOARCHEOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is an examination of geological methods applied to the study of archeology. The first part of the course examines location of sites by familiarization with the physical environment, maps and air photos. Second, characteristics of site sediments and artifacts are examined with emphasis on stratigraphic principles. Finally, specific sites selected from different environmental settings are discussed. Field and laboratory methods applicable to the study of archeological materials and sites are introduced wherever Germane.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1100 - STRUCTURAL GEOLOGY

Minimum Credits: 4
Maximum Credits: 4
A course devoted to the study of folded, faulted, flowed, sheared, and jointed rocks with the aim of preparing a student to recognize and interpret deformed rocks. The evolution of mountain belts and deformation related to this process are emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GEOL 0055; CREQ: GEOL 1003 and (GEOL 1020 or ANTH 1520)

GEOL 1200 - UHC PALEONTOLOGY

Minimum Credits: 3
Maximum Credits: 3
Nothing endures but change.' We cannot understand the world we live in, nor any of a host of predicted future trends, without exploring the past. That's where paleontology comes in - the fossil record provides a wealth of insight into the evolution (and revolution) of life on earth. In this class we will explore both the methods and the limitations of using fossils to interpret past environments, ecologies, systematic relationships, and the events that have fundamentally reorganized the earth's biota. Short in-class labs will provide hands-on access to fossil specimens of plants and invertebrate and vertebrate animals. We'll also examine paleontology's role in society ' its historical development, how and why it captures the public imagination, and its portrayal in the news and popular media.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1201 - INVERTEBRATE PALEONTOLOGY

Minimum Credits: 3
Maximum Credits: 3
This class covers the biology, evolution, paleoecology, and extinction of the major marine invertebrate groups of the fossil record. Activities will include hands-on identification and interpretation of fossil specimens.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1240 - EVOLUTION OF THE VERTEBRATES

Minimum Credits: 3
Maximum Credits: 3
This class focuses on the evolution and extinction of vertebrates. The class may take a broad view (e.g. all vertebrates) or a narrower focus that allows a deeper exploration of the paleo biology and paleoecology of selected groups of vertebrates (e.g. dinosaurs and mammals).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1309 - PHYSICOCHEMICAL GEOLC LIMN

Minimum Credits: 3
Maximum Credits: 3
This course will explore the physicochemical and geological aspects of inland waters (lakes, rivers, springs, and wetlands). Specifically, the course will examine the origin and evolution of lakes, the physical and chemical properties of fresh and saline waters, watershed hydrology, and the biogeochemical cycling of major elements and nutrients.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: CHEM 0110 and (GEOL 0055 or GEOL 0800); LVL: Jr or Sr

GEOL 1313 - COM ENVIRONMNTAL PROFESSIONALS

Minimum Credits: 3
Maximum Credits: 3
This course serves as a w-course for environmental studies. We will sample various tools and methods (typical professional" tasks such as memos and letters, building into comprehensive assignments such as case studies), all while concentrating on how audience and purpose affect communication."
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit
Course Requirements: PREQ: ANY ENGCMP Course; PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH) or Environmental Science (BS)

GEOL 1331 - HEALTH AND SAFETY (HAZWOPER)

Minimum Credits: 3
Maximum Credits: 3
HAZWOPER (hazardous waste operations and emergency response) is a 40-hour course that promotes awareness of safety and response plans for those who may work with chemical and other hazards in the work-site. Students will learn how hazardous materials are handled and identified; human responses to exposure; learn what to do in case of site emergencies; use appropriate safety methods and work practice controls; and understand labels that are used to alert personnel of danger involving hazardous material. (Many employers in environmental consulting firms and other industries require 40-hour OSHA training.) The course will count as an elective in the environmental studies major.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1332 - MGT ENVIRONMENTAL NPRF ORGS

Minimum Credits: 3
Maximum Credits: 3
It's true that a little enthusiasm goes a long way in the nonprofit world, but those who get involved need to have real skills if they're going to make a lasting impact. The goal of this course is to introduce students to nonprofit environmental organizations & issues, & to provide them with the tools to effectively participate in & organize environmental campaigns. The course covers the "inner workings" of environmental organizations & campaigns, what it takes to succeed, & why effectively communicating environmental issues at the grassroots level is so important & so difficult.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1333 - SUSTAINABILITY

Minimum Credits: 3
Maximum Credits: 3
Sustainability is a term that has many meanings, and we will cover most them in this class, from green rooftops to "green-washing". The class will feature guest speakers from the academic, governmental, nonprofit and business sectors to offer as many perspectives as possible on sustainability topics. The real focus of the class, though, is the development of new and the continuation of existing sustainability projects at the local and campus levels. Students will have the opportunity to participate in a variety of sustainability-oriented events and field trips
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1334 - ENVIRONMENTAL POLICY

Minimum Credits: 3
Maximum Credits: 3
Environmental public policy, 3.0 - Focus on environmental ethics and its application in real-world context, including the regulatory and policy interface in the public arena. Discusses ethics surrounding national and global environmental issues, consumer choices, and ongoing public debate.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1335 - ENVIRON ISSUES: AIR QUALITY

Minimum Credits: 3
Maximum Credits: 3
Pittsburgh has had a checkered past when it comes to air quality issues, and faces an uncertain future. Once known as "hell with the lid off" due to industrial emissions, Pittsburgh and its environs once had some of the worst air in the nation. In 1948, a noxious cloud killed 22 in nearby Donora and sickened thousands. But Pittsburgh also became one of the first American cities to pass legislation aimed at cleaning its air. Today it faces a new threat from emissions from coal-burning utilities in Ohio and West Virginia. This course is one in a series that focuses on the history, progress and current events of environmental issues in southwestern Pennsylvania that also have application throughout the region and U.S. Emphasis is on a balanced presentation of the issues, discussions of various approaches to solving problems and development of writing skills. To accomplish this, the course will (1) focus on a single environmental issue, (2) structure individual classes around a single aspect of that issue, (3) feature guest lectures and presentations by government regulators and policymakers, interest groups, corporate leaders and experts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1336 - ENVRL ISS:AIR QUALT/WRIT LEC

Minimum Credits: 3
Maximum Credits: 3
Pittsburgh has had a checkered past when it comes to air quality issues, and faces an uncertain future. Once known as "hell with the lid off" due to industrial emissions, Pittsburgh and its environs once had some of the worst air in the nation. In 1948, a noxious cloud killed 22 in nearby Donora and sickened thousands. But Pittsburgh also became one of the first American cities to pass legislation aimed at cleaning its air. Today it faces a new threat from emissions from coal-burning utilities in Ohio and West Virginia. This course is one in a series that focuses on the history, progress and current events of environmental issues in southwestern Pennsylvania that also have application throughout the region and U.S. Emphasis is on a balanced presentation of the issues, discussions of various approaches to solving problems and development of writing skills. To accomplish this, the course will (1) focus on a single environmental issue, (2) structure individual classes around a single aspect of that issue, (3) feature guest lectures and presentations by government regulators and policymakers, interest groups, corporate leaders and experts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1337 - ENVRL ISSUES: WATER QUALITY

Minimum Credits: 3
Maximum Credits: 3
This course will focus on environmental issues related to water quality, including the effects of Marcellus shale waste water on public and private drinking water supplies. The emphasis will be on southwestern Pennsylvania, but we'll look at the effects of Marcellus shale industry operations on a state and regional basis too. Emphasis is placed on a balanced, in depth presentation of the issues that must be addressed to realistically solve modern environmental problems. This will be accomplished by (1) focusing on a single environmental issue of relevance to southwestern Pennsylvania (2) structuring weekly sessions around a single aspect of that issue, and (3) giving students an opportunity to learn about the issues from local professionals and community leaders active in these fields.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1338 - ENVRL ISSUES: WATER QUALITY

Minimum Credits: 3
Maximum Credits: 3
This course will focus on environmental issues related to water quality, including the effects of Marcellus shale waste water on public and private drinking water supplies. The emphasis will be on southwestern Pennsylvania, but we'll look at the effects of Marcellus shale industry operations on a state and regional basis too. Emphasis is placed on a balanced, in depth presentation of the issues that must be addressed to realistically solve modern environmental problems. This will be accomplished by (1) focusing on a single environmental issue of relevance to southwestern Pennsylvania (2) structuring weekly sessions around a single aspect of that issue, and (3) giving students an opportunity to learn about the issues from local professionals and community leaders active in these fields.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1339 - ENVIRL ISSUES: MINING AND GAS

Minimum Credits: 3
Maximum Credits: 3

This term's focus is on mining issues. Mining and oil and gas extraction has a long, important and sometimes dark history in Pennsylvania. Almost since the first black chunk was pried from the first mine, coal has been king in the keystone state. It has fueled industries, heated homes, and powered trains and river tugs. It has been politically powerful. It has also colored streams, creeks and rivers orange and left them dead. It has scarred the rolling Allegheny hills, first with strip mines and now with "valley fills." How is mining's environmental legacy being addressed? How effective are current laws in regulating the industry? What's the latest, best, mining technique, and what is its public impact? What has been industry's response? What impacts,
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1340 - ENVRL ISSUES: MINING AND GAS

Minimum Credits: 3
Maximum Credits: 3
This term's focus is on mining issues. Mining and oil and gas extraction has a long, important and sometimes dark history in Pennsylvania. Almost since the first black chunk was pried from the first mine, coal has been king in the keystone state. It has fueled industries, heated homes, and powered trains and river tugs. It has been politically powerful. It has also colored streams, creeks and rivers orange and left them dead. It has scarred the rolling Allegheny hills, first with strip mines and now with "valley fills." How is mining's environmental legacy being addressed? How effective are current laws in regulating the industry? What's the latest, best, mining technique, and what is its public impact? What has been industry's response? What impacts, what's different and the same about the latest extractive industry in the state: Marcellus shale natural gas development. Guest speakers from industry will be scheduled.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1341 - ENVRL ISSUES: PARKS & FORESTS

Minimum Credits: 3
Maximum Credits: 3
This course is one in a series that focuses on environmental issues in southwestern Pennsylvania. Forests are made up of trees. "Timber"" is what they yell when the trees are cut and fall. With maturing forests scraping the sky in Pennsylvania and other parts of the Northeastern United States, and controversial restrictions on national forest timbering in the pacific Northwest, there is tremendous pressure to cut the local hardwood forests. But unlike the turn of the century when all of Penn's woods was clear-cut, there is a growing ethic that believes trees are more valuable growing than cut - for recreation and environmental reasons. This course on forest and parks issues is the fourth in a series that focuses on environmental and public policy issues in South Western Pennsylvania. Through newspaper articles, field trips and guest speakers, the course will explore the issues and conflicts that abound in our wild lands and urban woods. Emphasis is on a balanced presentation of the issues, discussions of various approaches to solving problems and development of writing skills through a number of short assignments based on readings and presentations of guest speakers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1342 - ENVRL ISSUES: PARKS & FORESTS

Minimum Credits: 3
Maximum Credits: 3
This course is one in a series that focuses on environmental issues in southwestern Pennsylvania. Forests are made up of trees. "Timber"" is what they yell when the trees are cut and fall. With maturing forests scraping the sky in Pennsylvania and other parts of the Northeastern United States, and controversial restrictions on national forest timbering in the pacific Northwest, there is tremendous pressure to cut the local hardwood forests. But unlike the turn of the century when all of Penn's woods was clear-cut, there is a growing ethic that believes trees are more valuable growing than cut - for recreation and environmental reasons. This course on forest and parks issues is the fourth in a series that focuses on environmental and public policy issues in South Western Pennsylvania. Through newspaper articles, field trips and guest speakers, the course will explore the issues and conflicts that abound in our wild lands and urban woods. Emphasis is on a balanced presentation of the issues, discussions of various approaches to solving problems and development of writing skills through a number of short assignments based on readings and presentations of guest speakers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH)

GEOL 1400 - INTRO TO SOLID-ERTH GEOPHYSICS

Minimum Credits: 3
Maximum Credits: 3
This introduction to solid-earth geophysics includes geodesy, information from meteorites, seismology, determination of the composition and structure of earth's interior, heat flow within the earth, geomagnetism, paleomagnetism, and plate tectonics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1410 - EXPLORATION GEOPHYSICS
Minimum Credits: 3
Maximum Credits: 3
An introduction to the theory, methods, and instrumentation used in exploration geophysics. Topics include gravity, magnetics, electromagnetics, and seismic.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1413 - GEOPHYSICAL WELL LOGGIN'
Minimum Credits: 3
Maximum Credits: 3
An introduction to the interpretation of open-hole logs and their use in estimating rock parameters useful to both the geologist and to the petroleum engineer.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

GEOL 1445 - GIS, GPS, AND COMPUTER METHODS
Minimum Credits: 3
Maximum Credits: 3
The goals of this course are to gain expertise in spatial analysis and geographical information systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1446 - ADV GEOGRAPHICAL INFORMTN
Minimum Credits: 3
Maximum Credits: 3
Using advanced geographical information systems technologies and geospatial analysis techniques students will extend their knowledge of geographical information systems to include raster, geostatistical, network, model, and 3d/4d based analysis completing complex analysis of real world data sets.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GEOL 1445

GEOL 1460 - INTRODUCTION TO REMOTE SENSING
Minimum Credits: 3
Maximum Credits: 3
This course provides a foundation in the theory, techniques and applications of remote sensing and geospatial data visualization spanning the electromagnetic spectrum. Topics include light/matter interaction, optics and sensor design, image analysis, as well as current applications of remote sensing to science and engineering problems facing local and global populations. The course and integrated image-processing laboratory are designed to provide the student with a strong foundation of remote sensing science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1500 - CHEM OF ERTH & ITS ENVIRONMENT
Minimum Credits: 3
Maximum Credits: 3
An examination of the uses of chemistry in geology. Includes distribution of elements, radioactivity and isotope geology, basic thermodynamics, and their applications to rocks, the hydrosphere, and the atmosphere.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

GEOL 1515 - ENVIRONMENTAL GEOCHEMISTRY
Minimum Credits: 3
Maximum Credits: 3
This course explores the complex interactions of earth's rock, water, air, and life systems that determine the chemical characteristics of our environment. We will examine the distribution, cycling, and transport of chemical compounds in the atmosphere, hydrosphere, and terrestrial environment on local and global scales. Topics will include water chemistry, organic and inorganic pollution and related toxicology, hazardous wastes, acid rain, acid mine drainage, photochemical smog, ozone depletion, and global climate change. A class project involves chemical analysis of student-provided water samples.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CHEM 0110 AND GEOL 0055; PLAN: Geology or Environmental Studies or Environmental Geology or Environmental Science (BS)

GEOL 1601 - ECONOMIC GEOLOGY OF ORES

Minimum Credits: 3
Maximum Credits: 3
Deposits of economic value of metal-bearing rocks are studied to determine their modes of origin. Sources of the metals, geochemistry, structural controls, and distribution of the ore bodies are included in this lecture-laboratory course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1602 - MINERAL AND ENERGY RESOURCES

Minimum Credits: 3
Maximum Credits: 3
This course deals with the geology of the fossil fuels - oil, gas, and coal -- and the more important industrial rocks and minerals such as evaporites, phosphate rocks, crushed stone, clay, sand and gravel, and building stone. Emphasis is on the processes which form the commercial accumulations of these materials and the geological setting in which they occur. Their geographic distribution is also considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1640 - GEOHAZARDS

Minimum Credits: 3
Maximum Credits: 3
Students will be introduced to different types of geological processes and environmental conditions that can produce hazardous conditions in the modern world. Topics covered include earthquakes; subsidence; landslides; volcanic hazards; acid rain, ozone and radon; forest fires; erosion, and desertification; tornadoes and hurricanes; flooding, coastal problems; extinctions; and extraterrestrial impacts. Students will learn how a specific hazard is studied and monitored and the process of communicating scientific data to policy and safety organizations and to the public.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GEOL 1701 - GEOLOGY OF THE PLANETS

Minimum Credits: 3
Maximum Credits: 3
An introduction to the geological processes and resulting landforms occurring on the surfaces of the planets of our solar system. We will make extensive use of recent spacecraft imagery and data.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GEOL 0055

GEOL 1900 - INTERNSHIP

Minimum Credits: 1
Maximum Credits: 4
This course places the student in an on-the-job" setting in which he/she receives practical experience in a supervised training environment."
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

GEOL 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 4
This course permits undergraduates to explore specific topics in the geological sciences. The course is designed in a more flexible format than a directed study, stressing a higher degree of independent library research.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

GEOL 1902 - DIR RDNG: MGT NONPRF ENV ORGNS

Minimum Credits: 3
Maximum Credits: 3

It's true that a little enthusiasm goes a long way in the nonprofit world, but those who get involved need to have real skills if they're going to make a lasting impact. The goal of this course is to introduce students to nonprofit environmental organizations & issues, & to provide them with the tools to effectively participate in & organize environ mental campaigns. The course covers the inner workings" of environmental organizations & campaigns, what it takes to succeed, & why effectively communicating environmental issues at the grassroots level is so important & so difficult."
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH) or Environmental Science (BS)

GEOL 1903 - UNDERGRADUATE RESEARCH

Minimum Credits: 1
Maximum Credits: 4
This course provides the opportunity for undergraduates to obtain hands on" experience in geology by actively inter acting with faculty members on research projects."
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

GEOL 1904 - DIRECTED READING

Minimum Credits: 4
Maximum Credits: 4
This course explores in-depth topics in geology and environmental studies. Topics and structure vary from term to term.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Environmental Geology (BS, BPH) or Environmental Studies (BA, BPH) or Geology (BS, BPH) or Environmental Science (BS)

GEOL 1910 - UNDERGRADUATE THESIS

Minimum Credits: 1
Maximum Credits: 3
This course is the culmination of an Undergraduate research project. Students will write a formal thesis under the supervision of a faculty mentor and give an oral presentation on their research.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

GEOL 1960 - FIELD CAMP

Minimum Credits: 4
Maximum Credits: 8
A geology summer field camp is four to eight weeks long and includes a substantial component of geologic mapping and report writing. Field camp is the traditional capstone experience for geology and environmental geology majors. You should enroll at any accredited field camp offering at least four semester units of credit and transfer the credits to the University of Pittsburgh.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

GEOL 2054 - SOILS: GEOBIOCHEMICAL LANDSCAPES

Minimum Credits: 4
Maximum Credits: 4
An overview of soils with a strong emphasis on landscape scale process. The course consists of lecture and laboratory/field work. The lecture will include description of physical and chemical soil properties and processes, discussion of major soil classifications and description of ramifications at the landscape scale.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad LGSNC

GEOL 2525 - STABLE ISOTOPE GEOCHEMISTRY

Minimum Credits: 3
Maximum Credits: 3
This course will provide students with a thorough introduction to the stable isotope systematics of light elements (hydrogen, carbon, nitrogen, oxygen, and sulfur). The course examines the fundamental concepts of isotope equilibrium and kinetics, physiochemical and biogenic mechanisms of isotope exchange, and the principles of mass spectrome try and stable isotope extraction techniques.
Academic Career: GRAD
Course Component: Lecture

Grade Component: Grad LGSNC
Course Requirements: PREQ: GEOL 2520

GEOL 2853 - WATERSHED HYDROLOGY AND BIOGEOCHEMISTRY
Minimum Credits: 3
Maximum Credits: 3
Understanding the science of watersheds is critical to improving water quality. This course will examine surface water hydrology, biogeochemistry, and management of watersheds. In addition, we will focus on how varying land uses influence the dynamics of hydrology and biogeochemistry across these systems. Student will develop an understanding of the biogeochemistry of various major elements in watersheds, including nitrogen, carbon, sulfur, and mercury, and how these elemental fluxes are exchanged through atmospheric-terrestrial-aquatic interactions. Students will be expected to demonstrate critical thinking, communication, and analytical skills through student-led lectures, journal discussions, and projects.
Academic Career: GRAD
Course Component: Lecture
Grade Component: GradLG/SU3

Germanic Languages & Literatures

GER 0001 - ELEMENTARY GERMAN 1
Minimum Credits: 5
Maximum Credits: 5
This is an elementary language acquisition course and aims to teach students how to carry out various functions likely to be necessary in dealing with others in the target language. The course aims to develop all four language skills--speaking, listening, reading, and writing, and deals with culture as an integral part of each skill. The language acquisition exercises are supplemented by an integrated and systematic presentation of grammar.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 0002 - ELEMENTARY GERMAN 2
Minimum Credits: 5
Maximum Credits: 5
This course completes the introduction of the basic structures of German begun in German 0001. It emphasizes all four language skills--speaking, listening, reading, and writing and deals with culture as an integral part of each skill. The language acquisition exercises are supplemented by an integrated and systematic presentation of grammar.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 0001 or Online Test Score equal/greater 281 or Paper Test Score equal/greater 6

GER 0003 - INTERMEDIATE GERMAN 1
Minimum Credits: 3
Maximum Credits: 3
Conducted entirely in German, this course provides structured practice in understanding, speaking, reading (unedited texts), and writing. The language-acquisition exercises are supplemented by an integrated and systematic review of grammar, emphasizing those structures that are needed for practical communication in authentic German.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 0002 or Online Test Score equal/greater 381 or Paper Test Score equal/greater 22

GER 0004 - INTERMEDIATE GERMAN 2
Minimum Credits: 3
Maximum Credits: 3
Conducted entirely in German, this course enables students to describe in past, present, and future time, and to initiate and sustain a conversation. They discuss contemporary texts and topics, participate in small group activities, and strengthen their writing skills through journal writing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 0003 or Online Test Score equal/greater 481 or Paper Test Score equal/greater 41

GER 0011 - CONVERSATION 1
Minimum Credits: 3
Maximum Credits: 3
This course is intended to assist novice level students to strengthen their communicative proficiency. Students learn to handle their needs adequately for travel in Germany or a German-speaking country. In order to encourage oral communication, there is extensive use of audio-visual teaching aids.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 0012 - CONVERSATION 2

Minimum Credits: 3
Maximum Credits: 3
Like its companion course, German 0011, this course emphasizes oral proficiency. The course enables students to converse in formal and informal situations, resolve problems, deal with unfamiliar topics, provide explanations, describe in detail, offer supported opinions, and hypothesize. Areas of context are practical, social, professional, and abstract topics, particular interests, and special fields of competence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 0021 - GERMAN READING 1

Minimum Credits: 4
Maximum Credits: 4
The objective of this course is to develop a basic reading knowledge of German. It is a beginning course which introduces all the structures of German grammar. German 0021 is designed for students who wish to acquire basic reading skills in the shortest possible time.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 0022 - GERMAN READING 2

Minimum Credits: 4
Maximum Credits: 4
This course is designed to help students obtain an intermediate reading knowledge of German. Students read unedited texts from general fields and from their own areas of specialization. The course includes a systematic review of grammar.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 0031 - ELEMENTARY GERMAN 1 FOR MBAS

Minimum Credits: 1.5
Maximum Credits: 1.5
It is an elementary language acquisition course and aims to teach students how to carry out basic functions likely to be necessary in dealing with others in the target language. The course aims to develop very basic abilities in all four language skills--speaking, listening, reading, and writing and deals with culture as an integral part of each skill.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

GER 0032 - ELEMENTARY GERMAN 2 FOR MBAS

Minimum Credits: 1.5
Maximum Credits: 1.5
Course continues with the presentation of the basic German grammatical structures and vocabulary begun in German 0031. It emphasizes all four language skills--speaking, listening, reading, and writing and deals with culture as an integral part of each skill.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

GER 0033 - INTRO TO YIDDISH LANG AND CULT

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

GER 0101 - BEGINNING GERMAN 1

Minimum Credits: 3
Maximum Credits: 3
This is an elementary language acquisition course and aims to teach students how to carry out various functions likely to be necessary in dealing with others in the target language. The course aims to develop all four language skills- speaking, listening, reading, and writing, and deals with culture as an integral part of each skill. The language acquisition exercises are supplemented by an integrated and systematic presentation of grammar. This course covers in three semesters the same material that is covered in two semesters in German 0001 and 0002.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 0102 - BEGINNING GERMAN 2

Minimum Credits: 3
Maximum Credits: 3
This course continues the introduction of the basic structures of German begun in German 0101. It emphasizes all four language skills--speaking, listening, reading, and writing and deals with culture as an integral part of each skill. The language acquisition exercises are supplemented by an integrated and systematic presentation of grammar.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 0103 - BEGINNING GERMAN 3

Minimum Credits: 4
Maximum Credits: 4
This course completes the introduction of the basic structures of German begun in German 0101, and continued in German 0102. It emphasizes all four language skills--speaking, listening, reading, and writing and deals with culture as an integral part of each skill. The language acquisition exercises are supplemented by an integrated and systematic presentation of grammar.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1000 - READING LITERARY TEXTS

Minimum Credits: 3
Maximum Credits: 3
Students are lead through a selection of recent stories and three short novels. Extensive and intensive reading skills are practiced. Assignments focus on both global comprehension and fine details. Relationship between meaning and grammatical structure is emphasized throughout.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 0004 (MIN GRADE: B-) or Online Test Score equal/greater 550 or Paper Test Score equal/greater 55

GER 1001 - GERMAN WRITING

Minimum Credits: 3
Maximum Credits: 3
This course is designed to strengthen the student's composition skills through constant practice in writing, revising, and editing. The goal is to be able to express thoughts effectively in correct and well-structured German prose, including business correspondence. Strong emphasis is put on problems of stylistics, including punctuation, sentence structure, word usage, and figures of speech.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 0004 (MIN GRADE: B-) or Online Test Score equal/greater 550 or Paper Test Score equal/greater 55

GER 1002 - GERMAN PHONETICS

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to the phonetics of the German language as well as improve on their pronunciation by means of exercises. Mastering the pronunciation of German is a must for anyone who wishes to speak and understand the language. Students study the rules of 'Hochlautung' and 'Umgangslautung', listen to recordings (including plays and dialects), record their own readings, and participate in conversation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1003 - PROFESSIONAL GERMAN 1

Minimum Credits: 3
Maximum Credits: 3
This is an advanced language acquisition course and aims to familiarize students with specialized vocabulary and practices of German-speaking countries in professional environments of such areas as communications, advertisement, international trade, engineering, and law. The course will focus on oral and aural proficiency, appropriate written discourse and reading. The course integrates economic geography the legal and political system of German-speaking countries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 0004 (MIN GRADE: B-) or Online Test Score equal/greater 550 or Paper Test Score equal/greater 55

GER 1004 - PROF GERMAN 2: GER BUS WRLD

Minimum Credits: 3
Maximum Credits: 3
Subject-oriented, authentic texts and videos serve as the vehicle for an efficient and accelerated introduction to business German. The course emphasizes both receptive (reading and listening) and productive (speaking and writing) skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 0004 (MIN GRADE: B-) or Online Test Score equal/greater 550 or Paper Test Score equal/greater 55

GER 1005 - GERMAN MEDIA

Minimum Credits: 3
Maximum Credits: 3
In this course, students will strengthen their knowledge of existing grammatical structures and will examine the specific aspects of daily life in Germany via contemporary electronic and print genres. The latter will include online articles and hard copy news sources and a range of daily and weekly news sources. Class discussions, debates, oral reports, and short written assignments will also be based on topics derived from current podcasts, social networking sites, television advertisements and online series, and from new documentary and feature films.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: GER 0004 (MIN GRADE: B-) or Online Test Score Equal/Greater 550 or Paper Test Score Equal/Greater 55

GER 1051 - INTRO TO LITERARY ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Competing methods of literary investigation are analyzed in terms of (1) their underlying assumptions about the nature of art and the relationship between literature and reality and (2) their usefulness as tools for practical criticism. Each approach is examined as a coherent model and then evaluated with reference to actual critical practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 0004 (MIN GRADE: B-) or Online Test Score equal/greater 550 or Paper Test Score equal/greater 55

GER 1052 - THE MAJOR CULTURAL PERIODS

Minimum Credits: 3
Maximum Credits: 3
In this course, we study outstanding cultural developments in the German-speaking countries from antiquity to the 20th century. By acquiring a solid foundation of historical knowledge, students significantly expand their vocabulary (German as a Kultursprache"), acquaint themselves with many important figures, and develop a basic understanding of the political and cultural geography of central Europe, the turning points of intellectual history, and the shaping of the German cultural tradition."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 0004 (MIN GRADE: B-) or Online Test Score equal/greater 550 or Paper Test Score equal/greater 55

GER 1053 - MAJOR CULTURAL PERIODS 2

Minimum Credits: 3
Maximum Credits: 3
This course, a continuation of GER 1052, is the second in a two-course sequence required for German majors and intended to give them a broad overview of the major periods/topics of the culture, history, and literature in the German-speaking countries, from the middle ages to the 20th century. Students will read and analyze a variety of texts (including examples of poetry, drama, and narrative prose), and they will also examine other authentic texts, including work of art, music, architecture, politics and psychology.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: GER 1000 or GER 1001 or GER 1051 or GER 1052

GER 1101 - ADVANCED GERMAN 1-MEDIA

Minimum Credits: 3
Maximum Credits: 3
Intended to be a challenging upper-level language course, advanced German 1 strengthens students' linguistic skills primarily in speaking and listening, but also in reading and writing. We examine specific aspects of daily life (for example, work, housing, leisure, education, youth, and family) via contemporary print, audio, and video media.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any 1000-level German class

GER 1102 - ADVANCED GERMAN 2: STRUCTURES

Minimum Credits: 3
Maximum Credits: 3
Students who wish to use German as an effective professional tool or enroll at a German university benefit most from this course. They investigate and practice the structure and style of written German, participate in discussions on a variety of public and academic issues, listen to German lectures and broadcasts, and present German papers on topics of their choice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any 1000 Level German Course

GER 1103 - ADVANCED GERMAN 2: CREDIT LAB

Minimum Credits: 1
Maximum Credits: 1
This course supplements advanced German 2 by providing authentic language exercises and practical information about everyday life in Germany. It is designed specifically for students preparing to matriculate into a German University, but will also prove useful to those with other travel goals.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

GER 1104 - GERMAN FOR SOCIAL SCIENTISTS 1

Minimum Credits: 3
Maximum Credits: 3
This course has a three-part teaching objective: a) it analyzes how the historical experience of the weimar republic and World War II shaped the politico-economic system and national identity in West Germany; b) it reviews major grammatical structures (of German passive voice, subjunctive I and II) necessary to comprehend scholarly materials in the social sciences; and c) it allows students to practice their German language skills in all four areas: reading writing, listening and speaking.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any 1000-Level German Course

GER 1105 - LITERARY ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
General content, purposes, and methods of this course: students will learn the characteristic features of poetry, prose, and drama and will develop a technical vocabulary to interpret literary works in German. We will also learn about some of the different methodologies and theoretical approaches that literary critics employ to analyze texts. We will build upon and expand the reading techniques and strategies learned in 1000-level courses to prepare students for the more advanced literature and culture seminars at the 1200-level. Readings, class discussions, tests, oral reports and written assignments, including a journal, will be in German.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: Any 1000 level German Course

GER 1106 - GERMAN CULTURAL HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to major developments and figures in European cultural history from the German tribes to the enlightenment (CA. 750 AD to 1785). It weaves together texts and artifacts from the time period covered and current print as well as audio-visual materials in order to analyze how past cultural history informs German and European collective identity today. This course will be conducted entirely in German.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: Any 1000 Level German Class

GER 1190 - INTRO TO TRANSLATION STUDIES

Minimum Credits: 3
Maximum Credits: 3
This course serves as a foundation course for the professional translation certificate program, and for related fields. It deals with translation theory and the general problematics of the translation process, providing a theoretical framework for translation and systematically linking theory and practice.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1195 - GER PROFESSIONAL TRANSLATION 1

Minimum Credits: 3
Maximum Credits: 3
This course is designed to train translators to gain experience in translating the type of material professional translators handle under actual on the job" situations."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1196 - GER PROFESSIONAL TRANSLATION 2

Minimum Credits: 3
Maximum Credits: 3
This course is designed to train translators to gain experience in translating the type of material professional translators handle under actual on the job" situations."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1197 - GERMAN LEGAL TRANSLATION

Minimum Credits: 3
Maximum Credits: 3
A course in the professional translation certificate program, this course provides concentrated practice in translating legal documents from German to English. Emphasis is on an overview of the German legal system, basic legal principles and terminology, and the acquisition of advanced skills in the translation of German legal texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1198 - PROF TRANSLATION INTRNSHIP-GER

Minimum Credits: 3
Maximum Credits: 3
This course provides on the job training for translators.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

GER 1199 - GER SCIENTFC/TECH TRANSLATION

Minimum Credits: 3
Maximum Credits: 3
This course provides training in the various text styles found in scientific and technical literature, including work with linguistic features and idiosyncrasies pertinent to such literature and the acquisition of basic linguistic skills with regard to word formation for new concepts and new terms. Areas of concentration for the course therefore include concept specifications, terminology issues and lexicography.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1204 - GERMAN FOR SOCIAL SCIENTISTS 2

Minimum Credits: 3
Maximum Credits: 3
This course has a three-part teaching objective: 1) it analyzes historical development and institutional structures of the European union and asks the question to which extent this supranational union was able to engender a collective identity; 2) it allows students to practice their German language skills in all four areas: reading, writing, listening and speaking; 3) it teaches students how to write an analytic seminar paper in German.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: Any 1100 level German course

GER 1210 - INTRO TO HISTORY OF GERMN LANG

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce advanced undergraduate students to the history of the German language, i.e., The IndoEuropean and Germanic roots of the language, the development of the sound system and grammar, the emergence of the modern written language, and the historical foundations of the current German dialects. The course will acquaint students with those methods of historical German philology which enable them

to recognize semantic problems and different stylistic levels of language in new high German texts from Luther to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1220 - LITERATURE & CULTURE 1750-1830

Minimum Credits: 3
Maximum Credits: 3
The production of a cultural canon during the latter part of the 18th and first part of the 19th centuries is examined as a problematic project. Literary and non-literary texts of the period acquaint students with the dominant images through which a German national culture began to identify itself. Such governing attitudes as Aufklaerung, Autonomie, Genie, Humanitaet, Bildung, Natur, Kunst, and Klassik are explored in the works of Lessing, Goethe, Herder, Kant, Schiller, Kleist, Novalis, Hoelderlin, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 1000 or 1001

GER 1224 - SPECIAL TOPICS 1750-1830

Minimum Credits: 3
Maximum Credits: 3
An in-depth analysis of a specific literary or cultural problem from the period between about 1750 and 1830. As the topics change, this course may be repeated for credit.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1228 - LITERATURE & CULTURE 1830-1890

Minimum Credits: 3
Maximum Credits: 3
Major literary and cultural documents from between about 1830 and 1890 are analyzed both formally and thematically in order to understand them in their social and historical contexts. Primary readings are in German.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 1000 OR 1001

GER 1230 - CHLDREN'S LITERATURE IN GERMAN

Minimum Credits: 3
Maximum Credits: 3
This course provides a chronological and thematic introduction to children's literature written in the German language from 1845 to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Two 1000-level German Courses

GER 1234 - LITERATURE & CULTURE 1890-1918

Minimum Credits: 3
Maximum Credits: 3
Major literary and cultural documents from between about 1890 and 1918 are analyzed both formally and thematically in order to understand them in their social and historical contexts. Primary readings are in German.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1240 - 20TH CENTURY LIT AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
Major literary and cultural documents of the Twentieth Century are analyzed both formally and thematically in order to understand them in their social and historical contexts. Primary readings are in German.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Two 1000-level German Courses

GER 1242 - PEACE/MILITARISM IN GER CULTUR

Minimum Credits: 3
Maximum Credits: 3
Using literary and non-literary documents, this course examines the perception of peace and war in German culture since the 19th century. The historical approach provides the framework for understanding such diverse issues as the specific structure of the (West-)German armed forces, the strong peace movements and the debate on Germany's role in today's international security system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Two 1000-level German Courses

GER 1246 - LITERATURE & CULTURE 1918-1933

Minimum Credits: 3
Maximum Credits: 3
This course examines tensions within Weimar culture across a wide range of cultural practices: expressionist poetry; Dadaist performance; the plays of Kaiser and Brecht; the theater of Reinhardt and Piscator, the paintings by Grozs and Dix; the architecture of the Bauhaus; the films of Lange and Murnau. Readings and discussions focus on the experience of the big city and mass society, the impact of modern technology on all aspects of everyday life, the interrelation of art and politics, and the changing role of artists and intellectuals in society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1252 - CURRENT LIT AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
In this course, students concentrate on the most recent trends in German literature and culture. Readings from a variety of genres and authors are discussed in the larger context of cultural trends and traditions which have a bearing on current literary and other issues. All readings are in German.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GER 1001 or 1001

GER 1324 - SPECIAL TOPICS IN GERMAN PROSE

Minimum Credits: 3
Maximum Credits: 3
An in-depth investigation of a literary or cultural problem related to prose fiction. As the topic changes, this course may be repeated for credit.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1325 - DURRENMATT'S DETECTIVE FICTION

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1328 - THE NOVELLE

Minimum Credits: 3
Maximum Credits: 3
This course introduces the students to one of the most individual and highly developed genres in German literature, the novelle. The development of this genre is traced from its classical and metaphysical formulation and understanding through the transformation it undergoes during the 19th century and into the 20th century with changes in texture, mood and style of this genre, where it has to contend with the short story and is no longer a typically German phenomenon.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1350 - GERMAN DRAMA

Minimum Credits: 3
Maximum Credits: 3
An overview, crossing several literary-historical periods, of the development of German drama.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1354 - MAJOR PLAYWRIGHT(S)

Minimum Credits: 3
Maximum Credits: 3
An in-depth study of a major playwright (or group of playwrights). As the subject changes, this course may be repeated for credit.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1380 - TOPICS IN GERMAN CINEMA

Minimum Credits: 3
Maximum Credits: 3
A survey of the new German cinema. This course examines the cultural and social conditions that made possible and shaped the diversity of West German films since the sixties and continue to do so in the eighties. With the emphasis on the work of internationally renowned directors such as Fassbinder, Herzog, and Wenders, the course also pays tribute to the lesser known but equally important work of women directors and experimental filmmakers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1381 - GERMAN CINEMA

Minimum Credits: 3
Maximum Credits: 3
A survey of the new German cinema. This course examines the cultural and social conditions that made possible and shaped the diversity of West German films since the sixties and continue to do so in the eighties. With the emphasis on the work of internationally renowned directors such as Fassbinder, Herzog, and Wenders, the course also pays tribute to the lesser known but equally important work of women directors and experimental filmmakers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1384 - FILM AND FASCISM

Minimum Credits: 3
Maximum Credits: 3
Fascism is a topic that challenges the aesthetics and ethics of cinematic representation. The course examines the complicated and often problematic connections between film and propaganda, history and narrative, memory and representation. This includes an overview of the historical relationship between film and fascism as well as close readings of a representative group of American and European films from the forties to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1390 - MINORITIES IN POST-WAR GERMANY

Minimum Credits: 3
Maximum Credits: 3
This course analyzes the complex nature of the relationship between the native and foreign population in Germany today. Topics include the history of immigration to Germany, the legal inscription of otherness, and the constitution of identity by the immigrant minority. Using literary and non literary documents as well as different media, students will be introduced to the manifold forces which shape collective images and cultural identities in Germany.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Two 1000-level German Courses

GER 1399 - SENIOR CAPSTONE SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This course is for senior German majors. It will require students to write a senior thesis on a German topic, drawn from their own interests but also related to the focus of the seminar. The specific focus of the seminar will change each year, depending on the instructor, but will be constructed to highlight the intersections between multiple epochs, genres, themes, and/or disciplines. Every version of the seminar will require a senior thesis or project that allows the student to pursue his/her own interests within the topic of the seminar. Seminar readings will be in German.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: Any 1000 Level German Course and Any 1100 Level German Course; LVL: Senior

GER 1409 - EURPN INTELCL HIST 2 1870-1940

Minimum Credits: 3
Maximum Credits: 3

A course of readings and discussions focused on major texts in the European intellectual tradition from the age of positivism to the second World War. There will be occasional lectures, especially on the social and institutional contexts, but the predominant emphasis will be on class discussions of primary readings. Students who wish to take the course for the German major will be asked to write their papers, and do a substantial portion of the reading, in German.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: Any Two 1000-level German Courses

GER 1410 - KAFKA AND THE MODERN WORLD

Minimum Credits: 1
Maximum Credits: 1
Kafka's major works are examined both formally and thematically with reference to the modernist tradition. Recurring issues include authority, alienation, mass society, guilt and punishment, truth, and writing. Regular assignments from the secondary literature introduce students to central questions of literary criticism and theory. Essays by Kierkegaard, Marx, Nietzsche, and Freud further elaborate the cultural context in which Kafka's texts were produced. All readings are in German.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit
Course Requirements: CREQ: GER 1510 or ENGLIT 1510

GER 1490 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 5
An in-depth investigation of a literary or cultural problem that lies outside of traditional literary-historical or genre classifications. As the topics change, this course may be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Satisfactory/No Credit

GER 1500 - GERMANIC MYTHS LEGENDS SAGAS

Minimum Credits: 3
Maximum Credits: 3
This course presents a survey of Northern European cultural values from about 500 B.C. To about 1500 A.D. Sources include archaeological finds, sagas, ballads, legends, customs, superstitions, place names, and language expressions. Topics include social organization, distribution of labor and wealth, the position of women and children in family and society, and the uses of supernatural beliefs to achieve worldly goals. Where appropriate, parallels will be drawn between modern Northern European values and their formative myths from the distant past.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1502 - INDO-EUROPEAN FOLKTALES

Minimum Credits: 3
Maximum Credits: 3
German 1502 is a study of the esthetic, psychological, and social values reflected in a variety of European folklore genres, including magic tales, legends, proverbs, superstitions, and jests. The Grimms' pioneering collections constitute the course's nucleus, but it draws numerous supporting examples from other European countries as well.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1503 - INDO-EURPN FLKTALES WRTNG PRAC

Minimum Credits: 1
Maximum Credits: 1
German 1503 is the writing practicum for German 1502. This practicum concentrates on the problems of grammar, style, organization, and documentation associated with the writing assignments for the course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

GER 1510 - KAFKA AND THE MODERN WORLD

Minimum Credits: 3
Maximum Credits: 3
Kafka's major works are examined both formally and thematically with reference to the modernist tradition. Recurring issues include authority, alienation, mass society, guilt and punishment, truth, and writing. Regular assignments from the secondary literature introduce students to central questions of literary criticism and theory. Essays by Kierkegaard, Marx, Nietzsche, and Freud further elaborate the cultural context in which Kafka's

texts were produced. All readings are in English.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GER 1512 - GERMAN LIT/EUROPEAN PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
This course analyzes Goethe's Faust in its entirety with reference to its epistemological, ethical, and aesthetic investments. Students explore how this masterpiece of German literature staged and re-articulated important conceptual issues within the European philosophical tradition with supplementary readings from Plato, Aristotle, Spinoza, Leibniz, and Kant, as well as Whitehead and Deleuze. The goal of the readings is to construct a conceptual apparatus that can serve as framework of interpretive analysis as well as a reconfiguration of the perennial questions of philosophy and literature regarding their own essence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

GER 1518 - BERTOLT BRECHT

Minimum Credits: 3
Maximum Credits: 3
The course discusses Bertolt Brecht in his various roles as playwright, poet, dramaturg, and critic. His theory of the epic theater is used as a backdrop to interpret his plays. His polemic against traditional theater is viewed not merely within the narrow constraints of Marxism, but in the wider context of Avant Garde theater. His influence on theater of the Twentieth Century outside of the German-speaking world is also analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1522 - GERMANY TODAY

Minimum Credits: 3
Maximum Credits: 3
In this course the current cultural, political, and social situation in the German speaking countries is assessed. What are the concerns of Germans, Austrians, the Swiss? By concentrating on current conditions and changes of public consciousness, issues important to German speakers are debated. Materials include articles from journals and newspapers, documentaries, slides, and contemporary works of literature. All materials are in English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1524 - GERMAN CONTRIBUTIONS WORLD LIT

Minimum Credits: 3
Maximum Credits: 3
This course investigates the esthetic qualities and the cultural backgrounds of those German writers of the past 200 years who have genuinely become members of the world literature community. Authors discussed include Goethe, Nietzsche, Kafka, Brecht, and Mann. All materials are in English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1526 - DRAMA OF IDEAS

Minimum Credits: 3
Maximum Credits: 3
Although it has been argued that a poem should not mean, but be", many writers have unashamedly given their art a didactic function. This course identifies the types of causes that literary artists traditionally have championed, and then focuses on the literary techniques that they used to achieve their end. The course is thus a study of "the art of moral persuasion". The principal works investigated are "dramas of ideas" by such playwrights as Ibsen, Shaw, and Brecht, although supplemental prose writings are also included."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1528 - VIENNA

Minimum Credits: 3
Maximum Credits: 3
Viennese culture in the age of modernism anticipates crucial issues, concerns, and debates of our time. The present lecture series introduces students to the multifaceted Viennese developments in art, literature, music, philosophy, and science from the late nineteenth century to World War II. Among the major figures discussed in this course are: Mach, Wittgenstein, Freud, Schnitzler, Kraus, Klimt, Schiele, Loos, Schonberg, Alban Berg. Readings are in English.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1530 - WEIMAR CULTURE

Minimum Credits: 3
Maximum Credits: 3
The twenties were one of the most exciting periods in Germany's cultural history. At the same time, they were a time of great political and economic instability. This course examines Weimar culture across a range of cultural practices (literature, theater, painting, architecture, and film). Selected works from the period will be analyzed in the context of the artistic and political avant-garde, and the productive exchanges between high and popular culture. Special emphasis will be placed on the impact of technology on everyday life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1531 - ELEMENTARY GERMAN 1 FOR MBAS

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

GER 1532 - ELEMENTARY GERMAN 2 FOR MBAS

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

GER 1535 - OUTSIDERS IN GERMAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course surveys major works of German literature of the 18th, 19th and 20th centuries and develops literary analytical skills. Students will learn about various aspects of German culture by focusing on outsiders"-individuals who live on the margins of a social order and, by their very marginality, help define accepted social norms. Readings include texts by Goethe, Kleist, Hoffmann, Buchner, Mann, Kafka, Borchert, Bachmann, Plenzdorf, and Wolf."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1540 - NIETZSCHE AND THE NIETZSCHEANS

Minimum Credits: 3
Maximum Credits: 3
Friedrich Nietzsche (1844-1900) continues to be one of the most influential modern philosophers, yet controversy surrounds almost every aspect of his life and work. This course will help students go beyond the controversy in order to consider Nietzsche's texts discerningly and how he approached the problems of truth, power, and morality. Close examination of his most important writings will be complemented by inquiry into Nietzsche's effects on Twentieth-Century philosophy, literature, and culture. The course will also survey major influences of Nietzsche's approaches on subsequent philosophers and scholars.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: LVL: Jr or Sr

GER 1542 - MARX AND MARXISM

Minimum Credits: 3
Maximum Credits: 3
Having recently passed the 150th anniversary of the publication of capital volume 1, we recognize that our world has changed a great deal since its publication. Yet, in reviewing many of these changes, it is not overstated to say that the works of Karl Marx have provided the transformational impulse. Who was this person, Karl Marx? Why is it that in this post-cold war world his writings continue both to inspire and threaten contemporary readers? How have those inspired by Marx further developed his ideas to constitute the discourse of Marxism? These are some of the questions that this course will raise and try to answer. We will begin with discussions of key works by Marx. Concentrating on the question of culture and cultural analysis, we will then move on to examine some significant contributions to Marxism. The course will end by looking at contemporary attempts at rethinking Marxism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: LVL: Jr or Sr

GER 1544 - FREUD AND FREUDIANS
Minimum Credits: 3
Maximum Credits: 3
Freud is one of the most influential thinkers of the 20th century. His groundbreaking work on dreams, the Oedipus complex, and psychoanalytic method have profoundly changed our understanding of the psyche and social interaction. This course provides a basic survey of Freud's most important and often controversial writings/discoveries within their historical context and with regards to significant criticisms of his work. It includes a brief survey of various branches of psychoanalysis to develop after Freud, especially those of Lacan and Kristeva.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: LVL: Jr or Sr

GER 1546 - NAZI CULTURE
Minimum Credits: 3
Maximum Credits: 3
This course relies on primary cultural sources of the third Reich, especially film, but also literary, visual, architectural, musical, etc. To examine the parameters of Nazi culture. It will examine such diverse aspects as the leader principle, gender roles, racial hygiene, anti-semitism, mass culture, propaganda, and visions of history. The cultural artifacts will be analyzed both in terms of their aesthetics as well as the social and historical context of their production.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GER 1548 - NEW GERMAN CINEMA
Minimum Credits: 3
Maximum Credits: 3
Devastated after World War II, starting in the 1960s a number of German directors like Herzog, Fassbinder, Wenders, Kluge, Annders-Abrahms managed to bring international attention back to German cinema. They competed against the film industry of Hollywood under difficult conditions of production, and in many instances made the difficult transition out of the art house and into the mainstream movie theater. Yet these names only represent a small portion of those directors active in the new German cinema. This class will examine the aesthetic and technical contributions of new German cinema as well as the historical and social context of its production. The technological, financial, and intellectual destruction caused by the experience of national socialism and World War II required creative responses that have led to a solid and symbolically rich body of work. In examining the themes and experimental forms of various filmmakers, students will gain insight into the issues that occupied the German public sphere from the 1960s onward.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

GER 1550 - COMPUTATIONAL METHS IN HUMANIT
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

GER 1901 - INDEPENDENT STUDY
Minimum Credits: 0.5
Maximum Credits: 15
A course designed for students who wish to work independently on individually designed projects.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

GER 1902 - DIRECTED STUDY
Minimum Credits: 0.5
Maximum Credits: 15
A course for students who wish to work on individually designed projects under the supervision of a faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

GER 1903 - GERMAN LANGUAGE TRAILER
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD

Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit
Course Requirements: CREQ: GER 1546

GER 1990 - SENIOR THESIS
Minimum Credits: 1
Maximum Credits: 5
A course for senior honors German majors.
Academic Career: UGRD
Course Component: Thesis Research
Grade Component: Satisfactory/No Credit

Greek

GREEK 0011 - BEGINNING ANCIENT GREEK 1
Minimum Credits: 5
Maximum Credits: 5
This course is the first half of a two-term sequence introducing students to the morphology and syntax of classical attic Greek. Its purpose is to move students as quickly as possible to the reading of simple Greek prose.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GREEK 0021 - BEGINNING ANCIENT GREEK 2
Minimum Credits: 5
Maximum Credits: 5
This course is the second half of a two-term sequence introducing students to the morphology and syntax of classical attic Greek. Its purpose is to move students as quickly as possible to the reading of simple Greek prose.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GREEK 0011

GREEK 0210 - INTERMEDIATE GREEK: PROSE
Minimum Credits: 3
Maximum Credits: 3
In this course students consolidate their grasp of Greek grammar and develop their skills of comprehension through close reading of selected prose texts, often one or more of the shorter dialogues of Plato.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GREEK 0021 or 1021

GREEK 0220 - INTERMEDIATE GREEK: VERSE
Minimum Credits: 3
Maximum Credits: 3
In this course students are introduced to the morphology and grammar of Homeric Greek and read selected portions of the Iliad or Odyssey.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GREEK 0210

GREEK 1011 - BEGINNING ANCIENT GREEK 1
Minimum Credits: 5
Maximum Credits: 5
This course is the first half of a two-term sequence introducing students to the morphology and syntax of classical attic Greek. Its purpose is to move students as quickly as possible to the reading of simple Greek prose.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GREEK 1021 - BEGINNING ANCIENT GREEK 2
Minimum Credits: 5
Maximum Credits: 5
This course is the second half of a two-term sequence introducing students to the morphology and syntax of classical attic Greek. Its purpose is to move students as quickly as possible to the reading of simple Greek prose.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GREEK 1300 - GREEK AUTHORS 1

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Greek authors. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GREEK 0210 and 0220

GREEK 1301 - GREEK AUTHORS 1-WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking Greek 1300 as a writing course.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GREEK 0210 and 0220

GREEK 1302 - GREEK AUTHORS 2

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Greek authors. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GREEK 0210 and 0220

GREEK 1303 - GREEK AUTHORS 2-WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking Greek 1302 as a writing course.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: GREEK 0210 and 0220

GREEK 1400 - ADV READINGS IN GREEK EPIC

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Greek epic poets. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: GREEK 1300 or 1302

GREEK 1402 - ADV READINGS IN GREEK TRAGEDY

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected Greek tragedies. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: GREEK 1300 or 1302

GREEK 1404 - ADV READINGS IN GREEK COMEDY

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected Greek comedies. The specific authors and works vary from term to term; the course may be repeated for credit

when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: GREEK 1300 or 1302

GREEK 1406 - ADV READINGS IN GREEK LYRIC

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Greek lyric poets. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: GREEK 1300 or 1302

GREEK 1416 - ADV READINGS IN GREEK HISTNS

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Greek historians. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: GREEK 1300 or 1302

GREEK 1418 - ADV READINGS IN GREEK ORATORY

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Greek orators. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: GREEK 1300 or 1302

GREEK 1420 - ADV READINGS IN GREEK PHIL

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Greek philosophers. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: GREEK 1300 or 1302

GREEK 1430 - SPECIAL TOPICS IN GREEK LIT

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected Greek texts. The course may be repeated for credit provided the specific material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: GREEK 1300 or 1302

GREEK 1600 - TOPICS IN GREEK LITERATURE

Minimum Credits: 3
Maximum Credits: 3
In this course students study selected topics in Greek literature. The course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

GREEK 1700 - GREEK PROSE COMPOSITION

Minimum Credits: 3
Maximum Credits: 3

This course provides students with a thorough review of Greek grammar and practice in the writing of Greek prose.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

GREEK 1800 - HONORS COURSE/MAJORS
Minimum Credits: 3
Maximum Credits: 3
In this course undergraduate majors in classics who wish to graduate with honors (and are otherwise qualified) write an honors paper, usually in conjunction with a Greek reading course at the 1300 or 1400 level.
Academic Career: UGRD
Course Component: Thesis Research
Grade Component: Satisfactory/No Credit

GREEK 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 9
In this course a student undertakes study in Greek in consultation with a member of the faculty.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

GREEK 1902 - DIRECTED STUDY FOR UNDERGRADS
Minimum Credits: 1
Maximum Credits: 6
In this course a student undertakes directed study in Greek under the close guidance of a member of the faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

GREEK 1903 - DIRECTED RSRCH FOR UNDERGRADS
Minimum Credits: 1
Maximum Credits: 9
In this course a student undertakes directed research in the field of classical civilization under the close guidance of a member of the faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

Health and Physical Activity

HPA 0030 - BASKETBALL OFFICIATING
Minimum Credits: 1
Maximum Credits: 1
The course in basketball officiating includes: classroom instruction and hands on officiating experiences in the basketball program. Instruction includes: rule knowledge, officiating techniques, methods of scoring, court coverage and evaluation of performance.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0031 - MODERN DANCE 1
Minimum Credits: 1
Maximum Credits: 1
Introduces the college student to modern dance as a point of view, rather than a particular technique. There will be exercises to increase strength, and flexibility, as well as to teach techniques of movement, exploration and improvisation. Emphasis is on developing a sensitive awareness of one's own body movement in time and space.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

HPA 0032 - MODERN DANCE 2
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

HPA 0033 - BALLET 1
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

HPA 0034 - BALLET 2
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

HPA 0040 - CHOREOGRAPHY
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade

HPA 0041 - JAZZ 1
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

HPA 0042 - JAZZ 2
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

HPA 0044 - DANCE PRODUCTION
Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

HPA 0050 - SPORTS AND DRUGS
Minimum Credits: 1
Maximum Credits: 1
This course presents medical and scientific information about the use of drugs in sports. It is especially designed for college athletes, but should also be of interest to students preparing for careers in athletic training, coaching, exercise science, health and physical education, physical therapy, and sports medicine.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

HPA 0060 - INTRODUCTION TO DANCE
Minimum Credits: 3
Maximum Credits: 3
A comprehensive overview of dance as an art form and physical activity, covering the history and philosophy of dance. Dance will be examined as a means of communication and expression, and its relationship to other art forms. A particular emphasis will be placed on Western dance forms and its multicultural roots.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 0098 - FOUNDTNS OF SPORT ADMINSTRTN
Minimum Credits: 3
Maximum Credits: 3

Understanding the organization and operation of physical activities which provide healthful experiences for students are competencies for teachers of physical education, recreation and coaches. This course provides opportunities to attain these basic competencies through classroom and clinical leadership experiences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 0099 - LEADERSHIP INTRAMURAL SPORT

Minimum Credits: 2
Maximum Credits: 2
This course provides the opportunity to apply the know ledge of scheduling and administering the intramural program on a sport manager's level. Direct supervision is provided by the co-directors of the intramural and recreational program.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 0196 - FIRST AID AND CPR

Minimum Credits: 2
Maximum Credits: 2
A 2-credit lab/lecture discussion course in which American Red Cross techniques of cardiopulmonary resuscitation (CPR) for the professional rescuer and community first aid and safety are presented. In addition to these skills, current methods of management and treatment of emergency illnesses and injuries are also taught. American Red Cross certification available to all students who meet the standards.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0240 - AEROBICS FOR INSTRUCTORS

Minimum Credits: 2
Maximum Credits: 2
This course will prepare the student to teach various components of aerobic exercise, i.e., Aerobic fitness boxing (Tae Bo), hi-low impact, step aerobics, circuit training, interval bench, water aerobics, and the like. The course will not certify instructors, however, it will prepare the student to obtain certification from national organizations with written and practical exams.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0244 - DANCE PRODUCTION 2

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Workshop
Grade Component: Letter Grade

HPA 0462 - CREATIVE MOVEMENT

Minimum Credits: 1
Maximum Credits: 1
This course is designed for physical education majors, education majors and all students with a desire to learn the how and why of teaching dance in an educational program. Through the lectures the students will cover the educational components of dance, i.e., Dance and education, dance for elementary and secondary schools, dance history and dance resources. In the movement lab fundamentals of movement, rhythms and creative movement activities will be covered.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0463 - DANCE SURVEY

Minimum Credits: 1
Maximum Credits: 1
This course is designed for physical education majors and all students with a desire to learn dance basics and their application in an educational program. The movement lab will introduce the students to the various forms of dance such as modern, jazz, ballet, square dance and dance fundamentals such as rhythm, rhythmic analysis, alignment, vocabulary, composition and movement improvisation.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0464 - INDIVIDUAL SPORTS

Minimum Credits: 1
Maximum Credits: 1
An introductory course for prospective teachers of health and physical education. Includes studies and experiences in archery, bowling, golf, and other individual sport activities. Also covers topics such as history, rules, safety, strategies, and methods of training and conditioning.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0465 - DUAL SPORTS

Minimum Credits: 1
Maximum Credits: 1
An introductory course for prospective teachers of health and physical education. Includes studies and experiences in fencing, karate, wrestling, and other dual sport activities. Also covers topics such as history, rules, safety, strategies, and methods of training and conditioning.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0468 - OUTDOOR PURSUITS

Minimum Credits: 1
Maximum Credits: 1
An introductory course for prospective teachers of health and physical education. Includes studies and experiences in backpacking, camping, fishing, rock climbing, and other outdoor adventure activities. Also covers topics such as history, strategies, safety, and methods of training and conditioning.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0470 - TRACK AND FIELD

Minimum Credits: 1
Maximum Credits: 1
An introductory course for prospective teachers of health and physical education. Includes studies and experiences in basic track and field events. Also covers topics such as history, rules, safety, strategies, and methods of training and conditioning.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0471 - RACQUET SPORTS

Minimum Credits: 1
Maximum Credits: 1
An introductory course for prospective teachers of health and physical education. Includes studies and experiences in badminton, tennis, racquetball, and squash. Also covers topics such as history, rules, safety, strategies, and methods of training and conditioning.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0472 - FUNDM MOTOR PATTERN ACTIVTS

Minimum Credits: 1
Maximum Credits: 1
The content of the course includes classroom lecture and videotape analysis of the stages of fundamental motor patterns. The laboratory component of the class includes analysis of children performing fundamental motor patterns and then intervention with activities to improve the process of the pattern.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0473 - DANCE PEDAGOGY

Minimum Credits: 2
Maximum Credits: 2
This course is designed for physical education majors and all students with a desire to learn the how and why of teaching dance in an educational program. Through the lectures the students will cover the educational components of dance, i.e., Dance in education, dance for elementary and secondary schools, dance history and dance resources. The movement lab will introduce the students to the fundamentals of movement.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0474 - LIFETIME ACTIVITIES 1

Minimum Credits: 1
Maximum Credits: 1
An introductory course for prospective instructors of health and physical activity. Includes experiences in the following: group exercise focused on aerobic, resistance, and flexibility; aquatic exercise, dance, yoga, Pilates, and others. Also covers topics such as history, safety, and methods of training and conditioning.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 0475 - LIFETIME ACTIVITES 2

Minimum Credits: 1
Maximum Credits: 1
An introductory course for prospective instructors of health and physical activity that expands on the content taught in HPA 0474 (lifetime activities 1). Includes experiences in the following: group exercise focused on aerobic, resistance, and flexibility; aquatic exercise, dance, yoga, Pilates, and others. Also covers topics such as history, safety and methods of training and conditioning.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 0476 - GYMNASTICS

Minimum Credits: 1
Maximum Credits: 1
Skills and exercises are done in the following events: floor exercise, trampoline, pommel horse, rings, horizontal bar, parallel bars, rope climb, tumbling, and mini trampoline.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0481 - INTERSCHOLASTIC TRACK COACHING

Minimum Credits: 2
Maximum Credits: 2
This course provides theory and techniques important to coaching men's and women's track and field. Topics covered include: year round conditioning program, techniques for each event, film analysis, and equipment needs.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0482 - INTRSCHOLASTIC FOOTBLL COACHNG

Minimum Credits: 2
Maximum Credits: 2
This course is designed to introduce the student to the various aspects and responsibilities of becoming a high school football coach. Student must work with a high school football program during the semester, attend a minimum of 8-10 team practices, interview the head coach, and submit a paper discussing his/her ideas on the various topics presented.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0483 - INTRSCHOLASTIC WRESTLNG COCHNG

Minimum Credits: 2
Maximum Credits: 2
This course is designed to introduce the student to the various aspects and responsibilities of becoming a high school wrestling coach. Student must work with a high school wrestling program during the semester, attend a minimum of 8-10 team practices, interview the head coach, and submit a paper discussing his/her ideas on the various topics presented.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0484 - INTRSCHOLASTIC VOLLYBLL CCHNG

Minimum Credits: 2
Maximum Credits: 2
This course is designed to introduce the student to the various aspects and responsibilities of becoming a high school volleyball coach. Student must work with a high school volleyball program during the semester, attend a minimum of 8-10 team practices, interview the head coach, and submit a paper discussing his/her ideas on the various topics presented.
Academic Career: UGRD

Course Component: Practicum
Grade Component: Letter Grade

HPA 0485 - INTERSCHOLASTIC SOCCER COACHNG

Minimum Credits: 2
Maximum Credits: 2
This course is designed to introduce the student to the various aspects and responsibilities of becoming a high school soccer coach. Student must work with a high school soccer program during the semester, attend a minimum of 8-10 team practices, interview head coach, and submit a paper discussing his/her ideas on the various topics presented.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0486 - INTRSCHOLASTIC BASEBALL COCHNG

Minimum Credits: 2
Maximum Credits: 2
This course provides theory and techniques important to coaching baseball. Topics include: technique evaluation, offensive and defensive strategy and psychology of coaching.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0487 - INTERSCHOLASTIC BSKTBL COACHNG

Minimum Credits: 2
Maximum Credits: 2
An advanced course in basketball techniques, individual skills, officiating and scouting designed to further prepare the student for physical education teaching of basketball, intramural basketball programs and basic coaching techniques for inter-school competition. Specific course content includes: program organization and administration; philosophy and psychology of coaching; conditioning the athlete; defensive strategy; offensive strategy; scouting; teaching individual skills.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0491 - GYMNASTICS COACHING

Minimum Credits: 2
Maximum Credits: 2
This course provides theory and techniques for coaching of men's and women's gymnastics. Examples of topical areas are warm-ups and dance, coaching women's events, coaching men's events, organization and management of meets, judging, psychology of gymnastics coaching, liability and litigation, private gymnastic school programs, purchase and care of equipment and supplies, video and film viewing and analysis, U.S.G.S.A. Certification program, flexibility and conditioning, public relations and publicity.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0496 - INTERSCHOLASTIC SWIM COACHING

Minimum Credits: 2
Maximum Credits: 2
This course provides theory and techniques important to coaching swimming. Topics include: skill development, techniques evaluation, year round fitness development, practice schedule, physical management and psychological aspects.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 0497 - WATER SAFETY INSTRUCTOR

Minimum Credits: 2
Maximum Credits: 2
The water safety instructor course is designed to earn certification to teach American Red Cross swimming and water safety courses. The course focuses on planning, organizing, sequencing, skill development, and Red Cross operational policies and procedures.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 1011 - APPLIED HUMAN ANATOMY

Minimum Credits: 3
Maximum Credits: 3
This is a non-laboratory lecture discussion course in which all body systems are investigated. Primary emphasis is placed on the skeletal, articular,

muscular, cardiovascular and nervous systems. In addition, the basic mechanical principles underlying human movement and an understanding of human structure are used to analyze movement and physical skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1012 - APPLIED HUMAN ANATOMY LAB

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1021 - HEALTH THEORIES & PROGRAMMING

Minimum Credits: 3
Maximum Credits: 3
The course introduces students to the major health theories that are used to plan, implement, and evaluate health promotion and disease prevention interventions for schools, workplaces, healthcare organizations and communities. Using the theories students design a health intervention.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1031 - RESEARCH IN SPORTS SCIENCE

Minimum Credits: 3
Maximum Credits: 3
A course designed to provide the student an understanding of the role of measurement and evaluation in the educational process, the ability to select and/or develop and administer appropriate tests, and the ability to use appropriate mathematical and statistical techniques in data analysis. Additionally the student will gain an introduction to the research process as practiced in health, physical education and sport.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1032 - SOCIO-CULTL ASPCT OF MOVEMENT

Minimum Credits: 3
Maximum Credits: 3
This course is devoted to examining sport, exercise and play in culture. We approach the study of movement from historical, psychological, sociological and philosophical perspectives.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1033 - HUMAN PHYSIOLOGY

Minimum Credits: 3
Maximum Credits: 3
Develops knowledge of the functions of the human body. Covers the major systems (e.g., Circulatory, digestive, endocrine, excretory, nervous, reproductive, thermoregulatory). Introduces key concepts for understanding the physiological basis of human performance in sport, dance, and exercise.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1034 - EXERCISE SCIENCE SEMINAR 1

Minimum Credits: 2
Maximum Credits: 2
This one credit course will provide an introductory overview of the academic discipline and profession of exercise science and its related fields. The course will also provide established guidelines and procedures necessary for those students enrolled in the university of Pittsburgh movement science undergraduate program.
Academic Career: UGRD
Course Component: Seminar

Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS

HPA 1035 - EXERCISE SCIENCE SEMINAR 2

Minimum Credits: 1
Maximum Credits: 1
This one credit course will provide final exposure to the profession of exercise science and its related fields. The course will also provide established guidelines and procedures necessary for professional interviews, resume, and other requirements necessary for job or graduate school application in an exercise or other health related field.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1041 - MOTOR LEARNING

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide the student who will be involved in professions dealing with instruction and/or research in motor skills with a foundation of motor skill learning and performance theory that can be applied to decisions related to instruction and/or research on motor skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1042 - PHYSIOLOGY OF EXERCISE

Minimum Credits: 3
Maximum Credits: 3
A lecture and laboratory class in which the effects of exercise and sport upon body systems will be investigated. Reviews knowledge concerning physiological mechanisms which relate to improvements of physical performance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1043 - MOTOR DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
This course acquaints the student with adult/child differences in motor skill development. Topics included are: factors influencing growth and development, physiological changes from infancy through maturity, stages of fundamental differences in skilled learning and performance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1044 - BIOMECHANICS

Minimum Credits: 3
Maximum Credits: 3
Required course for undergraduate students in athletic training, exercise science, and teacher education. Provides studies to develop knowledge of biomechanical concepts and principles. Includes experiences to develop proficiency in the diagnosis of motor performance errors. Also places emphasis on applications of biomechanics in making curriculum and instruction decisions in physical education programs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1045 - DIRECTED RESEARCH PRACTICUM

Minimum Credits: 2
Maximum Credits: 2
Students complete a comprehensive review of literature on a movement-related problem and then, under the guidance of a faculty member, design, conduct, and report an original research project.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis

HPA 1141 - FITNESS FOR INSTRUCTORS

Minimum Credits: 2
Maximum Credits: 2

Fitness for instructors will teach the student the major elements of fitness. How to assess fitness levels, determine fitness goals, design fitness programs and facilities. The course will be a combination of classroom, exercise, and practical experiences.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 1142 - PHYSIO BASIS - FITN SPRT CONDG

Minimum Credits: 3
Maximum Credits: 3
This course is aimed at developing an understanding of the physiological adaptations to fitness or long term physical training with emphasis on metabolic, strength and conditioning principles. Through the awareness of the body's responses to chronic and acute exercise, the student will be able to organize and design a physical training or fitness program for young adults, athletes and special populations. This course provides preparation for the American college of sports medicine health fitness instructor or national strength and conditioning exams.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1143 - TEACHING MIND/BODY EXERCISE

Minimum Credits: 2
Maximum Credits: 2
This is a course designed to prepare students to become instructors for mind/body classes including pilates and yoga. The course will begin with a brief overview of the history behind various mind/body formats and then move to practical application. Students will learn basic anatomy related to exercise as well as how to properly teach exercises and breathing techniques. Upon completion of the course, students should be capable of instructing pilates and yoga classes, as well as have a comprehensive understanding of the theories and principles behind the disciplines. No prior instructing experience is necessary.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 1170 - HEALTH FITNESS PRACTICUM

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: H/S/U Basis

HPA 1171 - RESISTANCE TRAINING INSTRUCTOR

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1172 - GROUP FITNESS INSTRUCTOR

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1173 - AEROBICS INSTRUCTOR

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1174 - YOGA AND PILATES INSTRUCTOR

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1211 - ATHLETIC INJURY PREVENTION

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide the student with an introduction to the athletic training profession. Topics to include medical terminology, mechanisms of injury, and recognition and treatment of common athletic injuries to major body parts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: HPA 1212

HPA 1212 - ATHLETIC INJURY PREVENTION LAB

Minimum Credits: 1
Maximum Credits: 1
An introduction to basic taping techniques and injury evaluation techniques used in the profession of athletic training. Basic supportive strappings and paddings for immediate care and competition are presented as well as basic joint evaluation procedures, massage, and crutch fitting.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: CREQ: HPA 1211

HPA 1221 - INJURY EVAL AND TREATMENT 1

Minimum Credits: 3
Maximum Credits: 3
The course includes anatomy, recognition, and commonly accepted techniques and procedures for clinical evaluation of common athletic injuries to the foot, ankle, leg, thigh, hip and pelvis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1222 - INJURY EVAL AND TREATMENT 2

Minimum Credits: 3
Maximum Credits: 3
The course includes anatomy, recognition, and commonly accepted techniques and procedures for clinical evaluation of common athletic injuries to the shoulder, arm, elbow, forearm, wrist, hand, head, face, spinal column and internal organs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1223 - AEROBICS FOR INSTRUCTORS

Minimum Credits: 2
Maximum Credits: 2
This course will prepare the student to teach various components of aerobic exercise, i.e., Aerobic fitness boxing (Tae Bo), hi-low impact, step aerobics, circuit training, internal bench, water aerobics, and the like. The course will not certify; however, it will prepare the student to obtain certification from national organizations with written and practical exams. There will be mandatory auditions the semester prior to the course being offered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1224 - FITNESS ASSMNT & EXRCS PRESCRP

Minimum Credits: 3
Maximum Credits: 3
Fitness for instructors will teach the student the major elements of fitness. How to assess fitness levels, determine fitness goals, design fitness programs and facilities. The course will be a combination of classroom, exercise, and practical experiences.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1226 - ASSMNT & PRESCRP FOR SP POPLTN

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1231 - THERAPEUTIC MODALITIES/LAB

Minimum Credits: 4
Maximum Credits: 4
The course presents the theoretical basis for use of superficial heat and cold, ultrasound, electrical muscle stimulation, tens, and other current modalities. Laboratory experiences are included in the use of these modalities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1232 - THERAPEUTIC EXERCISE/LAB

Minimum Credits: 4
Maximum Credits: 4
The course includes basic components of a comprehensive rehabilitation program and theory and principles associated with the use of special evaluation/therapeutic exercise techniques. Laboratory experiences include practical use of manual testing techniques, goniometry, and the application of selected types of manual exercises.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade

HPA 1233 - PRIN OF STRENGTH & CONDITNING

Minimum Credits: 2
Maximum Credits: 2
Instruction is provided describing the principles for development of pre-season, in-season and off-season strength and conditioning programs. Laboratory experiences will include the theory and techniques of operating strength training equipment.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1234 - ORTHOPEDIC PROBLEMS

Minimum Credits: 2
Maximum Credits: 2
The course includes common orthopedic problems encountered by the athletic trainer and orthopedic surgeon. Students are exposed to commonly used techniques of primary and reconstructive surgery through lecture, operating room, clinic, and orthopedic rounds experiences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1235 - COACHNG INTERSCHOLASTIC SPORTS

Minimum Credits: 2
Maximum Credits: 2
This course provides clinical opportunity and research experience at the interscholastic level. The student will visit high schools and junior high schools to obtain information about their specific sport. Information includes: rules, safety, training methods, practice formats and game day preparation with the high school or junior high school coach.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 1240 - AEROBICS FOR INSTRUCTORS

Minimum Credits: 2
Maximum Credits: 2
This course will prepare the student to teach various components of aerobic exercise, i.e., Aerobic fitness boxing (Tae Bo), hi-low impact, step aerobics, circuit training, interval bench, water aerobics, and the like. The course will not certify instructors, however, it will prepare the student to obtain certification from national organizations with written and practical exams.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 1241 - TEACHING EXPERIENCE 1

Minimum Credits: 1
Maximum Credits: 1
One term clinical teaching experience with an instructor in basic instruction physical education". Responsibilities include: teaching undergraduate students basic skills, physical fitness, and safety."
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 1242 - TEACHING EXPERIENCE 2
Minimum Credits: 1
Maximum Credits: 1
One term clinical teaching experience with an instructor in basic instruction physical education". Responsibilities include teaching undergraduate students basic skills, physical fitness, and safety."
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 1300 - NUTRITION IN EXERCISE & SPORT
Minimum Credits: 1
Maximum Credits: 1
This course will provide the student with basic nutritional information as it pertains to sport and exercise performance. Topics of discussion include weight reduction and management, nutritional requirements for athletic performance and maintenance of a healthy lifestyle, proper eating habits, diet fads, disordered eating, and supplementation.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 1431 - DRUGS, ALCOHOL IN SOCIETY
Minimum Credits: 2
Maximum Credits: 2
This course provides a broad overview of drug and alcohol usage in America. Topics covered include: substance use and abuse pharmacology, prescription and over-the-counter drugs, drunk driving, at-risk populations, athletes, and sexuality. The role of social support, personal responsibility, decision making, assertiveness and self-esteem as prevention strategies are examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1432 - COMMUNITY HEALTH
Minimum Credits: 3
Maximum Credits: 3
This course explores the role of the community in providing a healthy living environment. Topics include environmental protection, effects of cultural and social patterns on health, world health concerns, and health agencies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1433 - INTRO TEACHING H&PE
Minimum Credits: 3
Maximum Credits: 3
A course for prospective teachers of health and physical education. Introduces students to the professional roles and responsibilities of teachers. Includes basic studies of curriculum, instruction, and evaluation. Provides opportunities to observe experienced master teachers at cooperating school sites, practice basic teaching skills in a micro-teaching laboratory, and investigate various socio cultural forces that affect curricular decision making. Also covers persistent issues/problems in school health and physical education.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1485 - NUTRITION AND HEALTH
Minimum Credits: 3
Maximum Credits: 3
Nutrition and energy intake have been linked to health related outcomes. The focus of this course will be on educating students on the basic principles of proper nutrition, and how nutrition plays a role in the prevention and treatment of chronic diseases.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1486 - BEHAVIOR CHANGE STRATEGIES
Minimum Credits: 3
Maximum Credits: 3
This course will focus on behavioral strategies for modifying health related behaviors. Primary focus will be placed on physical activity, eating behaviors, and weight control. Emphasis will be placed on practical application of behavioral principles in health related environments.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1487 - CHRONIC DISEASE AND OBESITY

Minimum Credits: 3
Maximum Credits: 3
This course will focus on treatment approaches to obesity including behavioral, pharmacological, and surgical procedures. This will involve expanding on existing knowledge of energy balance, physical activity, nutrition, and behavior modification. The application of this knowledge will encompass the development of interventions to address the obesity epidemic and provide practical knowledge in this area.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1488 - WEIGHT MGT & PHYSICAL ACTIVITY

Minimum Credits: 2
Maximum Credits: 2
This course is designed for students who meet the clinical criteria for being overweight (body mass index > 25 kg/m2) and who desire to lose weight, improve their nutrition, and increase their exercise. This course will combine instruction on behavioral techniques to lose and maintain weight loss along with supervised cardiovascular and resistance exercise. Students will be assessed at the beginning and end of the course to monitor changes in weight, body composition, fitness and other factors.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

HPA 1490 - HLTH & PHYSICAL ED-ELEM SCHLS

Minimum Credits: 1
Maximum Credits: 1
Topics include the importance of elementary school physical education, developmental sequences of motor skills, develop mentally appropriate activities, and development of physical fitness.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1491 - TCH HLTH & WELLNESS ELEM SCHLS

Minimum Credits: 3
Maximum Credits: 3
This class will focus on those factors that affect the health and well-being of children and how teachers may, through their work, promote the health of children both in and outside the educational setting. We will learn the importance of both promoting a healthy lifestyle within the young and the importance of advocating for a healthy environment in which all children and adults may flourish. Students will plan learning activities that will enhance the health knowledge, skills, attitudes and experience of young children.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPA 1995 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
A flexible curriculum oriented to special research topics of interest to faculty or current issues of concern to educators. Focused on areas within either developmental movement and sport studies or exercise physiology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PLAN: Health and Physical Activity (BS)

HPA 1996 - CLINICAL INTERNSHIP

Minimum Credits: 12
Maximum Credits: 12
Supervised clinical experience for the B.S. Degree student. The student is placed in a clinical setting appropriate to his/her degree interests and career goals and must complete a minimum of 25 hours of clinical work per credit hour. Supervision is provided by both a cooperating clinical supervisor and the university clinical advisor.
Academic Career: UGRD
Course Component: Internship
Grade Component: Letter Grade

HPA 1997 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 9
The student registers for this when the student must maintain active registration and needs to extend work on an uncompleted task or project from a previous term or when preparing for special examinations.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

HPA 1998 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 6
The student proposes and carries out an independent study project under the direction and supervision of an appropriate member of the faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: H/S/U Basis

Health and Rehabilitation Scs

HRS 1000 - INTRODUCTION TO RESEARCH
Minimum Credits: 3
Maximum Credits: 3
The study of the nature of research and the applications of the scientific approach in the research procedures. The course focuses on concepts, design techniques and interpretations, as well as limiting factors and ethical considerations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0010 or 0031 or 0200; PROG: Sch Hlth & Rehabilitation Scs

HRS 1005 - ADMINISTRATION & SUPERVISION
Minimum Credits: 3
Maximum Credits: 3
Discussion of the principles and practice of supervision and administration. Designed to incorporate experience with the responsibilities specific to health professionals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1006 - INTRO TO HUMAN NUTRITION
Minimum Credits: 3
Maximum Credits: 3
This course will cover an overview of the scientific principles of nutrition and application of these principles to humans throughout the life cycle. Major focuses of the course are the classification and function of the six major nutrients, review of current nutrition standards, safety of the food supply, and nutrition misinformation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HRS 1008 - APPLC OF STATCL CONCPTS IN HIM
Minimum Credits: 3
Maximum Credits: 3
Designed to present student with the understanding of the research process. Student learns to analyze scientific reports to communicate with statisticians when research problems arise.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1009 - ORGANIZATIONAL THEORY & BEHAVR
Minimum Credits: 3
Maximum Credits: 3
The primary purpose of this course is to facilitate the student's attaining a more comprehensive, integrated and useful understanding of organizational culture, systems and behavior. The overall emphasis will be on formal organizations in both the public and private sector, however, the theory and concepts will be transferable to any type of organization.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PLAN: Clinical Dietetics-Nutrition (BS)

HRS 1017 - INTRO TO EPIDEMIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course will introduce basic concepts of epidemiology for professionals in health and rehabilitation. Descriptive epidemiology, morbidity and mortality studies, and experimental epidemiology will be some of the topics explained and addressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HRS 1018 - SURVEY HLTH & REHAB PROSSNLS

Minimum Credits: 2
Maximum Credits: 2
An interdisciplinary faculty team will introduce students to health science professions in physical therapy and athletic training, occupational therapy, speech-language pathology and audiology, rehabilitation counseling, health information management, rehabilitation technology, emergency medicine, and disability studies. Classes will feature lectures and hands-on activities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HRS 1020 - ANATOMY AND PHYSIOLOGY

Minimum Credits: 4
Maximum Credits: 4
Introduces the structure of human cells, tissues, organs and organ systems, and functions associated with them. Range of topics extends from gross anatomical features to considerations of chemical processes that serve as the basis for cellular controls, gene expression and energy metabolism. Emphasis on relationship of structure to function and on understanding how structural or functional disturbances can become the basis for disease processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1022 - HUMAN ANATOMY

Minimum Credits: 4
Maximum Credits: 4
The musculoskeletal and peripheral nervous systems are studied in-depth; attention is also given to the cardiopulmonary system. Learning is facilitated through directed laboratory experience using prosecuted cadavers, skeletal materials and models, and audiovisual tapes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1023 - HUMAN PHYSIOLOGY

Minimum Credits: 4
Maximum Credits: 4
This course has been designed in an effort to provide pre-clinical students with a foundational scientific knowledge base and conceptual understanding of physiological processes. Each organ system, and its contribution to the maintenance of homeostasis, will be discussed. Further, the essential components of each system will be explored, to the extent that life is supported. Some disease states will be discussed, in order to exhibit certain processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Clinical Dietetics-Nutrition(BS or BSH or BPH)

HRS 1024 - INTRO TO NEUROSCIENCES

Minimum Credits: 4
Maximum Credits: 4
Considers gross and cellular organization of central nervous system and its relationship to peripheral somatic and visceral systems; the physiological properties of neurons, their associated structures; and the problem mechanisms for reception, transmission, and integration of information at spinal, supraspinal, and cortical levels. Concepts of normal sensory-motor integration, to include influence of neural centers on motor activity and postural control, and clinical manifestations of dysfunctions of major neural elements will be discussed.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1025 - INTRODUCTION TO MICROBIOLOGY

Minimum Credits: 3
Maximum Credits: 3
An overview of medical microbiology introduces the student to medically important bacteria, fungi, viruses, parasites and to immunity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HRS 1026 - PATHOPHYSIOLOGY (HRS)

Minimum Credits: 4
Maximum Credits: 4
This course will consider the causes of diseases generally, as well as, specific common diseases that occur in the various systems of the human body.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1027 - PATHOPHYSIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide a general overview of the predisposing factors and direct causes of disease, as well as their effects on the human body. It will also include a systemic approach to the basic disease processes, in terms of etiology, symptomatology, general pathological changes, diagnostic procedures, and types of treatment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1052 - TOPICS IN CLINICAL PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Sch Hlth & Rehabilitation Scs

HRS 1095 - COMMUNITY CONNECTOR COURSE

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HRS 1099 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6
Provides advanced students an opportunity to explore in depth an area of particular interest to them. It is the student's responsibility to find a faculty member willing to undertake such a tutorial.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

HRS 1102 - EMERGENCY MEDICAL TECHNICIAN

Minimum Credits: 4
Maximum Credits: 4
This course provides the students with the cognitive know ledge and values to develop as an emergency medical professional at the basic life support level. This course meets all of the minimum training requirements as established by the U.S. Department of transportation in the EMT-basic; national standard curriculum. Course provides the student with the opportunity to develop basic life support psycho motor skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1421 - SECURITY, PRIVACY & LGL ISSUES

Minimum Credits: 3
Maximum Credits: 3
Students in this course will explore legal, security, and privacy issues related to health information systems. Data availability, integrity and confidentiality of databases and networks, computer security, public key infrastructure, encryption/decryption techniques, and data recovery will be addressed as well as risk assessment, security policies, hippa, privacy, applicable health laws, and ethical issues in the management of health information.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1422 - COMPUTER PRGMG HLTH INFRMTCS

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce advanced computer programming technologies. The course will provide students with skills of solving real health informatics problems using computer programs. This course is not designed as first computer programming class. The instructor assumes that students have taken and are familiar with one or a few programming languages (such as basic, c/c++, java, c#, perl, python, ruby) prior to taking this class. One or multiple programming languages may be used in this class to solve health informatics problems. This course is hands-on and project-oriented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1424 - DATA BASE MANAGEMENT HLTH CARE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HRS 1425 - GENOMICS AND PERSONALIZED CARE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1490 - ELECTRONIC HEALTH RECORD TECHN

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (HIM-BS)

HRS 1700 - COLL ACHIEV & CARR PREP SEM

Minimum Credits: 1
Maximum Credits: 1
This course will focus on career development and job-placement theories, legislation, constructs, and research for persons with disabilities. Through this lens, the course will cover the history of and current practices related to self-advocacy, success strategies, and rights and responsibilities of persons with disabilities. The course will cover time management and goal setting, development of an individual educational plan and identification of services and programs that will lead to college success, and career planning including job-search and employer-negotiation strategies and identification of community, state, and national resources of employment assistance. Using enablement and disablement models, leaders in the disability community will be invited to discuss their career pathways. The course will specifically focus on occupational and labor market information related to assistive technology and related health science and engineering. This course may be of interest to students with disabilities; students pursuing careers related to disability support, policy, or legislation; special education; and vocational/rehabilitation counseling.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

HRS 1701 - INTRO ORTHOTICS & PROSTHETICS

Minimum Credits: 2
Maximum Credits: 2

This will be a lecture, seminar, and laboratory course introducing some of the applied science and clinical aspects of the orthotics and prosthetics professions. Topics include: an overview of the profession; introduction to some basic anatomy, kinesiology and biomechanics related to orthotics and prosthetics; some pathologies, disabilities, injuries treated with orthoses or prostheses; introduction to patient evaluation and measurement; and introduction to fabrication of custom orthotics and prosthetics, using laboratory equipment. The course will be taught using hypothetical or actual case studies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HRS 1704 - INTRO TO ASSISTIVE TECHNOLOGY

Minimum Credits: 3
Maximum Credits: 3
Introduction to fundamental principles and practices related to multiple areas of assistive technology. Technology areas include: seating and wheelchair mobility, augmentative communication, environmental control, computer access, transportation safety, prosthetics, worksite ergonomics, and man/ machine modeling. In addition, common terminology, disability ethics and models of service delivery related to assitive technology are discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HRS 1706 - INTRO REHAB ENGR DESIGNS

Minimum Credits: 4
Maximum Credits: 4
Material at introductory graduate level. Fundamentals of biomechanics with specific application to rehabilitation. Basic mechanics (newton's laws, statics, dynamics) and vector algebra (forces, moments, equilibrium) will form the first part of the course. The middle section focuses on kinematics and kinetics applied to biomechanics. The final section examines work/energy methods and stress/strain problems. Sets are assigned regularly and there are lab exercises/demonstrations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HRS 1709 - DSGN/FABRICATION ENGR MATLS

Minimum Credits: 1
Maximum Credits: 1
Course designed to teach students basic skills of designing and fabricating mechanical mechanisms and components. Solely lab based and will use learn by doing" approach. Students gain experience working with engineering materials such as wood, plastics, aluminum, brass and steel. Fabrication techniques of turning, milling, cutting, drilling, tap ping and welding will be used. Participate in the design and fabrication of various devices with increasing complexity. Shop safety, tool section, and equipment maintenance will be an important component of the course."
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: H/S/U Basis
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1710 - INTRO TO REHABILITATION ENGR

Minimum Credits: 3
Maximum Credits: 3
Course geared towards junior/senior students who have a working knowledge of engineering concepts and how these concepts relate to rehabilitation engineering. Specific topics to be covered are analysis/design of sensory aids for vision and hearing, theory of electrical nerves stimulation, accessible accommodations design, analysis/design of prosthetics, biomechanics of wheelchair propulsion, ethical considerations of designing technology and solutions appropriate for people with disabilities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Health and Rehabilitation Sciences students only.

HRS 1718 - PROJ BASED TECHNLGY DESIGN

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HRS 1730 - INTRO TO REHAB COUNSELING

Minimum Credits: 3
Maximum Credits: 3
Introduction to the profession and practice of rehabilitation counseling

Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

HRS 1732 - COMMUNITY REHAB PROGRAMS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

HRS 1746 - FLD STUDY IN REHAB COUNSELING
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PREQ: HRS 1730 or HRS 1732; MIN GRADE: 'C-' for listed Courses

Health Information Management

HIM 1405 - MEDL TRMNLGY PHCOL PATHPHYLGY
Minimum Credits: 1
Maximum Credits: 1
This course is a basic study of the professional language of medicine. It is designed to include word construction, pronunciation, spelling, definition, and use of terms related to all areas of medical science, hospital service, and health related professions. This ONLINE course is designed to give the student a knowledge of words frequently used in the medical field and provides examples through the review of basic anatomy, physiology, surgical procedures, diagnostic procedures, and symptomatology. Coverage of the pathology of each body system is will take place along with an introduction to pharmacology, and the pharmacological treatment of frequently occurring conditions of each body system.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1406 - DATABASE MGT AND ANALYTICS
Minimum Credits: 2
Maximum Credits: 2
The major emphasis of this course is to teach students the process of transferring data into information. This is achieved through a study of database theory, analysis and design, and the teaching of skills in database management systems in the health information environment. Other software tools will be presented in this course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: HIM 1407; PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1407 - DATABASE MGT & ANALYTICS LAB
Minimum Credits: 1
Maximum Credits: 1
Students will work extensively with Microsoft Excel, Access, and SQL to gain practical experience in design and implementation of databases. Students will also learn important business/consulting skills that include presenting data as information, writing, executive summaries, preparing professional reports that highlight data findings.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: CREQ: HIM 1406; PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1415 - INTRO HEALTH INFOR & HLTH CARE
Minimum Credits: 3
Maximum Credits: 3
An introduction to Health Information Management and the historical development of the health care field with emphasis on the organizational structure of health institutions, as well as federal, state, and local agencies and allied health associations. Student will be introduced to Health Information Management operations and key functions, with an overview of the American Health Information Management Association (AHIMA). Emphasis will be placed on the use of technology in health care, Electronic Health Record, and data quality. An in-depth look at privacy, confidentiality and security will occur.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: CREQ: HIM 1416; PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1416 - INTRO HEALTH INFOR LAB 1

Minimum Credits: 1
Maximum Credits: 1
The laboratory experience provides students with hands-on opportunities to apply the theory and concepts of health information. The content, format, purpose, confidentiality, adherence to regulations/standards and technology applications for health information will be emphasized. Laboratory activities, group discussions, and case studies will supplement basic instructions.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: CREQ: HIM 1415; PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1420 - ORGANIZATIONAL THEORY & BEHAVR

Minimum Credits: 3
Maximum Credits: 3
The primary purpose of the course is to facilitate the student in attaining a better, i.e., more comprehensive, well integrated and more useful, understanding of the organizations in which she/he will be spending considerable time and energy for her/his career. The emphasis will be on formal organizations both in health care and other sectors of the economy. Models and concepts developed within the closely related disciplines of organization theory and organization behavior will be addressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BS)

HIM 1435 - CLASSIFICATION SYMS HEALTH CRE

Minimum Credits: 3
Maximum Credits: 3
An introduction to the principles of taxonomy, purposes of classifying diseases and operations. An in-depth study of ICD-10-CM, ICD-10-PCS and CPT-4 will be undertaken along with a summary review of ICD-9-CM. The interaction of Diagnosis Related Groups (DRG's) with classification systems will be emphasized. Data quality, the Uniform Hospital Discharge Data Set as well as coding/sequencing guidelines for both inpatient and outpatient coding will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: 1436 and 1438 and 1440; PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1436 - CLASSIFICATION SYSTEMS LAB 2

Minimum Credits: 2
Maximum Credits: 2
This course is designed to provide students with practical experience in the design, development, performance and administration of various types of research databases. Primary focus is the organizational and operational functions of a cancer registry. Medical management of patient, physiology of disease process methodology used in evaluation extent of disease and assessing outcome through patient follow-up, use of ICD-O classification system is presented. Impact of data quality and availability in relation to utilization of the registry is stressed.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: CREQ: 1435 and 1438 and 1440; PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1438 - CANCER REGISTRY THRY & PRA LAB

Minimum Credits: 2
Maximum Credits: 2
Designed to provide students with practical experience in the design, development, performance and administration of various types of research databases. Primary focus is the organizational and operational functions of a cancer registry. Medical management of patient, physiology of disease process methodology used in evaluation extent of disease and assessing outcome through patient follow-up, use of ICD-O classification system is presented. Impact of data quality and availability in relation to utilization of the registry is stressed.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: CREQ: HIM 1435 and HIM 1436; PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1440 - HIM CLINICAL EDUCATION 1

Minimum Credits: 2
Maximum Credits: 2
Designed to provide students with practical experience in the design, development, performance and administration of various types of research

databases. Primary focus is the organizational and operational functions of a cancer registry. Medical management of patient, physiology of disease process methodology used in evaluation extent of disease and assessing outcome through patient follow-up, use of ICD-O classification system is presented. Impact of data quality and availability in relation to utilization of the registry is stressed.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: CREQ: 1435 and 1436; PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1442 - APPLC OF STATCL CONCPTS IN HIM

Minimum Credits: 3
Maximum Credits: 3
Designed to provide students with a practical understanding of the use of statistics in health information management (HIM). This course will focus on management and organization of health information data and the appropriateness of using specific statistical techniques with data. Descriptive statistics, inferential statistics, and non-parametric methods will be discussed and utilized with HIM data or concepts. Database development, research articles and projects will be used to learn the meaning of statistics and its use in the field of HIM.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1445 - HUMAN RELATIONS IN HLTH CARE

Minimum Credits: 2
Maximum Credits: 2
This course discuses principles of effective communication and interpersonal relationships. Course material will include information concerning communication skills, group therapy, diversity, conflict management, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1455 - QUALITY MANAGEMENT

Minimum Credits: 2
Maximum Credits: 2
This course focuses on principles and approaches to assessment of quality in health care and how this impacts the role of the health information manager. Theoretical and pragmatic issues related to quality management, utilization review, and risk management is addressed. Responsibilities of the governing board, medical staff and other health care personnel in relation to quality management and improvement is examined. Requirements of accrediting and licensing agencies related to quality management are presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: HIM 1456; PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1456 - QUALITY MANAGEMENT LAB

Minimum Credits: 1
Maximum Credits: 1
This quality management laboratory focuses on the practical applications of managing the quality of health care, resource use, and risk. Students will design, implement, and present a quality management project at designated clinical facilities. Also, several in-class/online assignments will be required.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: CREQ: HIM 1455; PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1460 - HIM CLINICAL EDUCATION 2

Minimum Credits: 1
Maximum Credits: 1
Practice and introduction to areas of impact for health information: revenue cycle management, quality assessment, case and care management, data analysis and business intelligence and information security areas.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H); PREQ: 1455 and 1456; CREQ: 1465

HIM 1462 - EPIDEMIOLOGY

Minimum Credits: 2
Maximum Credits: 2

This course is an introductory course in epidemiology and epidemiologic methodology for the HIM student. It includes types and purposes of epidemiology, measures of risk, and sources of data. There will be an emphasis on epidemiological student designs related to HIM and Health Informatics. Students will design an epidemiological research proposal as part of the course requirements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1465 - REIMBURSEMENT SEMINAR

Minimum Credits: 1
Maximum Credits: 1
An introduction to topics relating to reimbursement in the health care environment. The course will build on topics covered in Classification Systems including the role of coding in reimbursement and minimizing health care fraud. Additional areas include payment methodologies, revenue, and payment cycle management, claims audits, compliance, value-based purchasing and outpatient prospective payment systems. Clinical Documentation Improvement Programs and the increased use of CAC programs will also be explored.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1470 - SUPERVISION HUMAN RESOURCES HC

Minimum Credits: 3
Maximum Credits: 3
This course discusses the principles and methods practiced in human resource management in the health care environment. The role of the supervisor is emphasized, and practical applications in con junction with theory are presented to the student.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H); PREQ: 1420

HIM 1475 - HIM NON-TRADITIONAL SETTING

Minimum Credits: 3
Maximum Credits: 3
An overview of health information systems in community-based facilities emphasizing information requirements of ambulatory-care centers, behavioral health, substance abuse, rehabilitation, emergency medicine, occupational health, long-term care, sub-acute care, home health care, hospice, dialysis, managed care, correctional facilities, dental care, and veterinary care settings. The role of the health information manager as a consultant in these settings is discussed. HIM consultants/professionals in these areas are invited to lecture as guest speakers from each of these settings. A 20-hour project is a major component and entails having the student conduct the project as a consultant in one of the health care areas listed above.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H); CREQ: 1480

HIM 1480 - HIM CLINICAL EDUCATION 3

Minimum Credits: 2
Maximum Credits: 2
This clinical education experience provides students the opportunity to observe and participate in health information management activities in a variety of non-acute settings such as long-term care, ambulatory care, behavioral health, rehabilitation, home health, outsourcing companies, IT departments, and telemedicine.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H); CREQ: 1475

HIM 1482 - LEGAL ASPECTS OF HEALTH CARE

Minimum Credits: 2
Maximum Credits: 2
This course discusses principles of hospital law and aspects of hand ling confidential and health records information. Actual cases and statutes are discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1485 - SYSTEMS ANALYSIS IN HLTH CARE

Minimum Credits: 3
Maximum Credits: 3
The presentation of concepts of systems analysis and their relationship to health record management is a major emphasis of this course. Case problems and individual projects from health-care settings are assigned to develop proficiency.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1486 - FINANCIAL MANAGEMENT FOR HIM

Minimum Credits: 2
Maximum Credits: 2
This course is designed as an intro level course to principles, concepts and issues of financial management in a health care organization. Focus on financial management viewed from the perspective of department/credit manager and supervisor. Institution-wide accounting and budgeting systems are discussed primarily as a framework for understanding how financial re porting, planning and control is linked to organizational effectiveness and how financial management responsibilities of the departmental manager relate to organization-level financial goals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1490 - ELECTRONIC HEALTH RECORDS

Minimum Credits: 3
Maximum Credits: 3
This course addresses theoretical and pragmatic issues related to EHR technology, such as design and development, standards and clinical terminologies, privacy and security issues, model EHR systems, evaluation of EHR software systems, and outcomes research using the EHR will be addressed. The responsibilities of the health information management professional, as well as the requirements of accrediting and licensing agencies related to EHR, will also be discussed. The responsibilities and involvement of various members of the health care team in the development, use, evaluation, and dissemination of EHR technology will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1495 - HIM CLINICAL EDUCATION 4

Minimum Credits: 4
Maximum Credits: 4
This clinical experience involves a six-week clinical affiliation at contracted health care sites or health-related organizations under the supervision of qualified practitioners or health information management professionals. Student assignments are structured to provide actual experiences in the administrative, managerial, technical and project-oriented areas of health information management, such as electronic health records development and training, project management, systems analysis, human resource management, health information systems, database management, and other similar experiences.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1496 - CAPSTONE COURSE IN HIM

Minimum Credits: 3
Maximum Credits: 3
This is the final capstone course where the faculty will assess students' attainment of all the required professional competencies in health information management (HIM). This will be determined by completing the senior project, an independent project in which the student serves as a consultant to a particular health care facility in order to solve a problem. It will also be determined by completing a poster presentation of the senior project, the study preparation, taking both a mock exam developed by the HIM department based upon its curriculum and taking an entry-level nationally validated exam administered by AHIMA.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Health Information Management (BPH or BS or BS-H)

HIM 1499 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6
Provides student an opportunity to explore in depth an area of particular interest to them. It is the student's responsibility to find a faculty member willing to undertake such a tutorial.
Academic Career: UGRD

Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

Hispanic Languages & Literatures

PORT 0001 - ELEMENTARY PORTUGUESE 1

Minimum Credits: 5
Maximum Credits: 5
Basic elements of Brazilian Portuguese emphasizing a development of speaking, reading and writing skills. Introductory course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PORT 0002 - ELEMENTARY PORTUGUESE 2

Minimum Credits: 5
Maximum Credits: 5
The second half of this introductory course continues to develop skills in the speaking, reading and writing of Portuguese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PORT 0001 or PORT 1001 (MIN GRADE 'C' for Listed Courses)

PORT 0003 - INTERMEDIATE PORTUGUESE 3

Minimum Credits: 3
Maximum Credits: 3
A continuation of the development of conversational as well as writing skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PORT 0002 or PORT 1002 or PORT 1010 (MIN GRADE 'C' for Listed Courses)

PORT 0004 - INTERMEDIATE PORTUGUESE 4

Minimum Credits: 3
Maximum Credits: 3
Follows PORT 0003. A consolidation of speaking, reading and writing skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PORT 0003 or PORT 1003 (MIN GRADE 'C' for Listed Courses)

PORT 0005 - INTENSIVE PORTUGUESE

Minimum Credits: 6
Maximum Credits: 6
An accelerated course that presents the material of both PORT 0001 and PORT 0002, the two elementary offerings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PORT 0020 - CONVERSATION

Minimum Credits: 3
Maximum Credits: 3
An intermediate course in Portuguese conversation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PORT 0004 or PORT 1004 (MIN GRADE 'C' for Listed Courses)

PORT 0025 - GRAMMAR AND COMPOSITION

Minimum Credits: 3
Maximum Credits: 3
An intermediate course in grammar and composition for those who have completed PORT 0004 or the equivalent.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PORT 0004 or PORT 1004 (MIN GRADE 'C' for Listed Courses)

PORT 0051 - BRAZILIAN CIVILIZATION
Minimum Credits: 3
Maximum Credits: 3
A general course on selected aspects of Brazilian civilization and culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PORT 1001 - ELEMENTARY PORTUGUESE 1
Minimum Credits: 5
Maximum Credits: 5
Basic elements of Brazilian Portuguese emphasizing a development of speaking, reading and writing skills. Introductory course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: MIN CUM GPA: 2.0

PORT 1002 - ELEMENTARY PORTUGUESE 2
Minimum Credits: 5
Maximum Credits: 5
The second half of this introductory course continues to develop skills in the speaking, reading and writing of Portuguese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PORT 0001 or PORT 1001; MIN GRADE: 'C' FOR ALL LISTED COURSES

PORT 1003 - INTERMEDIATE PORTUGUESE 3
Minimum Credits: 3
Maximum Credits: 3
A continuation of the development of conversational as well as writing skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PORT 0002 or PORT 1002 or PORT 1010; MIN GRADE: 'C' FOR ALL LISTED COURSES

PORT 1004 - INTERMEDIATE PORTUGUESE 4
Minimum Credits: 3
Maximum Credits: 3
Follows PORT 1003. Consolidation of speaking, reading and writing skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PORT 0003 or PORT 1003; MIN GRADE: 'C' FOR ALL LISTED COURSES

PORT 1005 - INTENSIVE PORTUGUESE
Minimum Credits: 6
Maximum Credits: 6
An accelerated course that presents the material of both PORT 0001 and PORT 0002, the two elementary offerings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PORT 1010 - PORT FOR SPANISH SPEAKERS 1
Minimum Credits: 3
Maximum Credits: 3
Portuguese for Spanish speakers is designed as an accelerated introductory course for native speakers of Spanish or English speakers with fluency in Spanish. It will be the equivalent of PORT 0001/PORT 1001 and PORT 0002/PORT 1002. This course concentrates on aspects of the Portuguese language that are most difficult for Spanish speakers, such as pronunciation, vocabulary, idioms and grammatical structures particular to Portuguese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PORT 1031 - ELEM PORTUGUESE 1 FOR MBAS
Minimum Credits: 2
Maximum Credits: 2

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PORT 1032 - ELEM PORTUGUESE 2 FOR MBAS

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PORT 1052 - LUSO-BRAZILIAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course studies various Portuguese or Brazilian literary topics according to the needs and interests of the students. Taught in Portuguese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PORT 1053 - LUSO-BRAZILIAN TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course deals with literary, linguistic or cultural topics, or a combination of these, relating to Portugal, brazil or other Portuguese speaking areas.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PORT 1054 - MACHADO DE ASSIS

Minimum Credits: 3
Maximum Credits: 3
This course is a survey of the works of Brazilian novelist, poet, playwright, short story writer Machado de Assis
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PORT 1060 - SURVEY OF PORTUGUESE LITRATUR

Minimum Credits: 3
Maximum Credits: 3
A general overview of Portuguese literature from the period of colonization to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PORT 1061 - SURVEY OF BRAZILIAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
A general overview of Brazilian literature from the middle ages to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PORT 1902 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 6
This course allows students to work in depth in areas of their choice, with the approval and supervision of a faculty member, who meets regularly with the student. Evaluation is by examination or by the production of a term paper or series of papers.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

SPAN 0001 - ELEMENTARY SPANISH 1

Minimum Credits: 5
Maximum Credits: 5
This course is designed to develop the student's communicative proficiency through an integrated approach to the teaching of all four language skills: listening, speaking, reading and writing. Grammatical structures; vocabulary and readings are presented as tools for developing good communication

skills. The course also aims to foster cultural awareness of the Spanish-speaking world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 0002 - ELEMENTARY SPANISH 2

Minimum Credits: 5
Maximum Credits: 5
A continuation of SPAN 0001, the course builds on the skills acquired in the first term as students continue to develop their communicative language skills in Spanish.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0001 (MIN GRADE 'C')

SPAN 0003 - INTERMEDIATE SPANISH 3

Minimum Credits: 3
Maximum Credits: 3
This course builds on the skills acquired during the elementary sequence (either SPAN 0001 and SPAN 0002 or SPAN 0015). It includes a functional review of the basic language structures and introduces even more complex structures. The course has a strong cultural component.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0002 or SPAN 0015 (MIN GRADE 'C' for Listed Courses) or Spanish Placement Test Score equal/greater 3

SPAN 0004 - INTERMEDIATE SPANISH 4

Minimum Credits: 3
Maximum Credits: 3
A continuation of SPAN 0003. Students continue to refine their language abilities and enhance their communicative competence. The course has a strong cultural component.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0003 (MIN GRADE 'C') or Spanish Placement Test Score equal/greater 4

SPAN 0007 - ELEMENTARY SPANISH FOR READING

Minimum Credits: 3
Maximum Credits: 3
This is an introductory, independent course, primarily for graduate students who need to quickly acquire the basic vocabulary and grammar of written Spanish. Tapes are available for those who wish to practice the oral skills. Students begin to read increasingly more demanding passages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 0008 - INTERMEDIATE SPANISH READINGS

Minimum Credits: 3
Maximum Credits: 3
This is an independent study course, primarily for graduate students who wish to advance their reading skills in Spanish while reading increasingly more advanced materials. Students concentrate on language structures and vocabulary. A knowledge of the basic grammar is prerequisite.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 0015 - INTENSIVE ELEMENTARY SPANISH

Minimum Credits: 5
Maximum Credits: 5
This is a condensed version of the first two courses of the Spanish language program (SPAN 0001 and SPAN 0002), and it has been designed for students who have taken at lEast two years of high school Spanish or its equivalent. Spanish 0015 follows a communicative approach: from the first day of class you will interact in Spanish in a meaningful context with your instructor and classmates. By the end of this course you will have a general knowledge of the grammar of the Spanish language and you will be able to communicate effectively in Spanish according to this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 0020 - CONVERSATION

Minimum Credits: 3
Maximum Credits: 3
The goal of this fifth-semester course is to enhance fluency and the development of oral proficiency in Spanish. Although the emphasis is on speaking and listening skills, reading and writing assignments are an important part of the syllabus. This course helps students to improve their fluency, pronunciation, and strategic competence such as paraphrasing skills, and increases their vocabulary through readings, films, digital recordings and other authentic materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0004 (MIN GRADE 'B+') or Spanish Placement Test Score equal/greater 20

SPAN 0025 - GRAMMAR AND COMPOSITION

Minimum Credits: 3
Maximum Credits: 3
This course reviews Spanish grammar, and, in addition, is designed to aid the students in vocabulary building, improving their knowledge of idiomatic usage, and their ability to translate from English to Spanish.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0004 (MIN GRADE 'B+') or Spanish Placement Test Score equal/greater 20

SPAN 0050 - SPANISH CIVILIZATION

Minimum Credits: 3
Maximum Credits: 3
Span 0050 offers a comprehensive survey of Spanish history and civilization from the early prehistory period to the present. Readings and lectures are in Spanish.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: [PREQ: SPAN 0020 and SPAN 0025 (MIN GRADE 'C' for Listed Courses); PLAN: Spanish (BA or BPH)] or [CREQ: SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses); PLAN: Spanish (MN)]

SPAN 0051 - LATIN AMERICAN CIVILIZATION

Minimum Credits: 3
Maximum Credits: 3
Readings, lectures, films and class discussions in Spanish on the historical development of Latin American civilization and its major social, economic and cultural features.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 0055 - INTRO HISPANIC LITERATURE 1

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to the study of Spanish and Latin American literatures, while dealing with concepts and terms that can be applied to all literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses)

SPAN 0082 - LATIN AMERICA TODAY

Minimum Credits: 3
Maximum Credits: 3
This course is an overview of contemporary Latin America and its people and is designed to be an introduction for students who have no previous knowledge of the area. Students will be exposed to several aspects of Latin America. A special attempt will be made to show contemporary social reality as interpreted by some of the region's most gifted writers. In English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1020 - ADVANCED CONVERSATION

Minimum Credits: 3
Maximum Credits: 3
This course develops advanced oral skills in small class groups. Students work to build vocabulary and gain a control of the essential structures. Both Spanish majors and non-majors who wish to improve their fluency enroll in this course.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1025 - ADVANCED GRAMMAR

Minimum Credits: 3
Maximum Credits: 3
An advanced study of Spanish grammar designed for students who have already taken SPAN 0025 or equivalent knowledge. While the emphasis is on practical usage, theoretical aspects of the finer points of syntax will also be considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1031 - ELEMENTARY SPANISH 1 FOR MBAS

Minimum Credits: 2
Maximum Credits: 2
This is an introductory conversational course specifically designed for business students who do not know Spanish. The student will be presented with the basic structures of the language, as well as the necessary vocabulary to be able to understand simple Spanish and converse on everyday ("survival skills") topics. The course, conducted in Spanish, will be relatively fast-paced, and will require students to participate actively in a variety of exercises, group activities, and exchange of information.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1032 - ELEMENTARY SPANISH 2 FOR MBAS

Minimum Credits: 2
Maximum Credits: 2
Spanish 0032, designed specifically for business majors, is a continuation of 0031 at the elementary level. Emphasis is on improving listening and speaking skills, with consider able in-class conversational practice. New grammatical structures and increased vocabulary are introduced. Limited business language will be included, along with selected cultural information.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1090 - INTRO TO TRANSLATION STUDIES 1

Minimum Credits: 3
Maximum Credits: 3
This course serves as a foundation course for the professional translation certificate program, and for related fields. It deals with translation theory and the general problematics of the translation process, providing a theoretical framework for translation and systematically linking theory and practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1191 - LITERARY TRANSLATION

Minimum Credits: 3
Maximum Credits: 3
This course is intended to develop translating skills in other than legal, business or industrial uses of Spanish, namely the language of literary (including scholarly and critical), journalistic and advertising texts. It involves the discussion of translation problems and the ways to solve (or circumvent) them through the actual task of translating selected passages from fiction, poetry, plays, articles and publicity blurbs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1192 - TOPICS IN TRANSLATION

Minimum Credits: 3
Maximum Credits: 3
This course will deal in depth with specific techniques and procedures for translating specific types of material, including literary, technical and scientific texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1195 - SPAN PROFESSNAL TRANSLATION 1

Minimum Credits: 3
Maximum Credits: 3

The course is intended for those translators in training who want to gain experience in translating the types of material professional translators handle under "on the job" situations. Emphasis is on practical translation skills, introducing basic principles, pertinent technical terminology, and idiomatic expressions as they occur in original commercial and technical texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1196 - SPAN PROFESSNAL TRANSLATION 2

Minimum Credits: 3
Maximum Credits: 3
The course is intended for those translators in training who want to gain experience in translating the types of material professional translators handle under "on the job" situations. Emphasis is on practical translation skills, introducing basic principles, pertinent technical terminology, and idiomatic expressions as they occur in original commercial and technical texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1240 - LANGUAGE AND THE LAW

Minimum Credits: 3
Maximum Credits: 3
This course explores some of the ways in which linguistic science can shed light on the use and misuse of language in the legal system. After an introduction to the origins and special characteristics of written English legal language ("legalese"), we will study the layman's (non-) understanding of technical legal language; the language of persuasion (e.g. exploitation of such linguistic features of ambiguity, implicit "rules of conversation" and socially stigmatized dialect features); and arguments for and against the participation of linguists as expert witnesses in the courtroom.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1250 - HISPANIC CIVILIZATIONS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: [PREQ: SPAN 0020 and SPAN 0025 (Min Grade 'C') PLAN: Spanish BA or BPH] or [PREQ: SPAN 0020 or SPAN 0025 (Min Grade 'C'); PLAN: SPAN MN] or CREQ: SPAN 0020 or SPAN 0025 (Min Grade 'C'); PLAN: All other students]

SPAN 1255 - INT TO HISP LITRY & CLTL CRITM

Minimum Credits: 3
Maximum Credits: 3
Introduction to hispanic literary and cultural criticism
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1260 - OVERVIEW OF SPANISH LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Overview of Spanish literature
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0055 (Min Grade 'C')

SPAN 1280 - OVERVIEW OF LATIN AMERICAN LIT

Minimum Credits: 3
Maximum Credits: 3
Overview of Latin American literature
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0055 (Min Grade 'C')

SPAN 1300 - SPANISH PHONETICS & PHONEMICS

Minimum Credits: 3
Maximum Credits: 3

This course is an introduction to the study and practice of the sounds of Spanish. The overall objective of this course is to understand the sound system of Spanish as compared to English. Successful students will develop good auditory perception of Spanish and awareness of their own pronunciation, which could help to improve it.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [SPAN 0020 and SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (BA, BPH)] or [SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (MN)]

SPAN 1301 - STRUCTURE OF MODERN SPANISH

Minimum Credits: 3
Maximum Credits: 3
This course teaches the structure of the Spanish language, including components which address Spanish phonology, morphology and syntax.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [SPAN 0020 and SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (BA, BPH)] or [SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (MN)]

SPAN 1302 - ADV COMPOSITION AND STYLISTICS

Minimum Credits: 3
Maximum Credits: 3
This writing course builds upon the student's knowledge of Spanish grammar and composition. In particular attention will be given to the many syntactical and lexical usages that the foreign language learner needs to incorporate in advanced writing. The teacher will help the student improve and polish his/her individual style, with some imitation of literary models.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [SPAN 0020 and SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (BA, BPH)] or [SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (MN)]

SPAN 1303 - SEMINAR IN LANGUAGE & CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course will deal in depth with various cultural and linguistic topics.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (SPAN 1400 or SPAN 1600) and SPAN 0050 (MIN GRADE 'C' for Listed Courses); PLAN: Spanish (BA); LVL: Sr

SPAN 1304 - METHODS OF TEACHING SPANISH

Minimum Credits: 3
Maximum Credits: 3
A course designed for those who plan to teach Spanish. Main focus is on practical information of how best (method and technique) to teach the language. Topics include: theory of learning, approaches, activities, dialogs and drills, the role of grammar, the lab, testing, vocabulary, and the like. Practice teaching, including videotaping.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [SPAN 0020 and SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (BA, BPH)] or [SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (MN)]

SPAN 1305 - SPANISH APPLIED LINGUISTICS

Minimum Credits: 3
Maximum Credits: 3
A thorough analysis of the linguistic problems in teaching Spanish to speakers of English. Particular emphasis on problems of interference by transfer from the native to the target language, using contrastive analysis as a method of problem solving. Study of phonology and grammar, with attention also to certain techniques in foreign language teaching. Included is a brief survey of the teaching of Spanish in the United States and elsewhere.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses)

SPAN 1306 - SPEC TOPICS APPLD LINGUISTICS

Minimum Credits: 3
Maximum Credits: 3

The goal of this course is to further develop the oral proficiency of students through authentic materials including but not limited to interviews, movies, music, newspaper articles and role-playing. Emphasis on fluency and speaking skills, although reading and writing skills will not be ignored. We will review certain grammar points but communicative competence is not measured by grammatical competence alone. Pronunciation, comprehension skills, strategic competence such as paraphrasing skills, and an extensive active vocabulary are all equally important when it comes to becoming proficient in a foreign language. Students will often work in groups and pairs so it is imperative that they be willing to interact with one another and be tolerant of one another's opinions. The instructor will rate students' oral proficiency at the beginning and end of the semester based on the ACTFL speaking proficiency guidelines. These guidelines are used nation-wide as an assessment tool to identify an individual's level of speaking competence in a foreign language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [SPAN 0020 and SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (BA, BPH)] or [SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (MN)]

SPAN 1307 - APPLIED SOCIO PRAGMATICS

Minimum Credits: 3
Maximum Credits: 3
This course concentrates on the aspects of second-language acquisition that are typically overlooked in foreign language classes, a knowledge of which is crucial, if students are trying to become native-like in their mastery of the second language. The course focuses on 1) intercultural communication, 2) cross-cultural speech acts (e.g., requests apologies, compliments), 3) politeness phenomena, 4) nonverbal communication (e.g. gesture, proxemics, gaze), 5) discourse in second language acquisition, 6) interlanguage, 7) special jargons (legal, medical, business).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [SPAN 0020 and SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (BA, BPH)] or [SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (MN)]

SPAN 1309 - HISTORY OF THE LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
This course will trace the development of the Spanish language from its earliest stages to its modern form. Though selected Latin examples will be included, a working knowledge of Latin will not be needed. Primary emphasis will be placed on the evolution of the phonological and grammatical components, but some semantic considerations will also be included. The class will look at several early Spanish texts in order to identify samples of the diachronic linguistic changes at work. This course is intended for advanced Spanish students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [SPAN 0020 and SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (BA, BPH)] or [SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (MN)]

SPAN 1310 - LINGUISTIC SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This course allows students to work on various linguistic topics in depth; these may be theoretical or applied in nature. Students are expected to do original research and to present it both orally in class and as a written research document. Taught in Spanish.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [SPAN 0020 and SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (BA, BPH)] or [SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (MN)]

SPAN 1315 - BUSINESS SPANISH

Minimum Credits: 3
Maximum Credits: 3
This course offers students a linguistic and cultural background enabling them to conduct basic commercial transactions in the Spanish-speaking world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses)

SPAN 1321 - BUSINESS SPANISH 1

Minimum Credits: 3
Maximum Credits: 3
This course is designed to acquaint students with the essential forms and documents utilized in the Spanish business world.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [SPAN 0020 and SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (BA, BPH)] or [SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (MN)]

SPAN 1323 - MEDICAL SPANISH

Minimum Credits: 3
Maximum Credits: 3
This course is intended for translators in training who desire experience in translating the types of medical documents professional translators handle "on-the-job". Course emphasizes acquisition of practical translation skills, and introduces basic medical principles and terminology, as they are used in medical texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses)

SPAN 1325 - LEGAL SPANISH

Minimum Credits: 3
Maximum Credits: 3
This is a course for students who desire experience in translating legal documents from Spanish to the equivalent English forms. The course emphasizes both the theoretical knowledge of basic legal principles and terminology and the acquisition of advanced skills in the translation of legal texts. Documents for translation--drawn from business, corporate and commercial fields--include power of attorney, leases, insurance policies, legislation, contracts, by-laws, articles of incorporation, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [SPAN 0020 and SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (BA, BPH)] or [SPAN 0020 or SPAN 0025 (MIN GRADE 'C' for Listed Courses) PLAN: Spanish (MN)]

SPAN 1400 - SURVEY LATIN AMERCN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course surveys the development of Latin American literature from the Cronistas to the present. Taught in Spanish.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0055 (MIN GRADE 'C')

SPAN 1401 - PRE-COLUMBN LITERATURE & CULT

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the literatures of the Mayan, Aztec and Quechuan regions, with emphasis on basic symbolism in mythology and religious poetry, and mythological aspects of pre-Columbian art, architecture and the painted codices.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(SPAN 1400 or SPAN 1600) and SPAN 0050 (MIN GRADE 'C' for Listed Courses); PLAN: Spanish (BA, BPH)] or [SPAN 0050 (MIN GRADE 'C') and PLAN: Spanish (MN)]

SPAN 1402 - DISCOVERY AND CONQUEST

Minimum Credits: 3
Maximum Credits: 3
This course offers an introductory survey of the Spanish and Latin American literature of the sixteenth and early seventeenth centuries through some of the main texts of the period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(SPAN 1400 or SPAN 1600) and SPAN 0050 (MIN GRADE 'C' for Listed Courses); PLAN: Spanish (BA, BPH)] or [SPAN 0050 (MIN GRADE 'C') and PLAN: Spanish (MN)]

SPAN 1403 - LATIN AMERICAN NARRATIVE

Minimum Credits: 3
Maximum Credits: 3
This course deals with the development of Latin American prose narrative as it moves from 19th century realism and naturalism in the direction of modernista and vanguardista innovations, culminating in the narrative of the boom and the post-boom. Taught in Spanish.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(SPAN 1260 or SPAN 1280 or SPAN 1400 or SPAN 1600) and (SPAN 0050 or SPAN 1250) (MIN GRADE 'C' for Listed Courses; PLAN: Spanish (BA, BPH)] or [SPAN 0050 or SPAN 1250) (MIN GRADE 'C' for Listed Courses) and PLAN: Spanish (MN)]

SPAN 1404 - LATIN AMERICAN TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course deals with literary, linguistic or cultural topics, or a combination of these. Its primary emphasis is on developing an understanding of contemporary cultures in Latin America. Taught in Spanish.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(SPAN 1260 or SPAN 1280 or SPAN 1400 or SPAN 1600) and (SPAN 0050 or SPAN 1250) (MIN GRADE 'C' for Listed Courses; PLAN: Spanish (BA, BPH)] or [SPAN 0050 or SPAN 1250) (MIN GRADE 'C' for Listed Courses) and PLAN: Spanish (MN)]

SPAN 1405 - SEM: LATIN AMER LIT & CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course studies various cultural and literary topics according to the needs and interests of the students. Its purpose is to allow students to do original research on their own on topics of interest in the field of Latin American literature and culture. Taught in Spanish.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(SPAN 1400 or SPAN 1600) and SPAN 0050 (MIN GRADE 'C' for Listed Courses); PLAN: Spanish (BA, BPH)] or [SPAN 0050 (MIN GRADE 'C') and PLAN: Spanish (MN)]

SPAN 1406 - U.S. LATINO LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course will focus on U.S. Latino literature. While Mexican-Americans have roots in North America that go back to colonial times, the Latino explosion has happened mainly in the last thirty years, giving rise to new processes and forms of cultural expression, including an emerging literature that is neither a subset of U.S. Literature nor an ex tension of modern Latin American literature, though it has connections to both. To get an idea of what this literature involves and where it is going, we will look at some representative novels, poetry, memoirs, plays and films.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(SPAN 1400 or SPAN 1600) and SPAN 0050 (MIN GRADE 'C' for Listed Courses); PLAN: Spanish (BA, BPH)] or [SPAN 0050 (MIN GRADE 'C') and PLAN: Spanish (MN)]

SPAN 1407 - U.S. LATINO FILM

Minimum Credits: 3
Maximum Credits: 3
The major purpose of the course consists of illustrating and analyzing the role of the audiovisual media film (fiction and documentary) and video (and television, to a certain degree) for an understanding of the socio-cultural and conceptual status that Latina/o identities have acquired in today's society. Thematically, the course will focus on themes of modernity vs. tradition in U.S. Latino culture. The course uses a selection of audiovisual materials which is fairly innovative in its variety. Chicano films and videos will constitute the major part of the material.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(SPAN 1400 or SPAN 1600) and SPAN 0050 (MIN GRADE 'C' for Listed Courses); PLAN: Spanish (BA, BPH)] or [SPAN 0050 (MIN GRADE 'C') and PLAN: Spanish (MN)]

SPAN 1600 - SURVEY OF SPANISH LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course surveys the development of Spanish literature from the twelfth century to the present. Taught in Spanish.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SPAN 0055 (MIN GRADE 'C'); PLAN: Spanish (BA,BPH) or PREQ: SPAN 0050 (MIN GRADE 'C'); PLAN: Spanish (MN)

SPAN 1601 - PENINSULAR LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course studies the various stages of development of peninsular culture and literature in the 20th century, ranging from the 40-year period of the Franco dictatorship to the relatively recent transition to democracy. Taught in Spanish.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(SPAN 1400 or SPAN 1600) and SPAN 0050 (MIN GRADE 'C' for Listed Courses); PLAN: Spanish (BA, BPH)] or [SPAN 0050 (MIN GRADE 'C') and PLAN: Spanish (MN)]

SPAN 1602 - IBERIAN REGIONAL IDENTITIES

Minimum Credits: 3
Maximum Credits: 3
No other courses deal with Iberia from a transnational or regional standpoint. It is becoming increasingly relevant, particularly in the European context, to articulate the study of culture in relationship to new forms of political and communitarian identities, thus moving away from the traditional focus on the nation-state. The present course will examine the cultural, political, and economic role of the regions within the Iberian peninsula in shaping the European and trans-Atlantic components of both Spanish and Portuguese history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(SPAN 1400 or SPAN 1600) and SPAN 0050 (MIN GRADE 'C' for Listed Courses); PLAN: Spanish (BA, BPH)] or [SPAN 0050 (MIN GRADE 'C') and PLAN: Spanish (MN)]

SPAN 1603 - PENINSULAR TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course looks at various cultural and literary topics according to the needs and interests of the students. Its major purpose is to allow students to do research on topics of interest in the field of peninsular literature and culture. Taught in Spanish.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(SPAN 1400 or SPAN 1600) and SPAN 0050 (MIN GRADE 'C' for Listed Courses); PLAN: Spanish (BA, BPH)] or [SPAN 0050 (MIN GRADE 'C') and PLAN: Spanish (MN)]

SPAN 1700 - COMPARATIVE HISPANIC TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course looks at various cultural and literary topics according to the needs and interests of the students. Its major purpose is to allow students to do research on topics of interest in the field of Latin American and peninsular literature and culture. Taught in Spanish.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (SPAN 1400 or SPAN 1600) and SPAN 0050 (MIN GRADE 'C' for Listed Courses)

SPAN 1705 - SEM: HISPANIC LIT & CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course studies various cultural and literary topics according to the needs and interests of the students. Its purpose is to allow students to do research on topics of interest in the field of Hispanic literature and culture. Taught in Spanish.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (SPAN 1400 or SPAN 1600) or SPAN 0050 (MIN GADE 'C' for Listed Courses)

SPAN 1707 - AFRCN PRSEN LAT AMERN LIT/CULT

Minimum Credits: 3
Maximum Credits: 3
This course is a chronological and topical introduction to afro-Latin American culture, making use of literary texts, historical documents, feature films, etc. It aims at providing students with a concrete frame of reference for the African presence in Latin America.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(SPAN 1260 or SPAN 1280 or SPAN 1400 or SPAN 1600) and (SPAN 0050 or SPAN 1250) (MIN GRADE 'C' for Listed Courses; PLAN: Spanish (BA, BPH)] or [SPAN 0050 or SPAN 1250) (MIN GRADE 'C' for Listed Courses) and PLAN: Spanish (MN)]

SPAN 1801 - DON QUIJOTE AND THE NOVEL

Minimum Credits: 3
Maximum Credits: 3
This course deals in depth with Cervantes' Don Quijote as the first modern novel and its profound influence on European literatures. Taught in English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: [PREQ: (SPAN 1400 or SPAN 1600) and SPAN 0050; MIN GRADE: 'C' for all listed Courses; PLAN: Spanish (BA or BPH)] or [SPAN 0050; MIN GRADE: 'C'; PLAN: Spanish (MN)]

SPAN 1805 - CONTEM HISPANIC LIT & SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This course deals with contemporary Spanish and Latin American societies as revealed in short stories, novels and poetry in an effort to ascertain the cultural values and concepts of these societies. Taught in English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1806 - CAPSTONE SEMINAR

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: (SPAN 1260 or SPAN 1280 or SPAN 1400 or SPAN 1600) and (SPAN 0050 or SPAN 1250) (MIN GRADE 'C' for Listed Courses; LVL: Sr; PLAN: Spanish (BA, BPH)

SPAN 1807 - HISPANIC SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course deals in depth with such topics as mass media, sexual roles, social structures and political institutions in Hispanic society as revealed in various literary works, films, documents and other sources. Taught in English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1810 - SPAN CULT DICTRSHIP TO DEMOC

Minimum Credits: 3
Maximum Credits: 3
The course will deal with cultural manifestations of life in Spain since the death of Franco and the abolition of censorship. It will concentrate on fiction, criticism, journalism, historical writing, cinema, the theatre, television and the fine arts, attempting to clarify new cultural and societal directions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1890 - THE NEW NOVEL IN LATIN AMERICA

Minimum Credits: 3
Maximum Credits: 3
Lectures, textual analysis and class discussions in English on the major novelists of the Latin American "boom" of the sixties, with reference to techniques of literary analysis and the social, ideological and cultural background of the works in question.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SPAN 1900 - PROF TRANSLTN INTRNSHIP-SPAN

Minimum Credits: 1
Maximum Credits: 6
This course is intended to provide on-the-job training for translators in training on a one-to-one basis in an office situation.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

SPAN 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6
This course allows students to work in-depth in areas of their choice; evaluation is by examination or by the production of a term paper.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

SPAN 1902 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 6
This course allows students to work in depth in areas of their choice, with the approval and supervision of a faculty member, who meets regularly with the student.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

SPAN 1906 - SPANISH INTERNSHIP FOR CREDIT
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

History

HIST 0010 - PROFESSIONAL DEVELOPMENT SEM
Minimum Credits: 1
Maximum Credits: 1
You are at a family function and one of your relatives over hears what your major is asks you "do you know what you call a BA in history?" Then before you can answer or walk away, he/she responds with "waiter!" While this is the accepted wisdom of what happens to a history, is this the reality of life after college? The answer to that is an emphatic "no!" Therefore, in this class you will find out why this is false. Then you will prepare for the real world by practicing and implementing the skills needed to navigate your way through the process of finding a job or going on to graduate school.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit
Course Requirements: PLAN: History (BA)

HIST 0014 - INTRODUCTION TO AFRICA
Minimum Credits: 3
Maximum Credits: 3
Multidisciplinary introduction to Africa emphasizing the richness, diversity and dynamism of the African experience and presented through lecture discussions of culture, social structure, history, economy, politics and other aspects of Africa's development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0050 - SOCIAL CHANGE
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0089 - MAGIC, MEDICINE AND SCIENCE
Minimum Credits: 3
Maximum Credits: 3
Dietary purges, ritualistic spells, mystical transformation, and the balance of self with nature. In each of these approaches is the presence of magic. Magic is a phenomenon common to all societies. In this course, we will study how it has contributed to religion, medicine, the healing arts, and to the emergence of modern scientific thought. Also the extent to which similar systems of belief have given birth to science, religion, magic and therapeutic practice will be explored.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0100 - WESTERN CIVILIZATION 1

Minimum Credits: 3
Maximum Credits: 3
The study of others leads back to ourselves. We learn about men and women from the past in order to compare their experience to our own, hoping that the comparison will make us more aware of the opportunities and limitations of present-day life. As an introduction to history, this course tries to suggest the excitement and uncertainties of studying the past. We begin at the time of the crusades, and continue through Renaissance and Reformation to the eve of Industrial Revolution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0101 - WESTERN CIVILIZATION 2

Minimum Credits: 3
Maximum Credits: 3
A history of the West from the Industrial Revolution to the late Twentieth Century, the period when Europe and its overseas extensions dominated world history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: College in High School - UGRD - students only.

HIST 0102 - WESTRN CIVLIZATION 1/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
This writing section adds one more hour, and an additional fourth credit to the standard Western Civilization 1 course. Students meet with an experienced teaching fellow to plan, discuss, and criticize their papers.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HIST 0103 - EUROPE IN THE 18TH CENTURY

Minimum Credits: 3
Maximum Credits: 3
It was the best of times, it was the worst of times; it was the age of wisdom, it was the age of foolishness; it was the epoch of belief, it was the epoch of incredulity; it was the season of light, it was the season of darkness. There was a king with a large jaw and a queen with a plain face on the throne of England; there was a king with a large jaw and a queen with a fair face on the throne of France. In both countries it was clearer than crystal to the lords of state, preservers of loaves, and fishes that things in general were settled forever. This course surveys the political, economic, social, and cultural history of Europe in the eighteenth century. Focusing on the major transformations of European society from the Age of Absolutism through the Age of Enlightenment to the Age of Revolution, the course explores local and interconnected histories of Britain, France, Spain, Denmark, Sweden, Russia, Austria, and the Dutch Republic. The course engages five major themes: 'Power, Politics, and Warfare', 'Social, Demographic, and Economic Change', 'Culture, Religion, and the Public Sphere', 'European Expansion Overseas', and 'Revolutionary Europe.' Readings include primary and secondary sources. The course is open to students of all levels.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0123 - UHC WESTERN CIVILIZATION 1

Minimum Credits: 3
Maximum Credits: 3
Honors Western Civilization 1 seeks to introduce the excitement, the uncertainty, and the skills that the study of history can provide. The period is from the Ancient World to the Enlightenment of the Eighteenth Century. Primary sources begin with Greek texts such as the odyssey, and continue through Voltaire. Emphasis is on the relationship between ideals and change. The course stresses the skills of reading sources critically, framing questions carefully, posing productive hypotheses, and arguing persuasively, both orally and in writing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0124 - UHC WESTERN CIVILIZATION 2

Minimum Credits: 3
Maximum Credits: 3
This course studies major ideas and events of the past two hundred years through the reading and discussion of significant European and American authors. It seeks to provide students with the knowledge to enable them to make their own evaluation of the history of the West. In the process, it will provide practice in critical reading, argumentative writing, and verbal expression, skills that are hallmarks of the Western tradition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0125 - RELIGIONS OF THE WEST
Minimum Credits: 3
Maximum Credits: 3
Tenets of Judaism, Christianity and Islam.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0126 - FRENCH REVOLUTION
Minimum Credits: 3
Maximum Credits: 3
This course will consider various theories of the social sources of Revolutions and evaluate them in the light of historical research.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0139 - VIKING AGE SCANDINAVIA
Minimum Credits: 3
Maximum Credits: 3
The Viking Age, the period from 800 to 1050 AD marks Scandinavia's transition from prehistoric to historic times. This course will reassess Viking activities as constructive as well as destructive. Raids, commerce and colonization are best illuminated by a blending of written and physical evidence. Through the sagas, secondary readings and an assessment of archaeological sources such topics as state formation, trade, technology, rise of cities, religion and the voyages to Greenland and America will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0150 - HISTORY OF MODERN IRELAND
Minimum Credits: 3
Maximum Credits: 3
This class will examine how britain came to Ireland and why in the context of that period (16th and 17th centuries). It will also examine the very complex relationships between the Catholic church and the British crown in the 17th century, as these relationships played a great role in the Cromwellian era. This will lead us to the heart of the class where we will trace the very complex relationship between modern Irish republicanism and Cromwell.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0187 - WORLD WAR II-EUROPE
Minimum Credits: 3
Maximum Credits: 3
The causes of WW II are surveyed, including World War I, the Russian Revolution, the Great Depression, and the rise of fascist regimes. The determinants of German expansionism will be discussed and related to the outbreak of war in 1939. The military struggle receives attention, but such topics as economic mobilization, propaganda, occupation policies, resistance movements and the Holocaust are also discussed. The course concludes with an analysis of war time diplomacy, the Postwar settlement, and the onset of the Cold War.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0190 - THE DICTATORS
Minimum Credits: 3
Maximum Credits: 3
This course examines and compares the dictatorships of Hitler's Germany and Stalin's soviet union. We shall investigate the official methods and media that transmitted the ideologies and aimed to manufacture consent for national socialism and Stalinist communism. On the basis of myths, public art, films, spectacle, and mass culture of the regimes, we shall discuss such topics as leader cults, construction of utopias, cultural revolutions, identities, and the role of propaganda and entertainment.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 0200 - EAST EUROPE CIVILIZATION
Minimum Credits: 3
Maximum Credits: 3
This course is devoted to the exploration of the historical experience of the lands between Germany and Russia from the time the region was first settled by Nomadic tribes to the present. During these one thousand years Eastern Europe was transformed from feudalism to communism and our emphasis will be to understand the ways in which the interaction of social, economic, intellectual, cultural, demographic and political processes

contributed to this metamorphosis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0220 - MODERN POLISH HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course covers the period from Poland's final partition (1795) until the present day. The themes for the 1795-1914 era will be nationalism, economic growth and shifting cultural developments. The interwar period will stress the assaults on the attempt to foster economic growth and a democratic government. The last section deals with the impact of World War II and the relationship between the post-war communist system and the polish society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0300 - RUSSIA TO 1860

Minimum Credits: 3
Maximum Credits: 3
This course examines the social, political, economic and intellectual developments of Russia from the Great Reforms of Peter to the Emancipation of the Serfs in 1861.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0301 - RUSSIA TO 1917

Minimum Credits: 3
Maximum Credits: 3
This course analyzes the major social and economic problems of the Russian Empire from the emancipation of 1861 through the Revolution of 1917. The emphasis is on understanding the major issues that precipitate the first socialist" Revolution in European history."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0302 - SOVIET RUSSIA

Minimum Credits: 3
Maximum Credits: 3
This course examines the history of the USSR from 1917 to the present. Particular attention is paid to the revolutionary transformation of society, the construction of the Soviet state and Soviet society, and to the ways in which state and society relate.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0400 - EAST ASIAN CIVLIZATION TO 1800

Minimum Credits: 3
Maximum Credits: 3
This course introduces major themes in the history of East Asia. It analyzes the relationships between East Asian thought systems; political, economic, and social institutions; and foreign influences for the purpose of understanding the forces that shaped the East Asian tradition. The course focuses on how this distinctive tradition produced two very different societies in China and Japan.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0401 - MODERN EAST ASIAN CIVILIZATION

Minimum Credits: 3
Maximum Credits: 3
This survey of Chinese and Japanese history in the nineteenth and twentieth centuries compares and contrasts the development of these two East Asian nations through a format that includes lectures, discussions, films, and readings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0402 - HISTORY OF EAST ASIA

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the history and culture of East Asia, and particularly China and Japan. A number of faculty members from

disciplines such as history, music, anthropology, fine arts, East Asian language and literature, and classics will lecture. The course covers the time period from prehistory to 1600.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0403 - HIST OF MODERN SOUTHEAST ASIA

Minimum Credits: 3
Maximum Credits: 3
This is an introductory survey course in the political and cultural history of modern Southeast Asia from 1815 through 1978 or roughly from the growth of European colonialism within the region through the end of the Khmer Rouge regime in Cambodia. It will emphasize the expansion of European influence in the political and economic spheres, the growth of nationalism, and the process of decolonization in Southeast Asia. It will also focus on the new political and cultural forces that transformed the region over the course of the 19th and 20th centuries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0430 - JAPAN & THE WEST, 1600 - PRES

Minimum Credits: 3
Maximum Credits: 3
This course considers the historical development of two very distinctive societies at opposite ends of the Eurasian continent: Japan and Western Europe. It focuses on the contrasting development of the early modern period-Europe's age of expansion and Japan's age of isolation, the course compares systems of thought, social and political institutions, and the importance of foreign influences in the two societies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0475 - RELIGION & CULTUR IN EAST ASIA

Minimum Credits: 3
Maximum Credits: 3
As East Asia becomes more and more central to the world's modern commodity culture, some have predicted a decline in traditional religious values and practices. In fact, the reverse is true: from Taiwan and Hong Kong through mainland China to Korea and Japan, increasing prosperity is resulting in an increased investment" in religion. This course presents a thematic survey of popular religion in contemporary East Asia, informed by religious, cultural, and political history, and takes a look at how religion participates in shaping the respective worldviews, behaviors, and practices of modern East Asian societies. It further reviews the various responses to the dilemma of self-identity and self-representation suggested by the changing role religion sees for itself in contemporary East Asia and explores the relationship between religion and politics, class, and gender. The course treats the changes we see within East Asian cultures not so much as breaks with tradition but as responses to older themes and behaviors that have been reinterpreted to make themselves relevant to the needs of modern society. We approach this course through lectures, discussions, readings, and films."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0487 - WORLD WAR II IN ASIA

Minimum Credits: 3
Maximum Credits: 3
The history of the war, 1937-1945, between Japan on the one hand and China, the United States, the soviet union and great Britain on the other. The course stresses the ideological, economic, political, social, diplomatic and military forces in those five countries, and how these forces led to a disastrous war beginning in the late 1930s. The course concludes with a discussion of the allied occupation of Japan and Japan's postwar recovery.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0500 - COLONIAL LATIN AMERICA

Minimum Credits: 3
Maximum Credits: 3
History of Latin America during the period of Spanish and Portuguese Colonial Rule, from 1500 to 1825.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0501 - MODERN LATIN AMERICA

Minimum Credits: 3
Maximum Credits: 3
History of the Latin American republics from independence, in 1825, to the present.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0502 - AFRO-LATIN AMERICA

Minimum Credits: 3
Maximum Credits: 3
A survey of black history in the countries of Latin America, from the period of European conquest (c. 1500) to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0506 - SPANISH PRACTICUM

Minimum Credits: 1
Maximum Credits: 1
This course is offered in conjunction with HIST 0501, modern Latin America. It is a supplementary, one-credit Spanish-language recitation, where issues raised each week in HIST 0501 will be discussed in greater detail in a Spanish-immersion format. This practicum offers an opportunity for students to utilize, reinforce, and deepen the skills they have acquired in foreign language courses. We will listen to Latin American music, read primary sources from political manifestoes to poetry, and generally enrich our understanding of Latin America's diverse past even as we improve our Spanish-language conversational fluency. This practicum is a great option for students hoping to study abroad in the future.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

HIST 0521 - CARIBBEAN HISTORY

Minimum Credits: 3
Maximum Credits: 3
Examines historical roots of modern Caribbean. Examines major historical developments from period of subjugation of indigenous population through era of slavery to rise of modern nationalism and impact of American intervention. Also analyzes related socioeconomic systems and institutions. Selected country case studies included.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0600 - UNITED STATES TO 1877

Minimum Credits: 3
Maximum Credits: 3
This is an introductory, lower division, course that develops the history of United States from the 1400s through the 1880s.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0601 - UNITED STATES 1865-PRESENT

Minimum Credits: 3
Maximum Credits: 3
An introduction to American history from the Civil War to the present which emphasizes selected topics on changes in American society and politics as an earlier agrarian society became an industrial-urban one and as the nation took up an ever larger role in world affairs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0606 - MARITIME HIST & GREAT LAKES

Minimum Credits: 4
Maximum Credits: 4
This course surveys maritime power and the role of wooden sailing ships in the great lakes during the 18th and 19th centuries. It examines European exploration and colonization in this region and the struggles for control of North American waterways. The class uses traditional means of readings and lectures, and hands-on training aboard a traditionally-rigged historic wooden warship, the U.S. Brig Niagara. Students will learn by direct experience the arts of a tall-ship sailor and the inter-relationship between humans and the inland seas.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 0612 - ORIGINS OF AMERICAN CAPITALISM

Minimum Credits: 3
Maximum Credits: 3
This course surveys the history of North American capitalism from the time of the first European settlements up through the emergence of a recognizably modern economy in the aftermath of the Civil War. It focuses in particular on the ways in which ordinary people made a living, how

and why those ways changed over time, and what those changes in turn can tell us about the evolving structural determinants of the system as a whole.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0663 - 20THC AFRICAN AMER WOMEN HIST

Minimum Credits: 3
Maximum Credits: 3
Using both a chronological and topical format, this course will investigate the history, culture, and activism of African American women in the Twentieth Century through readings of historical texts and articles, autobiography, and oral testimony. The content of the course includes an exploration of the responses of African American women to racism, sexism, and class and color consciousness within different historical periods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0670 - AFRO-AMERICAN HISTORY 1

Minimum Credits: 3
Maximum Credits: 3
This course surveys the history of Afro-Americans from their African origins to their emancipation during the Civil War.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0671 - AFRO-AMERICAN HISTORY 2

Minimum Credits: 3
Maximum Credits: 3
This course surveys the development of black Americans from the time of the Civil War to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0673 - JEWISH AND BLACK HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course will examine aspects of the historical experience which have shaped the consciousness of blacks and Jews today. The relationship between blacks and Jews particularly from the 1960s on will be explored and discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0675 - WITCHES TO WALDEN POND

Minimum Credits: 3
Maximum Credits: 3
A survey of American religious history from the colonial period through the civil war.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0676 - RELIGION IN MODERN AMERICA

Minimum Credits: 3
Maximum Credits: 3
An examination of the major developments in American religion from the Civil War to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0678 - US AND THE HOLOCAUST

Minimum Credits: 3
Maximum Credits: 3
With increasing interest in the Holocaust in Europe, this course focuses on the American side of the Atlantic - on issues of anti-Semitism and anti-immigrant sentiment in this country and on America's response to the Holocaust. We will also look at some post-Holocaust issues as well.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0685 - UNITED STATES FORGN RELATIONS

Minimum Credits: 3
Maximum Credits: 3
The course emphasizes three significant periods of development: (a) the period of origins, 1775-1825, (b) the period of hesitant entry onto the international scene, 1890-1941, and (c) the period of full participation in international affairs, 1941-present. In the process the course endeavors to demonstrate the changing role of such concepts as security, neutrality, isolationism, expansionism, and intervention in the evolution of the nation's conduct of foreign affairs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0688 - AMERICAN WAY OF WAR

Minimum Credits: 3
Maximum Credits: 3
This is a course on the American way of war and covers the American Revolution, the War of 1812, the Mexican War, the Civil War, the Spanish American War, World War I, World War II, the Korean War, and the Vietnam conflict. It looks at the American way of war from the perspective of four themes: society, technology, military thought, and leadership.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0700 - WORLD HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course is an introductory survey of world history, by which is meant an overview of major processes and interactions in the development of human society since the development of agriculture some 10,000 years ago. It is a selective overview, emphasizing large-scale patterns and connections in political, social, cultural, technological, and environmental history, yet it also provides balance among regions of the world. It encourages students to apply historical techniques to issues of their own interest.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0751 - ANCIENT WORLDS

Minimum Credits: 3
Maximum Credits: 3
This is a lecture course on the earliest cultures of Egypt, Mesopotamia and China. The approach is comparative. The course will focus on the similarities and the differences in the cultural development of these ancient civilizations, and will stress their contributions and legacies to the civilizations of today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0755 - RELIGION IN ASIA

Minimum Credits: 3
Maximum Credits: 3
This course serves as an introduction to the major religious traditions of South and East Asia. During the course of the semester, we encounter Hinduism and Jainism, the native Confucian, Daoist (Taoist), and popular traditions of China, and the Shint, folk and new religions of Japan. Buddhism, which originated in India but later spread to East Asia, is examined in its relation to the history of both Chinese and Japanese religions. We approach these traditions through lectures and discussion based on Chinese classical and popular literature, secondary scholarship, and films, which inform us about cultural and historical context, beliefs, practices, and personal experience. In the process we expect to learn something about the ways in which non-Western religious traditions see themselves and their world on their own terms, and to see how/if they can complement our own worldviews.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0756 - INTRO TO ISLAMIC CIVILIZATION

Minimum Credits: 3
Maximum Credits: 3
This course aims to introduce students to Islamic and Middle Eastern History from the time of the Prophet (ca. 600 C.E.) to the Iranian Revolution in 1979. We will proceed chronologically, focusing mainly on political events. However, a special emphasis will be given to the formation of the Islamic tradition, its evolution across different regions and cultures in time, and its interaction with other traditions. In the modern era, we will particularly explore the Islamic societies' political, cultural, and military encounter with the rising power of the West in the Middle East. In addition to the several historical processes and developments such as modernization, nation-building, Islamic fundamentalism and globalization, which have shaped the history of the Middle East in the last two centuries, our class discussions will also touch on the main theoretical perspectives that have stamped the studies of Islam and the Middle East. Here, concepts such as orientalism, defensive development, and modernity will constitute our main

focus.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0788 - WOMEN & MEN IN ANCNT MEDIT

Minimum Credits: 3
Maximum Credits: 3
This course examines ancient Mediterranean society, particularly that of Greece and Rome, from the perspective of male and female gender roles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 0789 - WOMEN MEN ANCT MEDT/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking HIST 0788 as a writing course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HIST 0795 - HISTORY OF AFRICA BEFORE 1800

Minimum Credits: 3
Maximum Credits: 3
Surveys history of Africa from earliest times to eve of European civilization. Looks at Africa from the inside out and aims at promoting an appreciation of Africa's contribution to world civilization and an understanding of the historical processes that have shaped modern Africa. Major themes and topics include ancient kingdoms, Islam the slave trade and the European contact.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1000 - CAPSTONE SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This course seeks to acquaint history majors with proper techniques of historical research and writing.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: HIST 1001; PLAN: History (BA)

HIST 1001 - INTRODUCTORY SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This course introduces its students to the ways historians work. Either by focusing on various interpretations of a common event or series of events, or by looking at historiographical literature in general, the course demonstrates the diversity of historical interpretation.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PLAN: History (BA)

HIST 1003 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the historical and present impact of Islamic culture in the city and environs of Sarajevo, Bosnia, by taking students to Sarajevo. The students will participate in formal seminars on the topic and tours of appropriate places conducted by a university faculty member, scholar and native speaker.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

HIST 1004 - THE MIDDLE AGES: A LIVNG LEGCY

Minimum Credits: 4
Maximum Credits: 4
The course has a double objective. It examines some outstanding achievements and achievers of the European middle ages, particularly in the arts and sciences, ideas and institution. It also scrutinizes connections between this period and our own, to demonstrate how firmly 20th-century American culture is rooted in pre-modern Western and Eastern Europe. Foci are the university, the liberal arts, Romanesque and gothic architecture,

the rise of cities and the middle class, Greek and Roman Christianity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1005 - SPECIAL TOPICS
Minimum Credits: 3
Maximum Credits: 3
This course entails the exploration of a special topic chosen by the instructor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

HIST 1006 - SPECIAL TOPICS
Minimum Credits: 3
Maximum Credits: 3
This course entails the exploration of a special topic chosen by the instructor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

HIST 1007 - SPECIAL TOPICS
Minimum Credits: 3
Maximum Credits: 3
This course entails the exploration of a special topic chosen by the instructor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

HIST 1009 - HISTORY THROUGH ARTIFACTS
Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to various historical aspects of a society (religious, cultural, economic, political, architectural, etc.) By visiting a specific country after having taken a course on the society. The course provides an experiential dimension to historical understanding.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

HIST 1014 - COMPARATIVE WITCH HUNTS
Minimum Credits: 3
Maximum Credits: 3
This course examines the European witch hunts of the 16th and 17th Centuries, the anti-Trotskyist witch hunt" within the Soviet communist party in 1934-1939, and the anti-communist "witch hunt" in the U.S. In 1946-58 to determine if all three qualify as witch hunts. The course's purpose is to have students determine if the three cases are comparable, and why they are or are not."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1015 - UHC-COMPARATIVE WITCH HUNTS
Minimum Credits: 3
Maximum Credits: 3
This course examines the European witch hunts of the 16th and 17th Centuries, the anti-Trotskyist witch hunt" within the Soviet communist party in 1934-1939, and the anti-communist "witch hunt" in the U.S. In 1946-58 to determine if all three qualify as witch hunts. The course's purpose is to have students determine if the three cases are comparable, and why they are or are not."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1016 - THE IRISH IN AMERICA
Minimum Credits: 3
Maximum Credits: 3
This course will discuss the causes and consequences of Irish immigration to the United States, from the 17th century to the present. We will discuss the cultural and political effects of Irish immigration, not only upon the United States, but upon Ireland and Ireland's long-time master, Great Britain. We will also examine in detail the experience of Irish immigrants, and compare it to that of other immigrant groups.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1017 - GLOBALIZATION AND HISTORY

Minimum Credits: 3
Maximum Credits: 3
Growing global connections affect all of us. This course explores events and social forces in history that operate at global perspective by examining selected events that occurred simultaneously in many parts of the world such as student protests of the late 1960s, economic downturns and social crises of the mid 1970s, and the effects of the end of the cold war. Students will be 'assigned' different countries and learn how that society interacted with others inter- nationally. The class includes lectures but will have an emphasis on discussion sections and small group projects.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1018 - GLOBAL INEQUALITY

Minimum Credits: 3
Maximum Credits: 3
Why are some places so rich and others so poor? Do climate-based, geographic, or other natural factors account for the deep disparities between world regions? Or do these reflect human choices and hierarchies of power, within countries or between them? In this course we debate the causes of global inequality and ask what can be done about it. Are international efforts to shape economic growth in the world's poorest countries triumphing over poverty or making the problem much worse? Is 'international development' a success story, a failure, or a fraud?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1019 - CITIES HISTORICAL PERSPECTIVE

Minimum Credits: 3
Maximum Credits: 3
This course examines five inter-related themes. We begin by exploring how cities have been, are, and continue to be shaped and assembled. We examine urban space and design, and how culture, economics, and technology affect them. We also focus on the evolution of urban center over time, especially from the industrial revolution. Problem created by industrialization gave rise to utopian urban planning, some of the ideas of which have shaped modern cities. We also explore issues relating to racial and class segregation. We end by examining the recent restoration/gentrification of cities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1020 - CITIES OF CULTURAL CONQUEST

Minimum Credits: 3
Maximum Credits: 3
This course will take place in Istanbul, turkey, and Cordoba and Granada, Spain. Each of these cities witnessed fundamental remaking of its identity following conquest by forces that adhered to a different religion. The course focuses on the impact of the ensuing transformation and its impact on the built environment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1021 - ANGLO-DUTCH ACHEVMNT 1550-1750

Minimum Credits: 3
Maximum Credits: 3
This course examines the (primarily supranational) historical forces by which two neighboring early modern European states-the united provinces and Great Britain-were created and formed. It also examines the interaction of these states both thematically and chronologically. It suggests that the result was a transition to modernity of not simply European but also global importance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1026 - STATES AND SEX THE AMERICAS

Minimum Credits: 3
Maximum Credits: 3
This course will trace the evolution of official interest in popular reproductive practice in the United States, Latin America, and the Caribbean from 1800 to 2000. How and why have states sought to regulate sex and its consequences? How have regulations treated people differently on the basis of race, class, marital status, and sexual orientation? And what rights and protections have women and men sought to demand from states? When have they been successful? This course analyzes the Americas-wide history through which the personal became political.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade

HIST 1027 - EXODUS AND PASSOVER

Minimum Credits: 3
Maximum Credits: 3
Study of Exodus story and Passover holiday that develops from it including interpretations in Jewish and non-Jewish sources, development of the holiday and the ritual meal (Seder), changes in the rituals over time, and adaptations and uses of the story and holiday by different modern Jewish and non-Jewish movements and groups.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1030 - COMPUTATIONAL METHS IN HUMANIT

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the use of computational modeling and programming to conduct text-based research in the humanities. Course goals include 1) learning how to identify research questions in the humanities that are amenable to computational analysis and processing and 2) designing and implementing xml-based computational systems to explore those questions. No prior programming experience or knowledge of foreign languages required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1040 - WORLD WAR I-COMPARTV PERSPECTV

Minimum Credits: 3
Maximum Credits: 3
The great war shaped 20th century Europe and the world. So, in section 1 of this class, you will engage with the how and why the war began and the lively debate taking place in Europe today over the origins of the war. In section 2 you will analyze the war itself and the West's 'descent into barbarism.' In section 3 you will analyze the impact of the war on the arts, revolution and women's roles in society. Finally, in section 4, you will analyze how Europeans dealt with memory and mourning after the war as well as how they 'constructed memory' of the war.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1042 - THEORY & PRACTICE OF NATNALISM

Minimum Credits: 3
Maximum Credits: 3
After a review of the most prominent theories of nationalism, the emphasis is on their explanatory powers and limitations in understanding the real" world. Questions examined include: why does nationalism have such extraordinary appeal and mobilizing power? Is it a singular phenomenon or a single name applied to diverse ones? What are the historical, socio-political and social-psychological functions of nationalism and the nation-state? Is there any preferable and viable alternative to the nation-state?"
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1043 - REVOLUTIONARY SOCIAL MOVEMENTS

Minimum Credits: 3
Maximum Credits: 3
A broad survey of social revolutionary movements of the past, such as those leading to the French and Russian Revolutions, and their influence on various movements taking place in third world countries of today. Emphasis will be placed on movements presently underway in Latin America.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1044 - TWO CNTURIES DEMOCRATIZATION

Minimum Credits: 3
Maximum Credits: 3
Democratization has advanced in modern history in several great multicontinental bursts from the late eighteenth century to the present. This course will explore why certain historical eras are such moments of democratization and how the very conception of democracy has developed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1045 - SOCIALISM VERSUS CAPITALISM

Minimum Credits: 3
Maximum Credits: 3
The course covers the economic changes that produced capitalism; the attempts to understand capitalism which culminated in the theories of Adam Smith; the problems of communist societies and their attempts to return to some form of capitalism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1046 - NATIONALISM

Minimum Credits: 3
Maximum Credits: 3
Theories of nationalism, ethnicity, and race are examined and are contrasted with theories of modernization and socialism. Particular emphasis is placed on ethnonationalism in developed Western countries, such as Britain, France, Spain, Belgium, and Canada, and on ethnic politics in the U.S. Comparisons are drawn with nationalism in other types of political systems, particularly the USSR, Yugoslavia, and selected Middle East and African countries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1048 - MASS VIOLENCE IN 20TH CENTURY

Minimum Credits: 3
Maximum Credits: 3
A crucial phenomenon of 20th century history, mass violence and genocide grab the imagination of the public and call for explanations. This course will examine roots of mass violence and discuss various explanatory approaches. We will focus on three case studies (Nazi Germany, the late ottoman empire, Indonesia), each time covering various forms of mass violence against several different groups (including enforced resettlement, forced labor, and organized starvation). Topics include political, economic, social, and religious contexts; imperialism and nation-building; the role of political systems as well as of popular participation; and the interaction between victim groups, state and society. The course also gives students an understanding of different existing explanatory concepts (genocide, holocaust, ethnic cleansing, and mass violence). Background in history is beneficial but the course is designed to serve the entire student community.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1050 - INTELCLS & POLIT 2OTHC EUROPE

Minimum Credits: 3
Maximum Credits: 3
Intellectuals have been involved with politics whether they have wished or not throughout this turbulent century. In this seminar we will grapple with different social theories about modern intellectuals, their political and ethnical responsibility, and their production. We will also consider ways of doing intellectual history and practice doing intellectual history in written assignments. We will also do case studies, examining the role of intellectuals in several settings during periods of political crises and conflict such as revolution, Nazism, communism, the Cold War.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1051 - CATHOLICISM IN THE NEW WORLD

Minimum Credits: 3
Maximum Credits: 3
The course will examine the history of the roman Catholic church since 1492 in the Americas using various moments of internal crisis or external conflict as focal points for study. Topics will include: missionary and military contact with new world indigenous populations after 1492; the minority situation of Catholics in the new United States; the Irish famine and its consequences; conflicts between Catholic ethnics; the impact of Catholic support for fascist regimes in the 1930s and 1940s; counter-cultural forms of Catholicism (conscientious objectors, civil rights activists, pacifists); Vatican ii and its impact; liberation theology, Marxism and structural reform in Latin America; shifting theological positions on social and moral issues; the current sexual abuse crisis. While the emphasis will rest upon the social, economic, and political dimensions of Catholic history, the course will also address the aesthetic and cultural legacy of Catholicism including sacred architecture, music, and the arts, in elite and vernacular forms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1055 - HISTORY OF DANCE

Minimum Credits: 3
Maximum Credits: 3
Does dancing have a history? This course investigates the most popular and controversial dances from the 16th-20th centuries, from the Volta to the Waltz to the Tango to the Grind. We will explore how a dance's initial reception and subsequent development reveal assumptions about class, race, gender, youth culture, sexuality, and the body. The course will focus on social dancing in Europe and North America, but we will also discuss parallel developments in theatrical dance and the significant influence of African dance traditions on Western dance. Assignments will include video

clips as well as readings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1056 - HISTORY OF DANCE PRACTICUM

Minimum Credits: 1
Maximum Credits: 1
This course gives a "hands on" introduction to the dances of the past 400 years, from the stately Pavane of Shakespeare's day to 20th-century tango, swing, and hip hop. Instruction manuals enable us to reconstruct the early dances with some degree of accuracy, while film and video have preserved more recent forms. In addition to learning how to do these dances, we will also consider how choreographies and dance floor etiquette reflected and challenged gender expectations, class divisions, and race relations. No prior dance experience is needed, but students are expected to participate fully in all class exercises and activities.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HIST 1060 - THE GLOBAL HISTORY OF PIRACY

Minimum Credits: 3
Maximum Credits: 3
This is an exploration of the ancient and global history of piracy. Using primary historical documents (written by and about pirates) as well as the accounts of modern historians, we will discuss a range of topics such as the role of piracy in the building of empires, the later struggle of merchants and their allies to eradicate piracy through bloody campaigns of capital punishment, and the meanings of the pirate as represented in popular culture through the ages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1062 - HUMAN RIGHTS IN WORLD HISTORY

Minimum Credits: 3
Maximum Credits: 3
Human rights in world history, will provide a historical overview of the human rights movement, focusing on the 18th-20th centuries. The course will lay out the parameters of the struggle to define and implement human rights in the Western and non-Western world, and engage with the different resulting viewpoints. The course will explore controversial aspects of the implementation of human rights internationally, including calls for the respect of cultural differences. Finally, the course will examine case studies of the racial/ethnic/caste dimension of the human rights struggle, looking at the US, Brazil, Israel, and India as countries with quite different cultural traditions, political makeups, and demographic compositions. The course will enroll 40 students, and will meet once per week in the evening.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1065 - COMPARATIVE MILITARY SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
This course deals comparatively with the nature of military systems and their relationships with the societies they serve (or dominate). Topics include: early mankind's record of warfare, the social origins of military personnel, their training, inter- and intra-service rivalries, mutinies, war crimes, civil-military relations, and coups d'etat.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1070 - THE RISE MOD PAN-AFRCN MOVEMNT

Minimum Credits: 3
Maximum Credits: 3
This course will survey the current of pan-Africanist thought from the partitioning of Africa to the independence movements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1076 - COMPARATIVE SLAVERY

Minimum Credits: 3
Maximum Credits: 3
This course will compare slave societies and slave systems in the old world (Europe and Africa) with the new world (U.S. And Latin America).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1083 - HISTORY OF SPORTS

Minimum Credits: 3
Maximum Credits: 3
The course will survey the history of sports, focusing primarily on the 20th century. We will balance consideration of professional sports with that of the games the people play. We will look both at the impact of television as well as the new fitness (revolution). Topics considered will include women in sports, the commercialization of culture and collegiate sports. A major focus will be the role in sports in Pittsburgh in the past 50 years.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1084 - FOOD AND HISTORY

Minimum Credits: 3
Maximum Credits: 3
The subject of food production, preparation, and consumption is examined from a variety of disciplinary perspectives in this reading seminar. The course contrasts pre-industrial and modern diets and food systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1086 - NUCLEAR AGE-NUCLEAR WAR

Minimum Credits: 3
Maximum Credits: 3
This course surveys the threat to mankind's continued existence posed by the arms race and the possibility of nuclear war. Among the topics covered are the origins of the nuclear age during World War II, the dropping of the atomic bomb on Hiroshima and Nagasaki, the first Cold War and arms race, the military strategies of political elites, attempts at arms control through negotiations, mass protest against nuclear weapons, the new arms race, and the prospects of avoiding a third World War.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1089 - KNOWLEDGE AND POWER

Minimum Credits: 3
Maximum Credits: 3
This course will investigate Russian, Japanese, and North American explorations in the North Pacific in the eighteenth and nineteenth centuries. Students will analyze the ways in which nation states used information gathered by explorers to build competing world empires. They will analyze the political, economic, and intellectual motives of the states and private individuals that invested and participated in these expeditions, and address such questions as: what was the purpose of an expedition? Who participated and what did they hope to find?
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1090 - HISTORY MEDICINE & HEALTH CARE

Minimum Credits: 3
Maximum Credits: 3
Provides an overview of the social history of medicine from prehistory to the present. Focuses on the emergence of medical institutions, education, theories, practices and the Orthodox and irregular medical sects. Describes the growth of the separate health disciplines of nursing, pharmacy and public health. Examines the impact of socioeconomic factors, religions and war on the evolution of medical science. Discusses the changing roles of government in the development of the American health care system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1091 - GLOBAL HEALTH HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course explores the history of global public health from 1850-present. It focuses on the social, political, economic, environmental, and cultural factors that have influenced the development of global health generally and also shaped specific interventions and policies. What are the political and economic roots of health disparities? Why do interventions succeed or fail and what are their long-term consequences? What can we learn from studying the continuities and disparities between modern global health policies and past programs? Historical analysis of theory and practice provides crucial perspective on the field.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1095 - SPORT AND GLOBAL CAPITALISM

Minimum Credits: 3
Maximum Credits: 3
The history of sport and global capitalism is designed for students seeking to make their way as professionals and/or for those interested in global sport as a social and political force both in the US and around the world. Focusing on the evolution of sport as a global industry and the creation of an imposing scholastic, community, and non-profit infrastructure, it equips students to understand and navigate those arenas. If, after graduation, students venture into the sports industry, scholastic sport, or sport for development, they should do so with their eyes wide open.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1102 - THE IDEA OF EUROPE 1914-2004

Minimum Credits: 3
Maximum Credits: 3
This course deals with European integration, from the first attempts to create supranational structures after WWI to the creation of a European constitution and the eastward enlargement of the European Union in 2004. In addition to providing students with an overview of the history of the European integration and of the institutions of the European Union today, this course focuses on the various ideas and concepts under lying the integration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1108 - COMPARATIVE EUROPEAN HISTORY

Minimum Credits: 3
Maximum Credits: 3
This non-honors course compares two European states in the Twentieth Century. The focus is on social history.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1109 - FRANCE, SPAIN & ITALY IN 20THC

Minimum Credits: 3
Maximum Credits: 3
This course will compare three European countries, as a way of identifying the distinctive traits in each. We shall also hypothesize as to which of these traits are most likely to survive, and which even to thrive, in the Europe of the future. Although there are no prerequisites, students who can read a foreign language relevant to one of the three countries are particularly welcome.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1110 - MEDIEVAL HISTORY 1

Minimum Credits: 3
Maximum Credits: 3
Survey course in the social, political, economic and religious history of Europe from the Diocletian reforms to the year one thousand. Special attention to interpreting the primary documents and to integrating various areas of activity (e.g. economic and religious). Focus on France, England, Germany, and Italy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1111 - MEDIEVAL HISTORY 2

Minimum Credits: 3
Maximum Credits: 3
Survey course in the social, political, economic and religious history of Europe from the year 1000 to the Black Death. Special attention to interpreting the primary documents and to integrating various areas of activity (e.g. economic and religious). Focus on France, England, Germany, and Italy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1112 - MEDIEVAL WORLD

Minimum Credits: 3
Maximum Credits: 3
Subject: cultural, intellectual, and political activity in the European Middle Ages. The course concentrates on a few significant aspects of the medieval world, taking them as centers from which to explore interrelated phenomena; a court, a cathedral, the crusades, the divine comedy.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1114 - MEDIEVAL SPAIN

Minimum Credits: 3
Maximum Credits: 3
The course medieval iberia stresses the conflicts and encounters between Christians, Muslims, and Jews. Through the analysis of a wide variety of selected and translated primary sources as well as modern historiography, the course presents the main entities and processes evolving in Iberia from 711 to 1492. The major cultural entities approached are: Al-andalus, Hispania, and Sefarad. The main processes are: the consolidation of states, the unfolding of military campaigns, the development of cultural interactions, and the transformations of the economic and social life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1115 - THE WEST AND THE WORLD

Minimum Credits: 3
Maximum Credits: 3
From the time of Columbus to that of William Pitt, Europe developed its knowledge and power in a way that enabled it progressively to dominate the world. Around the globe, Europeans reshaped, or destroyed, or failed to affect, the peoples whom they discovered". This course attempts to explain Europe's rise to dominance, by comparing the West to the societies of Islamand of East Asia. It also explores the various kinds of cultural contact between Europeans, and Africans, Asians, and Amer-Indians, from the 15th to the 18th century."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1116 - INTRO TO THE RENAISSANCE

Minimum Credits: 3
Maximum Credits: 3
The idea of the Renaissance is central to Western culture. Many of our values and tastes devolve from--or consciously react against--patterns that were established or reinterpreted five hundred years ago. The student who explores the renaissance, therefore, gains hold of one of the keys of Western civilization. He or she also acquires practice in critical reading, discussion, and the written expression of ideas.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1117 - RENASNC AND REFORMTN EUROPE

Minimum Credits: 3
Maximum Credits: 3
Are history and biography friends or enemies? Does the study of individuals lead us towards, or away from, an understanding of the society in which they lived? This course uses the lives of six men and women from different parts of Europe as a way to consider major historical issues. The six are our guides to a Western world that was more complex, more sophisticated, and more divided than ever before.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1120 - BRITISH ISLES

Minimum Credits: 3
Maximum Credits: 3
The history of Great Britain and Ireland is normally divided into the various national histories of England, Wales, Ireland and Scotland. In the belief that it makes better historical sense to see these histories as part of a wider framework, this course will concentrate upon their interaction within the British Isles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1121 - TUDOR ENGLAND

Minimum Credits: 3
Maximum Credits: 3
The Tudor period - the age of Henry VIII and Elizabeth I is generally looked upon as a Golden Age of English culture. It was also a period of considerable social and political change when, under the impact of the Renaissance and reformation, as well as an economic revolution, the traditional medieval world gave way to one which was recognizably modern. Shakespeare's Hamlet, Bacon's advancement of learning all emerge from this culture. This was also the century during which London came to control the destinies of Wales, Scotland and Ireland.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1122 - STUART ENGLAND
Minimum Credits: 3
Maximum Credits: 3
In 1603 England and Scotland were united under a common monarch, James I and VI. At the same date the conquest of Ireland was completed. Political and religious tensions within the three kingdoms led to Civil War, the execution of Charles I, the establishment of a republic and the conquest by Cromwell of Ireland and Scotland. The restoration of the monarchy took place in 1660 but further political change continued, culminating in the revolution of 1688, when limited monarchy took the place of divine right kingship.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1123 - MODERN BRITAIN
Minimum Credits: 3
Maximum Credits: 3
Political, economic and social change in Britain from the early 18th century to the present are examined in depth. Topics include the pre-industrial social structure, the origins of political stability, the making of the Industrial Revolution, popular protest and political reform, Britain's supremacy during the Victorian era, imperialism and the rise of labor, the impact of total war, and the emergence of the welfare state. A discussion of Britain's future prospects concludes the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1124 - IRELAND
Minimum Credits: 3
Maximum Credits: 3
Ex-republicans and loyalists: you've been in Belfast for 2 weeks. Do you understand the conflict any better now?" Pitt students: "no. We are more confused now than when we arrived." Ex-prisoners: "good! You've learned something." Contradictory? Confusing? Confusing? All of the above? If you say, ""all of the above" then you will find this class "intriguing." You will move beyond the "inherited histories" concerning the conflict in Ireland and investigate the roots of the Irish conflict. By the end, you will come to realize that history is rarely black and white and that there are many "truths" and shades of grey."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1125 - SCOTLAND
Minimum Credits: 3
Maximum Credits: 3
The pre-modern history of Scotland revolves around the interaction of several cultures-Pictish, British, Irish, Saxon and Scandinavian. Early modern Scotland begins with the reformation. Modern Scotland dates from the Industrial Revolution. The course concludes with contemporary issues, including Scottish nationalism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1126 - FRENCH REVOLUTION
Minimum Credits: 3
Maximum Credits: 3
This course will consider various theories of the social sources of revolutions and evaluate them in the light of historical research.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1128 - MODERN FRANCE-1 1780-1880
Minimum Credits: 3
Maximum Credits: 3
A history of France between the fall of the old regime and the foundation of the third republic.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1129 - MODERN FRANCE-2 1880-1980
Minimum Credits: 3
Maximum Credits: 3
A history of France from the foundation of the third republic through the fifth republic.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1131 - MODERN GERMANY

Minimum Credits: 3
Maximum Credits: 3
A lecture course on German history from the foundation of the North German federation to the end of World War II. While the structure of the course is shaped by the main political changes, considerable attention is given to the evolution of society, and to cultural and intellectual life as well.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1132 - CONTEMPORARY GERMANY

Minimum Credits: 3
Maximum Credits: 3
This course examines the history of Germany from the first World War to the present by studying German history in its international context. Students will learn to distinguish between political, social, economic and cultural trends that were specific to Germany from those that were common throughout Europe and beyond. Topics include WWI's impact on European societies, the economic and political crisis of the interwar years and the explosion of creativity, the establishment of the Nazi State, WWII as turning point of European and global history, Germany's cold war division and the unexpected reunification of 1990, as well as European integration as the game-changing innovation of the postwar years.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1133 - IS FASCISM BACK

Minimum Credits: 3
Maximum Credits: 3
In this course we will look at Europe's two strongest and most typical fascist regimes; Mussolini's Italy and Hitler's Germany. We will analyze and compare the factors that made it possible for far-right anti-liberal, para-military groups to take power; contrast the ways in which the regimes functioned; and study their racist, cultural and gender politics. After establishing a historically rooted definition of fascism, we will look at several modern fascist (?) movements; France's Le Pen, Germany's neo-Nazis, Italy's neo fascist party and the far-right nationalists in modern Russia.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1135 - BERLIN - WINDOW TO GERMAN HIST

Minimum Credits: 3
Maximum Credits: 3
Berlin is not just the capital of Germany. It is a city that is shaped more than any other place in Germany by this nation's dramatic past during the 19th and 20th century. All the ups and downs of Germany's modern history have left their traces especially in berlin. This course looks at the German past from the 19th century to the present by using berlin as an exemplary place. Besides giving an overview of the history of Germany in general and berlin in particular, this course investigates to what degree the history of a place can be read through its visual appearance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1138 - FULBRIGHT SEMI ITALIAN STUDIES

Minimum Credits: 3
Maximum Credits: 3
The Fulbright seminar in Italian studies is the spring-term undergraduate-level course offered by the visiting Fulbright distinguished scholar from Italy. This course is typically offered in the fields of art history, cultural studies, film, history, literature, museum studies, political science, or urban studies.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1144 - IBERIAN EMPR ERLY MOD GLBLZATN

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the study of the Portuguese overseas empire in the early modern period by adopting a non-conventional perspective. In addition to offering a chronological and geographical framework of Portuguese expansion, the course will focus on the political, social and cultural interactions that emerged from the permanent contact of Europeans with non-European societies in Africa, Asia and the Americas. The course considers Portuguese overseas expansion within the broader context of the early modern world and investigates notions of globalization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1145 - INTELLCL FOUNDTNS OF CAPITLISM

Minimum Credits: 3
Maximum Credits: 3
This course explores the salient features of European economic development from the black plague of the Middle Ages to the Great Depression of the 1930's. The emphasis will be to understand how social, demographic, and economic processes interacted and ultimately culminated in one of the most momentous events in the history of mankind, the Industrial Revolution. We shall venture an explanation for why Europe was the first continent and England the first country to industrialize. The social changes in the aftermath of the Revolution will also be covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1146 - WELFR STATE IN COMP PERSPCTV

Minimum Credits: 3
Maximum Credits: 3
This course will examine the debates and events that have shaped Europe's welfare states. Topics discussed include the effect of total war on welfare policies in Britain and Germany; attitudes towards women in Nazi Germany, fascist Italy and Franco's Spain; modern protests against welfare for immigrants and aliens (which inform much neo-Nazi activity), and Eastern Europeans' search for capitalism with a human face". Students should have a grasp on ideological debates that have surrounded the welfare state and how policies promote ways of viewing peoples."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1147 - HISTORY OF POLITICAL THOUGHT 1

Minimum Credits: 3
Maximum Credits: 3
An examination of Western social and political ideas from antiquity to the renaissance. Emphasis on contextualized reading of a range of thinkers including Plato, Augustine, and Thomas More.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1148 - HISTORY OF POLITICAL THOUGHT 2

Minimum Credits: 3
Maximum Credits: 3
A survey of social and political thinking in early Modern Europe. Authors to be considered include Machiavelli, Bodin, and Locke.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1149 - HISTORY OF POLITICAL THOUGHT 3

Minimum Credits: 3
Maximum Credits: 3
Europeans political thought and thinkers from the enlightenment to the nineteenth century. Readings will include texts by Rousseau, Hegel and Marx.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1150 - UHC ENGLISH REPUBLICANISM

Minimum Credits: 3
Maximum Credits: 3
The establishment of an English republic in 1649 had its practical context in the fiscal and military collapse of British monarchy. To understand the revolution which resulted, however, we must recover the mental world, both Protestant and humanist, which equipped some contemporaries to reject the failed system of monarchy altogether. Our source for the recovery of this ideology is the writing of authors such as John Milton, Marchamont Nedham, James Harrington, John Streater, Henry Vane Jr, Henry Neville, and Algernon Sidney. Stylistically, this constitutes one of the finest bodies of political literature in the English language. Intellectually it requires us to familiarize ourselves with, a range of ideas from classical antiquity, the late medieval period, the renaissance, reformation, and the seventeenth century itself.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1152 - EURPN INTELLCL HIST 1750-1930

Minimum Credits: 3
Maximum Credits: 3
A course of readings and discussions focused upon selections from major texts in the European intellectual tradition from the enlightenment to the 1930s. There will be occasional lectures on the social and intellectual context; but the predominant emphasis will be on class discussions of primary

readings. Examples of possible topics are: Hume and the enlightenment, Rousseau and democratic theory, Kant and the German tradition, Burke and conservatism, Mill and liberalism, the Romantic critique, Hegel, Marx, Comte and positivism, Durkheim and the new societism, Freud, Max Weber.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1153 - EURPN INTELCL HIST 2 1870-1940

Minimum Credits: 3
Maximum Credits: 3
A course of readings and discussions focused on major texts in the European intellectual tradition from the age of positivism to World War II. There will be occasional lectures, especially on the social and institutional contexts, but the predominant emphasis will be on class discussions of primary readings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1154 - EUROPEAN FAMILIES

Minimum Credits: 3
Maximum Credits: 3
This course examines the way in which European men and women lived and worked before and after the Industrial Revolution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1155 - EUROPEAN UNIONS 800-2000

Minimum Credits: 3
Maximum Credits: 3
Looking at four periods of Europe's past, the course will examine the idea of a single state or confederation, as well as examining how pan-European political institutions functioned in practice. The course will consider the resurrection of the Empire of Charlemagne, the Renaissance Holy Roman Empire, Napoleon Bonaparte's Empire, and finally the effect of two World Wars and the consequent moves toward European federation during the Twentieth Century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1156 - BRITISH LABOR 1

Minimum Credits: 3
Maximum Credits: 3
The emergence of the world's first modern working class is explored. Themes include popular protest in the 18th century and the ideology of the free-born Englishman. The Industrial Revolution and its impact on the lives and living standards of workers are discussed. Responses to industrialization are examined, including luddism, trade unions, the farm laborers revolt of 1830-32, the political crisis of 1830-32, the new poor law of 1834 and Chartism. The course concludes with Victorian liberalization and the passage of the Reform Act of 1867.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1157 - GEOGRAPHY AND EMPIRE

Minimum Credits: 3
Maximum Credits: 3
This course traces the development of the idea of Britain as an island nation. It offers intensive engagement with some of the most important English language writings of the early modern period (1500-1800), including prose, poetry, drama, history, natural philosophy, political thought and travel writing. In relation to each work its focus is upon the deployment of geographical imagery and arguments for political purposes and the construction of a geographical articulation of national identity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1159 - GREAT SOUTH SEA

Minimum Credits: 3
Maximum Credits: 3
This course follows Britain's feats of pacific exploration from the global circumnavigation by Sir Francis Drake to those of James Cook two centuries later. It sets these in the contexts of the Polynesian migrations which brought the first human inhabitants to the island pacific and the voyages of Britain's European rivals Spain, the united provinces and France. It examines the context furnished by the world's largest ocean for the development of British geographical knowledge, maritime expertise and the establishment of empire in Australasia, Polynesia and Melanesia.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade

HIST 1160 - HISTORY OF THE EUROPEAN UNION

Minimum Credits: 3
Maximum Credits: 3
This course will examine the motives, significance and progress of the post-World War II movement toward economic and political integration in Europe. We will use methodologies derived from a variety of academic disciplines to look at why Europeans in 1945 were ready for unification; at the progress of the unification movement; at the institutions created and their workings; at the limits and probable future of European integration both for Europe and for the wider world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1164 - SMALL COUNTRIES & THE EU

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the modern history of three representative small countries of the European Union--Denmark, Latvia and Greece'and upon their relationships with larger countries of the EU, and with the European Union as a whole. We will look at the long process, beginning in the 19th century, which brought each country to its present state, and at each one's current condition and problems as a member of the EU. We will use this knowledge to generalize the experience of all the 21 small countries of the EU, and to critique current models of governance and power in the European Union.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1165 - IMMIGRATION AND EUROPE

Minimum Credits: 3
Maximum Credits: 3
Since the second World War, an intense and diverse immigration has changed the face of every West European nation migrants may have come from the far corners of their own nations as well as from former colonies, and other continents. Our course will offer a coherent if necessarily selective history of Western Europe since 1945. We will focus on, and compare, Italy, France, the Netherlands, and Britain, issues include: the Islamic diaspora; the rise of nativism; the third generation of immigrants; and the future of the European union.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1166 - FRENCH TRAILER - UHC HIST 1165

Minimum Credits: 1
Maximum Credits: 1
This is a one-credit voluntary French language 'trailer' or addition to UHC HIST 1165. Weekly discussions examine a variety of issues raised in the larger course that are specifically relevant to France, such as the arrival in the country of large new communities of Arab immigrants from North Africa, of immigrants from sub-Saharan Africa, and of Jews. We consider integration, racial prejudice, and, in general, the ways that immigration is re-shaping France.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

HIST 1169 - APPROACHES TO ANTISEMITISM

Minimum Credits: 3
Maximum Credits: 3
We survey historical, sociological, psychological, religious and political approaches to expressions of antisemitism as we study scholarly treatment of the phenomenon in the 20th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1172 - BRITN:CONTEM SCENE HISTL PERSP

Minimum Credits: 3
Maximum Credits: 3
The aim of this course is to introduce a historical dimension to the study of contemporary Britain and Ireland. In recent decades issues of national identity have begun to move from the cultural field into politics. In the context of Europe, Britain provides a case study of trends which are affecting other members of the E.U. Today, problems concerned with ethnicity and national identity are very much to the fore but in order to understand them a historical perspective is necessary.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1173 - HIST & MEMRY IN JEWSH TRADTN

Minimum Credits: 3
Maximum Credits: 3
Students will be introduced to the manner in which historians have studied and understood the Jewish experience from antiquity through the modern age. The role of historical study in the formation of Jewish identity will be especially highlighted.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1175 - XENOPHOBIA IN MODERN EUROPE

Minimum Credits: 3
Maximum Credits: 3
This course will examine Europe's post-war xenophobic, racist and exclusionary policies. We will use memoirs, photo-journalism, film and interviews to understand recent discrimination against refugees, guest workers, Jews, linguistic and religious minorities. We will also put the question into scholarly context, as we examine how historians, sociologists, psychologists and anthropologists try to understand the way in which Europeans construct the categories of us" and the "others"."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1180 - 19TH CENTURY BRITAIN

Minimum Credits: 3
Maximum Credits: 3
Political, economic and social change in Britain from the early 18th century to the present are examined in depth. Topics include the pre-industrial social structure, the origins of political stability, the making of the industrial revolution, popular protest and political reform, Britain's supremacy during the Victorian era, imperialism and the rise of labor, the impact of total war, and the emergence of the welfare state. A discussion of Britain's future prospects concludes the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1181 - TWENTIETH CENTURY BRITAIN

Minimum Credits: 3
Maximum Credits: 3
Political, economic and social change in Britain from the early 18th century to the present are examined in depth. Topics include the pre-industrial social structure, the origins of political stability, the making of the industrial revolution, popular protest and political reform, Britain's supremacy during the Victorian era, imperialism and the rise of labor, the impact of total war, and the emergence of the welfare state. A discussion of Britain's future prospects concludes the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1182 - ROMANTIC MOVEMENTS 19C EUROPE

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to analyze and define the concept and major assumptions of romanticism. Students read some major "romantic" writers and study their contributions to political theory, philosophy, religious thought and literature. Writers studies include Burke, Novalis, Hegel, Goethe and Wordsworth.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1184 - ASTROLOGY AND WITCHCRAFT

Minimum Credits: 3
Maximum Credits: 3
This course deals with both intellectual currents and popular culture in 17th Century England, exploring the relationship between magic, science, and religion, as well as the social forces that led to the belief in astrology and witchcraft.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1185 - THE DICTATORS

Minimum Credits: 3
Maximum Credits: 3
This course examines and compares the dictatorships of Hitler's Germany and Stalin's Soviet union. We shall investigate the official methods and media that transmitted the ideologies and aimed to manufacture consent for national socialism and Stalinist communism. On the basis of myths, public art, films, spectacle, and mass culture of the regimes, we shall discuss such topics as leader cults, construction of utopias, cultural revolutions, identities, and the role of propaganda and entertainment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1190 - MEDIEVAL GOVERNMENT & SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This course deals with the emergence of the medieval state and its institutions, for example, systems of law (Roman, canon, and common law) and representative institutions. The course also focuses on certain aspects of intellectual life (for example, theories of kingship and constitutionalism) and forms of social, political, and economic organization (for example, feudalism and manorialism).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1191 - ENGLISH ORIGINS OF AMERCN LAW

Minimum Credits: 3
Maximum Credits: 3
This course examines the origins and development of English law with a view toward understanding the foundations of the American legal system. Keeping in mind that law is shaped by social, economic, and political considerations, we attempt to answer the question, how did medieval and early modern English society solve certain problems with which all societies must eventually cope?""
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1197 - BLACK DEATH: PLAGUE & HISTORY

Minimum Credits: 3
Maximum Credits: 3
The black death, the great epidemic of 1347-1350's was the most profound epidemiological-ecological crisis Europe had ever experienced. Between 30 and 70% of the population of the Western world vanished. In the wake of this demographic disaster economic, psychological, social, literary and even artistic processes were profoundly altered. This epidemic can be traced through extensive primary sources ranging from literature to art history - from population statistics through village desertions. This course will introduce these data and examine the consequences of the black death.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1220 - MODERN POLISH HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course covers the period from Poland's final partition (1795) until the present day. The themes for the 1795-1914 era will be nationalism, economic growth and shifting cultural developments. The interwar period will stress the assaults on the attempt to foster economic growth and a democratic government. The last section deals with the impact of World War II and the relationship between the post-war communist system and the polish society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1225 - BALKAN HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course examines the history of the Balkan peninsula (Greece, Bulgaria, Romania, Albania, and the countries of the former Yugoslavia) and its peoples from the ottoman empire through to the collapse of Yugoslavia in the 1990s. It places particular stress on the dynamic experience of daily life against a background of regularly shifting political ideologies through the prisms of class, gender, and health. Additionally, it analyzes the conceptualization of what is meant by the term 'balkans' as discussed by historians, philosophers, journalists, and writers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1240 - POLITICAL EAST EUROPE

Minimum Credits: 3
Maximum Credits: 3

The lives and times of the people and states of the lands between" of Eastern Europe are examined in terms of three forces that have shaped their contemporary cultures, their chronic and multi-dimensional "between-ness" on the political and cultural map of Europe, and the influence of a succession of modern ideologies (from nationalism and liberalism to fascism and communism) on their institutions and behavior."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1250 - INDP STUDY: CZECH REP & POLAND

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1250IS - INDP STDY:CZECH REP/POLAND-IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Practicum
Grade Component: No Grade Required

HIST 1250OS - INDP STDY:CZECH REP/POLAND-OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Practicum
Grade Component: No Grade Required

HIST 1270 - MODERN EASTERN EUROPEAN JEWRY

Minimum Credits: 3
Maximum Credits: 3
This upper level undergraduate course surveys the history of the historically most numerous portion of European Jewry from the medieval period to the present, emphasizing the modernization of east-central European Jews as minorities in the context of their host societies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1313 - HISTORY OF RUSSIAN REVOLUTION

Minimum Credits: 3
Maximum Credits: 3
This course examines the origins, contours, and dynamics of the Russian Revolution of 1917, as well, as the period 1918-1921 during which the new Soviet State fought for its survival.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1314 - USSR 1918-1932

Minimum Credits: 3
Maximum Credits: 3
This course examines the first 15 years of Soviet rule during which the fate of the Revolution of 1917 was determined. The Civil War, new economic policy, collectivization of agriculture, five-year plan, and cultural revolution receive concentrated attention.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1315 - STALIN

Minimum Credits: 3
Maximum Credits: 3
This course examines the USSR during Stalin's reign, 1929-53. Each facet of his reign--industrial development, collectivization, class war, and repression--receive detailed attention as does WWII and the Cold War.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1325 - UHC RUSSIA AND THE WORLD

Minimum Credits: 3
Maximum Credits: 3
This course addresses itself to the following question: why societies outside the American and West European sphere find it difficult, impossible and/or undesirable to adopt (or adapt) the liberal-democratic-individualistic socio-political system (China, Iran, etc.), which Western opinion deems optimal?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1343 - CNTMPRY DEVELP IN THE USSR

Minimum Credits: 3
Maximum Credits: 3
This undergraduate seminar is designed primarily for undergraduate certificate candidates in Russian and East European studies. The course focuses on contemporary political, social, economic, and cultural developments in the USSR and is designed to demonstrate how Soviet published materials can be used to understand the Soviet Union. All reading materials will be in English.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

HIST 1344 - RUSSIAN REVOLUTION MOVEMENTS

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to examine the two major revolutionary movements of the second half of the 19th century in Russia: populism and Marxism. Readings include secondary and primary sources. The objective is to train students to analyze and evaluate different sorts of historical evidence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1366 - SOVIET CITIES 1860-1980

Minimum Credits: 3
Maximum Credits: 3
This course examines the process of urbanization and the development of cities from 1860 in what is today the USSR. The changing roles of cities, the changing nature of the urbanization process, and urban planning, government, and life are the course's unifying themes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1377 - SOVIET JEWRY

Minimum Credits: 3
Maximum Credits: 3
We focus on the Jewish community in the USSR since the Revolution of 1917.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1378 - RUSSIAN JEWRY

Minimum Credits: 3
Maximum Credits: 3
This course examines the experience of Russian Jewry during the 145 year period from its entrance into Russian political life to the end of the empire. We will treat both the internal dynamics within the community as it came to be transformed from a religiously based and clerically dominated leadership to a national-cultural entity that developed a variety of political movements and expressions in order to articulate its new found modern identity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1380 - ART AND SOCIETY 19THC RUSSIA

Minimum Credits: 3
Maximum Credits: 3
The objective of this course is to study 19th century Russia's major literary works in the context of Russia's social, political and intellectual history. Works studied include Pushkin, Gogol, Turgenev, Dostoevsky and Chekhov.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1385 - EUROPE SINCE 1945
Minimum Credits: 3
Maximum Credits: 3
History of Western and Eastern Europe: the Postwar reconstruction, communism in Eastern Europe; Europe in the Cold War; economic, social and cultural changes; the Revolutions of 1989.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HIST 1390 - STALIN AND WESTERN HISTORIANS
Minimum Credits: 3
Maximum Credits: 3
This course uses Western studies of the great terror 1936-1939 to demonstrate to students the problems, pitfalls, and biases common to Western treatments of Soviet history. Students read several interpretations of the terror and devote considerable analysis to the problems and contradictions of each.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1418 - FORMS OF JAPANESE THEATRE
Minimum Credits: 3
Maximum Credits: 3
This course will provide a survey of various major forms of Japanese theatre using English language materials. Students will have access to relatively ancient forms of Japanese theatre such as Kagura and no, kabuki drama and the Bunraku puppet theatre through film and videocassette. The modern and avant-garde theatre are also accessible through translation and videocassette material. This course is designed for upper class majors in theatre arts and non-majors in related fields.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1420 - ANCIENT CHINA
Minimum Credits: 3
Maximum Credits: 3
Comprehensive survey on development of ancient civilization in china from pre-historic time to the unification of China into an Empire. Archaeological evidence and literary materials are both sources of information. The main themes include urbanization, feudalism, evolution of state, social changes, and development of various schools of thought.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1421 - MEDIEVAL CHINA
Minimum Credits: 3
Maximum Credits: 3
This course covers the period of disunity in Chinese history (3rd to 6th centuries AD). The focus is on the process of transformation of Chinese culture during that period; the course will cover changes in social economic, and political aspects.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1422 - LATE IMPERIAL CHINA
Minimum Credits: 3
Maximum Credits: 3
From the sixteenth century, China was gradually drawn into the global economy. The effect of this economic change on China's traditional polity, culture, and society, 1550 to 1800, will be studied through lectures and classroom discussions of assigned readings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1423 - MODERN CHINA
Minimum Credits: 3
Maximum Credits: 3
China's abandonment of its traditional political culture and its emergence in the Twentieth Century as a modern nation-state ruled by the Chinese communist party is the primary theme of this course, which will include lectures, readings, films, and classroom discussion.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1425 - HISTORY OF MEDICINE IN CHINA

Minimum Credits: 3
Maximum Credits: 3
This course examines the history of medicine in China in two parts. The first part examines the development of concepts and practices of health and medicine up to the mid-nineteenth century. The second part examines how the introduction of Western medicine changed the healthcare field, forced reforms, and created a dual system of institutionalized tcm and biomedicine.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1431 - HISTORY OF JAPAN TO 1868

Minimum Credits: 3
Maximum Credits: 3
This course surveys the history of Japan from the earliest beginnings to 1868. It is concerned with the creation of the Yamato state, the influence of Chinese institutions, the emergence of warrior rule, and the consolidation of power under the Tokugawa Shoguns. The course focuses on social and economic change and the adaptability of Japanese institutions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1432 - THE WORLD OF JAPAN

Minimum Credits: 3
Maximum Credits: 3
This course covers the period between 1570 and 1870, beginning with the unification of Japan under sixteenth century military war lords and ending with the collapse of the Tokugana Shogunate. Students will read selections from the major scholarly literature on the period.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1433 - MODERN JAPAN

Minimum Credits: 3
Maximum Credits: 3
The history of Japan since 1800. This course stresses the modernization and economic development of Japan into the industrial giant it has become today. It also investigates the major by-product of that development, World War II, and the events that led to the war.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1437 - EXPLORING THE SAMURAI

Minimum Credits: 3
Maximum Credits: 3
Samurai is a Japanese word that has entered the English language. It emblazons everything from car models to china patterns. The very popularity of the concept of the warrior lifestyle has obscured its meaning. Through directed reading and writing the students will undertake an in-depth examination of the social, political, and economic world in which the samurai lived as a lens to understanding Japanese culture and Western perceptions of it.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1447 - ECONOMIC HISTORY OF JAPAN

Minimum Credits: 3
Maximum Credits: 3
This course investigates the industrialization of Japan from 1868 to the present. The course first looks at the early modern precursors to industrialization, 1600-1850. It then turns to the actual process of economic growth in the late nineteenth century, the impact of this process on the outbreak of World War II, and Japan's recovery and rise to economic preeminence after the war.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1460 - HISTORY OF JAPANESE WOMEN

Minimum Credits: 3
Maximum Credits: 3
After a brief survey of traditional women, the course will focus on the modern era. Topics will include the role of the state in the social construction

of women's lives; women in rebellion against social constraint and the state; women's sense of self and gender roles in the family; development of a feminist consciousness; political and social activism before and after World War II; political and social liberation in myth" and "truth"; women's roles in Japan's industrial "miracle"; and women's creative expression."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1470 - EURASIAN CURRENTS

Minimum Credits: 3
Maximum Credits: 3
This course investigates the transmission and adaptation of three categories of human culture (material technology, ideas, and images) across the great landmass of Eurasia from approximately 3,000 BC to the present century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1475 - EAST ASIAN BUDDHISM

Minimum Credits: 3
Maximum Credits: 3
Beginning with an introduction to the basic concepts of Indian Buddhism, this course traces the philosophic and meditative development of Buddhism (in historical perspective) as it moves East into China and Japan.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1476 - CHINESE RELIGIOUS TRADITIONS

Minimum Credits: 3
Maximum Credits: 3
This course serves as a historical, doctrinal and practical introduction to the major religious traditions of China-both classical and modern-day.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1477 - RELIGION IN JAPAN

Minimum Credits: 3
Maximum Credits: 3
This course serves as a historical, doctrinal and practical introduction to the major religious traditions of Japan - both classical and modern-day.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1478 - CONFUCIANISM: BASIC TEXTS

Minimum Credits: 3
Maximum Credits: 3
The eighth through second centuries BCE were an era of extraordinary creativity worldwide (axial age). In China, the Analects of Confucius, the Mencius, and the writings of Hsun Tzu and Lao Tzu played the formative role that the Greek Philo classics played in Western society. Over the next two millennia, these texts would play an influential role throughout East Asia. We will study a number of these texts in their entirety, supplementing them with relevant works of scholarship. Also seek to understand the foundational role of these texts by analyzing their assumptions and strategies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1479 - LAW AND LITERATURE IN CHINA

Minimum Credits: 3
Maximum Credits: 3
Course will study interaction of law and literature in Late Imperial and Modern China, starting in the Fifteenth Century when Chinese law codes reached a stable maturity that would keep them relatively unchanged until the 20th century. Topics: relationship between law in the human realm and legal judgments meted out to the dead in the ten courts of hell; penalties of the Ming and Qing codes; fantastic tortures of fiction and drama; huge cultural efforts in establishing modern and civil codes; marriage laws in the 20th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1480 - CHINESE THOUGHT

Minimum Credits: 3
Maximum Credits: 3

Designed for honors college students to discern and to appreciate the Chinese way of thinking by reading English translations of text by relevant thinkers. Class discussion will be to compare and contrast Chinese thinking with that of America today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1481 - UHC HISTORY OF CHINESE THOUGHT

Minimum Credits: 3
Maximum Credits: 3
This course is designed for honors college students to discern and to appreciate the Chinese way of thinking by reading English translations of text by relevant thinkers. Reading materials are selected from William Theodore Debary's sources of Chinese tradition. Class discussion will be to compare and contrast Chinese thinking with that of America today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1484 - DEATH BEYOND BUDDHIST CULTS

Minimum Credits: 3
Maximum Credits: 3
Death and beyond in Buddhist cultures mortality is the human condition. This seminar focuses on the philosophical discourse, beliefs and practices relating to death, dying and the afterlife in Buddhist cultures, both traditionally and in modern times. We explore Buddhist cosmology, karmic causality, death tales, postmortem journeys, ancestor rites, mortuary practices and ghost placation. Through primary texts in translation, secondary scholarship, discussion and film, we see how dealing with death tells us as much about life as it does about what lies beyond.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1485 - HISTORY TIBET/TIBETAN BUDDHISM

Minimum Credits: 3
Maximum Credits: 3
The course will compare and evaluate different versions of Tibetan history, using criteria such as: when was the work written? Who was the author? For whom was the work intended? What primary sources were used to support the interpretations of the work? In addition, students will read on Tibetan Buddhism and its interaction with the Western world, which provides supporters of a free Tibet with a platform to obtain Western attention, sympathy, and support for their movement.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1510 - VIO & HUMN RIGH MOD LATN AMERC

Minimum Credits: 3
Maximum Credits: 3
This course provides a critical perspective on human rights struggles in modern Latin America. Our primary focus is the 1960s, 1970s, and 1980s, when Latin America suffered the rule of extraordinarily violent military dictatorships that waged a 'dirty war' against the civilian population. The course considers the origins of these authoritarian governments, their forms of rule, and use of violence. It also explores resistance to the massive violation of human rights; the eventual downfall of the dictatorships; and the types of justice, truth-telling, and commemoration that characterized the turn to democratic forms of governance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1511 - VIO & MEMORY IN LATIN AMERICA

Minimum Credits: 3
Maximum Credits: 3
How do societies that have endured state terror deal with the memory of that collective trauma? In multiple cases, 20th c. Latin American governments used violence against civilians to silence opposition and defend entrenched privilege. What factors make state terror possible? How do people make sense of 'unspeakable' events? Students will focus on case studies from central America, the Caribbean, and South America. Analyzing materials including novels, films, family stories, documentaries, and museums, we will explore the making of historical memory, and assess its political consequences.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

HIST 1522 - BRAZIL

Minimum Credits: 3
Maximum Credits: 3
The course begins with an overview of Brazilian culture and of the country's enormous resource base. Cultural change is traced through the pre-

Columbian, colonial, imperial, and republican periods. A major theme throughout is the evolution of a Portuguese heritage into today's distinctive Brazilian national culture. The country is then divided into five regions as a means of understanding its internal diversity. Popular American ideas about subjects like carnival, the Amazon Rainforest, coffee, Copacabana Beach, and the huge foreign debt are also dealt with.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1525 - MEXICO, AZTECS TO THE PRESENT

Minimum Credits: 3
Maximum Credits: 3
Mexican history from the Aztecs to the present. We will discuss the conquest, the Colonial Era, the struggle for independence, nineteenth-century liberalism, the porfirian dictatorship, the Twentieth-Century Revolution, the formation of a single party state, the temptations of socialism, the oil boom, the debt crisis, and the crisis of the system" now being experienced by Mexico."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1526 - CUBA, COLUMBUS TO CASTRO

Minimum Credits: 3
Maximum Credits: 3
A study of Cuba since its discovery. Treatment will be chronological. The 20th century will be stressed. Texts such as Suchlicki, Cuba or Perez, Cuba will be read.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1527 - MEXICO AND CUBA

Minimum Credits: 3
Maximum Credits: 3
Students will examine the divergent historical paths traveled by Mexico and Cuba from colonial times onward. Special emphasis is placed upon comparisons of their wars for independence, and national revolutions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1540 - THE CUBAN REVOLUTION

Minimum Credits: 3
Maximum Credits: 3
A study of Cuba's Revolution (1959-present), the nature of socialism and of Castroism, the Soviet and U.S. Role, Cuba's foreign interventions, and the current crisis of regime.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1541 - HIST EARLY CARIBBEAN TO EMAN

Minimum Credits: 3
Maximum Credits: 3
This course will consider the early history of the Caribbean.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1545 - RISE FALL NATNL CPTLSM LAT AM

Minimum Credits: 3
Maximum Credits: 3
This course covers the onset of the Great Depression and the consolidation of authoritarian regimes in the late 1970's. Major purpose is to discern the main features in the evolution of national capitalism" during this period, focusing on the history of economic change, expansion of the state, and social conflicts within the broad context of the regions connection to the global economy and the impact of United States policy in the region."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1550 - THE TROPICS IN MODERN HISTORY

Minimum Credits: 3
Maximum Credits: 3
This seminar will explore the history of tropical commodities from the early modern period to the present. Focusing on the role of sugar, coffee,

tobacco, and other products in the economy, politics, and culture of producing areas in the tropics and in the consuming North Atlantic. The course will expose students to a variety of historical interpretations and methodologies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1560 - WOMEN IN LATIN AMER HISTORY

Minimum Credits: 3
Maximum Credits: 3
A course tracing the history of women in Latin America from the conquest to the modern day.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1585 - US-LATIN AMERICAN RELATIONS

Minimum Credits: 3
Maximum Credits: 3
A survey of US-Latin American from 1800 to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1586 - LATIN AMERICAN REVOLUTIONS

Minimum Credits: 3
Maximum Credits: 3
A comparative examination of instances of social and political revolution in Latin American history. Cases considered include the Haitian Revolution (1791-1804), the Mexican Revolution (1910-1917), the Bolivian Revolution (1952), the Cuban Revolution (1959).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1604 - RACE AND RELIGION IN AMERICA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1610 - UNITED STATES COLONIAL

Minimum Credits: 3
Maximum Credits: 3
This is an upper division course that develops the history of the North American English colonies from around 1400 through the early 1760s.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1611 - AMERICAN REVOLUTION 1763-1791

Minimum Credits: 3
Maximum Credits: 3
This is an upper division course that considers the history of Revolutionary America between the 1750s and the 1790s.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1612 - UNITED STATES 1789-1840

Minimum Credits: 3
Maximum Credits: 3
A history of ideas -- social, literary, scientific, political -- that expressed and shaped the culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1614 - CIVIL WAR HISTORY

Minimum Credits: 3
Maximum Credits: 3

This is an upper division course that considers the impact of the Civil War upon the development of the United States.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1617 - UNITED STATES IN THE 1960'S

Minimum Credits: 3
Maximum Credits: 3
This course explores American politics, culture, and society in the 1960s. Topics include the "Camelot's" years of the Kennedy administration, the great society, the Vietnam war at home, the civil rights movement and the rise of the new left and women's liberation movements, rock and roll, the sexual revolution and the counterculture, and the emergence of new age spirituality.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HIST 1619 - UNITED STATES SINCE 1945

Minimum Credits: 3
Maximum Credits: 3
Social, economic, and political changes in American society since World War II. Topics include the post-industrial economy, urbanization, women, minorities, education, political movements, government, parties, and political participation. Emphasis is on the massive changes during those years and the impact on people, institutions and government.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1621 - HIST OF THE SOUTH THRGH 1880S

Minimum Credits: 3
Maximum Credits: 3
This class will give students experience of dealing with the history of a region within the United States and will permit them to place the history of the South within the context of developments within the nation as a whole. It will also play an important role in expanding our knowledge dealing with slavery and the history of a broadly defined Atlantic region which includes Western Europe, Africa, and North and Latin America.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1622 - IMMIGRATION & AMERICAN DIVRSTY

Minimum Credits: 3
Maximum Credits: 3
This course examines the long history of migration to North America, with a special focus on relations among immigrants and the often equally mobile minority populations of the USA. Students will read both immigrants' stories about their lives and scholars' analyses of migration and mobility. They will be encouraged to consider the importance of mobility and migration in their own family and community histories. Through a series of short papers, students will practice thinking and writing as historians.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1625 - HISTORY OF THE AMERCN FRONTIER

Minimum Credits: 3
Maximum Credits: 3
This course explores the settlement and development of frontier regions across the continent, emphasizing 19th century experiences. Diverse and distinctive frontier societies emerged from the processes associated with land acquisition, exploration, Indian relations, Westward migration, economic development, social organization, governance, and urbanization. The different and conflicting interpretations of the frontier experience raise important questions and perspectives about the character of American society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1626 - HISTORY OF U.S. LANDSCAPE

Minimum Credits: 3
Maximum Credits: 3
This course explores the emergence, evolution and diversity of the American vernacular landscape from colonial origins to the mid-Twentieth Century. The changing landscape, which includes buildings, land use, and other settlement features, is examined in relation to economic development, cultural diffusion, social change, and technological innovation. Despite standardizing processes distinctive regional, often folk, landscapes have endured and impart a diversity to the landscape visible to those who wish to take the time to observe and comprehend.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1627 - RELIGION AND LAW

Minimum Credits: 3
Maximum Credits: 3
Religion and law examines the role of religious freedom in American history, from colonial days to the present, focusing on documents that predate the first amendment of 1791, as well as upon central supreme court cases that helped define what "legal religion" means as a category in the United States. Students will read court cases and become familiar with arguments for and against the ideal of religious freedom, including court cases involving the Amish, Mormons, Santeria, and the use of religious symbols in public places
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1631 - THE AMERICAN LEFT 20TH CNTUR

Minimum Credits: 3
Maximum Credits: 3
An upper division undergraduate writing and research seminar on the history of the American left.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1640 - UNITED STATES POLITICAL PRTY 1

Minimum Credits: 3
Maximum Credits: 3
In the United States political parties were not the result of invention or adoption, but of an evolutionary process. This course analyses the English roots and colonial experience which provided the ingredients for embryonic national parties after 1789. From that point the course traces the milestones, procedures, and techniques that led to the two-party system we know today. This maturity was not reached until the Civil War era (1854-1874), the final period covered by the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1641 - MODERN AMERICAN POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course examines four party systems: (a) years of party rivalry (1854-1894) in which civil rights and property rights successively dominated the national scene, (b) years of republican dominance (1894-1930) in which sweeping domestic reforms and emerging world responsibilities held the limelight, (c) years of democratic dominance (1930 1968) in which an economy of abundance and responsible internationalism provided the major challenges, and (d) years of participatory democracy (1968-present).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1645 - AMERICAN ECONOMIC HISTORY

Minimum Credits: 3
Maximum Credits: 3
The course presents a survey of the strategic factors in the economic development of the United States from colonial times to the great depression. The topics covered include the record of economic growth, the process industrialization and its major phases, British mercantilism, the role of technological change, demographic history, the slave economy, distribution of income, urbanization, and the financial sector.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1646 - ECONMC & BUSINSS HISTORY U.S.

Minimum Credits: 3
Maximum Credits: 3
The historical background of current major economic issues. Covers boom and bust; industrialization; productivity trends; changes in business organization; relations between business and society; ideological battles over the free market system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1653 - COLD WAR AMERICA IN THE WORLD

Minimum Credits: 3
Maximum Credits: 3

This course explores the impact of the Cold War on the American home front during its years of peak influence, 1945-1965. We will investigate the postwar division of the world into two opposing camps, and then take up topics such as McCarthyism, American reactions to the atomic bomb, the culture of consumption, suburbanization, and youth culture. We will ask how the cold war climate fostered (or hindered) social movements for racial equality, participatory democracy, and women's rights. At its close, the course asks which hallmarks of the early cold war - from lonely crowds to paranoid politics - persist today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1655 - AMERICAN WORKERS 19TH CENTURY

Minimum Credits: 3
Maximum Credits: 3
This course examines American working class formation, development, and recomposition during the nineteenth century, and workers' impact on American economic, political, and cultural development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1656 - AMERICAN WORKERS 20TH CENTURY

Minimum Credits: 3
Maximum Credits: 3
This course examines the experiences of American workers during the second Industrial Revolution of the early Twentieth Century, the emergence of a government-sponsored national system of labor relations in the 1930s and 1940s, the structural changes in the economy and labor force since 1950, and the subsequent breakdown of the new deal formula for class relations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1660 - GENDER & SEXTY IN US TO 1865

Minimum Credits: 3
Maximum Credits: 3
This upper-level course is part of a two-course sequence which surveys the history of women in the United States. Part 1 focuses on women's experiences from the 1600s to the 1880s with special attention to class, ethnic, and geographic differences among women.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1661 - US GENDER/SEXUALITY SINCE 1865

Minimum Credits: 3
Maximum Credits: 3
This upper-level course is part of a two-course sequence which surveys the history of women in the United States. Part 2 focuses on women's experiences from 1865 to the present with special attention to class, ethnic, and geographic differences among women.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1662 - TOPICS IN WOMEN'S HISTORY

Minimum Credits: 3
Maximum Credits: 3
This upper-level seminar is devoted to discussing and researching topics in women's history in the United States.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1665 - HISTORY OF THE AMERICAN CITY

Minimum Credits: 3
Maximum Credits: 3
This course examines the development of the American city from its colonial origins to its postindustrial expression after the mid-20th century. The growth of an urban system across the nation is briefly addressed. Most attention is focused on the evolution of the city's economy, geography, social organization, and governance under the forces of rural in-migration, foreign immigration, industrialization, and changing technologies of transportation, communication, and energy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1668 - HISTORY OF PITTSBURGH

Minimum Credits: 3
Maximum Credits: 3
This course explores the development of Pittsburgh's life and landscape from its frontier origins in the 18th century to its Renaissance of the mid-20th century. The city and its region are addressed as a case study in American social history and urbanization. Pittsburgh offers the opportunity to examine the transformation from a commercial city to an industrial metropolis with the attendant social, political, labor, and redevelopment issues which characterize American urban life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1669 - HISTORY OF BLACK PITTSBURGH

Minimum Credits: 3
Maximum Credits: 3
This course will explore the role and experiences of black Pittsburghers over the past 200 years of the city's history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1670 - 19TH CENTURY AFRICAN AMER HIST

Minimum Credits: 3
Maximum Credits: 3
An examination of the intellectual and social history of black people in the United States between 1817 and 1861. It discusses the life and contributions of the major black political milieu out of which these leaders emerged. This approach will require an examination of the demographic and socio-economic characteristics of black population concentrations throughout the USA during the ante-bellum years in the 19th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1671 - REL AND CULTURE IN AMERICA

Minimum Credits: 3
Maximum Credits: 3
This course will cover issues related to religion and how it intersects with American culture particularly in modern time.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1674 - PRIDE AND PREJUDICE

Minimum Credits: 3
Maximum Credits: 3
In a chronological survey the course looks at some of the great political traditions and social movements in the sweep of American history while at the same time exploring the counterpoint of discrimination and bigotry that has occurred as well.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1675 - MIGRATION IN AMERICAN RELIGION

Minimum Credits: 3
Maximum Credits: 3
An exploration of the role of religion as a force for ethnic solidarity and cultural resistance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1676 - POPULAR RELIGION IN AMERICA

Minimum Credits: 3
Maximum Credits: 3
A survey of religious behavior and religious beliefs in the United States outside of the formal institutional structures of religion.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1677 - AMERICAN JEWISH EXPERIENCE

Minimum Credits: 3
Maximum Credits: 3
We analyze the Jewish experience in America since the middle of the 18th century.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1683 - NRTH AMRCN INDANS TRADTNL CULT

Minimum Credits: 3
Maximum Credits: 3
This course examines the effects of European conquest upon North American Indian cultures (1550-1900).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1684 - NATIVE AMERICANS TODAY

Minimum Credits: 3
Maximum Credits: 3
This course examines the origins of dependency among 20th century Native Americans.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1685 - U.S. POPULAR CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course examines the development and social impact of mass-produced and mass-consumed forms of culture in Twentieth Century America.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1686 - WAR & MILITRY IN UNITED STATES

Minimum Credits: 3
Maximum Credits: 3
A lecture-discussion course on the roles military systems play in international and national affairs, as well as in the social and economic life of the U.S. the effects that wars and military service have on the individual, the family, the economy, and politics are also addressed. This is not a course on battles, tactics, logistics, strategy, and command. It is concerned with recruitment and social origins of military personnel; training and value inculcation; combat behavior and morale; war crimes and the laws of war; civil military relations; veterans; and inter-service rivalry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1687 - U.S. FOREIGN POLICY IN AFRICA

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the increasing engagement of the United States in Africa from the late 19th century until the present. Using a case study approach, students will analyze American foreign policy in Africa and explore the varied effects of those policies. These case studies will include the political realities of decolonization, the Cold War, and economic aid and the social and cultural ties of black Americans to Africa. The course will identify specific crises in American and African history as focal points for study, but will also provide a larger narrative about American involvement in both the colonial and post-colonial development of Africa.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1690 - AMERICAN LEGAL HISTORY

Minimum Credits: 3
Maximum Credits: 3
A lecture-discussion course on the creation, transformation, and administration of the common law and equity from the 17th century to the present, its devolution from England and its evolution in America. Courts, the bar, legislatures, regulatory agencies, police, prisons, and the Constitution are all addressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1695 - ENVIRONMENTAL HISTORY

Minimum Credits: 3
Maximum Credits: 3
Environmental affairs since World War II with an emphasis on policy controversies. Topics include air and water pollution, public lands, wildlife, energy, toxic chemicals, urban environment, facility siting and more. Emphasis on the rise of environmental values in American society, the resulting policies, opposition to them, and the role of science, economic analysis, technology and management in the public debate.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1700 - INTERNATIONAL URBANISM SEMINAR

Minimum Credits: 3
Maximum Credits: 3
It is undeniable that the world has become integrated through the globalization of social, political, cultural and economic activity. Cities worldwide have been markedly affected by globalization, but in turn have played a role in the process. By utilizing published material, films, slides and the internet, this course will compare the economic, social, political, historical and cultural differences between different global cities as they struggle to survive in the twenty-first century.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1705 - MAJOR WORKS IN WORLD HISTORY

Minimum Credits: 3
Maximum Credits: 3
Students will read and debate significant portions of twelve major works in world history, addressing issues such as technology, migration, trade, law, gender, environment, and globalization. This reading, plus writing and discussing papers on it, will provide students with a solid basis in global historical studies.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

HIST 1706 - GLOBAL PHARMACEUTICALS

Minimum Credits: 3
Maximum Credits: 3
This course examines the global development of the modern "pharmaceutical era" through historical, anthropological, and sociological analyses. It traces the ever-increasing role played by chemical substances in shaping conceptions of health, treatment, and society itself from the early modern period until the present day. Topics include pharmaceuticals as an arena for competing and complimentary interests, the social character of drugs (both legal and illegal), the blurred lines between medicinal and recreational use, and the evolvement of government and scientific regulation of medications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1707 - GENDER IN GLOBAL HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course examines world history from 1500 through the present from the perspective of gender. It provides an introduction to modern world historical patterns and processes, with a focus on issues of women, gender, and sexuality. The course considers the construction of gender in pre-feminist and post-feminist contexts, and explores how global historical developments have shaped ideologies and politics of gender. The course emphasizes topics including slavery, colonialism, imperialism, industrialization, nationalism, and environmentalism, through the lens of gender.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1709 - GLOBAL HISTORY AND SCIENCE

Minimum Credits: 3
Maximum Credits: 3
Entails the exploration of a fairly new sub-field within world history: the study of long-distance, transnational, inter-cultural circuits of scientists, texts, instruments, and discourses between approximately 1500 and the present. Focusing on scientific developments in the Americas, Asia, and Africa, this course interrogates Eurocentric accounts of the history of knowledge.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1710 - JEWISH MYSTICISM

Minimum Credits: 3
Maximum Credits: 3
Mystical traditions and practices including Kabbalicism in Judaism through the early modern period are introduced and discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1711 - GENDER AND JEWISH HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course will highlight the impact of gender in modern Jewish history, revealing the divergent experiences of Jewish women and Jewish men as they adapted to the modern world. We will take an international approach to theis history, tracing the ways in which circumstances in Europe, America, and the Middle East shaped how Jews understood and responded to gender roles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1714 - DEATH IN MEDITERRANEAN WORLD

Minimum Credits: 3
Maximum Credits: 3
In many cultures, people sometimes ask fundamental questions about their existence, including, "what happens after we die?" This course will focus on the evolution of beliefs and rituals related to death and the afterlife in and around the ancient Mediterranean Basin, including Egyptian, Greek, Etruscan, and Roman cultures. Using an interdisciplinary approach, we will combine methodologies from anthropology, classics, history, and religious studies. Topics to be covered include myths of the afterlife, books of the dead, magic and death rituals, funeral practices and paraphernalia (disposal of the dead), cults of the dead, divinization, heaven and hell, judgment, and the impact of christianization on the ancient understanding of death.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1715 - EMPIRES IN THE MODERN WORLD

Minimum Credits: 3
Maximum Credits: 3
Through lecture and discussion, this course reviews empires in world historical context. Themes of governance, economy, war, culture, social organization, and colonies and decolonization are explored in three segments: empires 1400-1800, 1800-2000, and the future of empire.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1716 - INDIAN OCEAN WORLD HISTORY

Minimum Credits: 3
Maximum Credits: 3
Explores the Indian Ocean world from the rise of Islam through the 19th century age of imperialism. Shows how global networks and connections created a vibrant system of economic, technological, and cultural exchange. Begins with interactions of the various peoples, states, and religions of the Indian ocean from the 8th to 15th century; then focuses on contributions of Europeans, showing how the Indian Ocean world became entwined in a global community. The course provides background to the centrality of the Indian Ocean in the world of today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1720 - WEST AFRICA/ERA OF SLAVE TRADE

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to the history the societies of West and West-central Africa. It explores the enormous linguistic and cultural variation among these societies and examines their political, economic and social evolution during the centuries of the trans-Atlantic slave trade (roughly 1600 to 1850). Students are encouraged to think about how complex historical processes occurring around the entire Atlantic ocean basin affected the development of states and societies in Western Africa.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1721 - HISTORY OF SOUTHERN AFRICA

Minimum Credits: 3
Maximum Credits: 3
Surveys the history of Southern Africa in order to provide an introduction to the region's multicultural history from the pre-colonial era to the 1990s. Particular attention is given to environmental crises, economic development, European colonization, African resistance movements and the apartheid era in South Africa. The course prepares students to analyze issues of race, ethnicity, colonialism, economic development, immigration, and globalization in both regional and transnational perspectives. Teaching will be a combination of lecture and discussion.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1722 - MODERN SOUTH AFRICAN HISTORY

Minimum Credits: 3
Maximum Credits: 3
The course will be organized chronologically and use specific conflicts (strikes, political demonstrations, repression, etc.) to focus on various key moments in South African history. The course will utilize both secondary readings from books and articles and a large number of primary materials (ranging from manifestos to novels to film) to generate discussion and further an understanding of the roots of conflict and creation of identity in modern South Africa. Labor and the organization of the work and production processes will be one lens through which ethnic and racial antagonism can be analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1740 - CHAN/ZEN BUDDHISM

Minimum Credits: 3
Maximum Credits: 3
This seminar examines the relationships between doctrine, practice and institution and the culture(s) in which they grow through examination of major themes and sources of authority in Chan/Zen Buddhism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1741 - POPLR RELIGION IN CHANGNG JAPN

Minimum Credits: 3
Maximum Credits: 3
This seminar, through a thematic treatment of popular and civil religion, informed by religious and cultural history, looks at the process through which religion participates in shaping and reshaping worldviews, behaviors, and practices in modern Japan.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1746 - ATHLETICS OF THE ANCIENT WORLD

Minimum Credits: 3
Maximum Credits: 3
This course examines athletic competition, popular games, gladiatorial and other exhibitions of the ancient Greeks and Romans. Much emphasis on the social/cultural context and underlying values. Attention to relevant artistic archaeological, and historical settings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1751 - NOMADIC EMPIRES CENTRAL ASIA

Minimum Credits: 3
Maximum Credits: 3
The age of nomadic prestige in Central Asia and Middle East is often seen as a period of cultural and economic decline of the large areas conquered by Genghis Khan and Timur Lenk. This course goes beyond the picture of nomadic military enterprise of that period (late medieval times to the early 16th century) to examine the nomadic state; building, patterns of migration, culture and society, and economy of the Genghisid and Timurid states.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1752 - UTOPIAS 19TH & 20TH CENTURIES

Minimum Credits: 3
Maximum Credits: 3
Examination of utopian thinking and writing in the 19th and 20th centuries. The search for the ideal social form which will provide the full satisfaction of all human needs. Is this possible?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1753 - THE OTTOMAN EMPIRE (1300-1923)

Minimum Credits: 3
Maximum Credits: 3
This course traces the history of the ottoman empire from its origins as an obscure band of frontier warriors, to the highpoint of its geopolitical power in the sixteenth century, and on to its further evolution as an increasingly complex and peaceful society, down to the opening of the period of European imperialism and nation building. It will address not only the ottomans' political power, but also those economic, social, and cultural factors that helped explain that power and gave the empire such a distinctive place in the history of Western Europe, Balkans and the middle east.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1754 - RELIGION AND POLITICS

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course will be to consider the public and political implications of religion in several different political systems. We will begin with an overview of the implications for politics of various types of religious systems. Religious beliefs and institutions have wide ranging implications for civic norms, public policy, political leadership, and the treatment of various social groups, including women and minorities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1755 - UHC COMP VIEWS OF FREDM 19-20C

Minimum Credits: 3
Maximum Credits: 3
An in-depth investigation of the conceptions and meanings of freedom" as they developed in and out of the contexts of various societies in the 19th and 20th centuries."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1756 - COMPARATIVE CIVILIZATIONS

Minimum Credits: 3
Maximum Credits: 3
This course is offered to students in their freshman and sophomore years. It compares and contrasts the characteristics of major clusters of civilizations that are either continuously active from the early days to the present time, or have been transmitted from one cluster to another through its historical development. The choice of these clusters is based on the specialties of faculty members who are jointly teaching the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1757 - RELIGION IN INDIA 1

Minimum Credits: 3
Maximum Credits: 3
An introduction to the religious traditions that have developed in the Indian subcontinent and their role in shaping the cultures of India.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1758 - RELIGION IN INDIA 2

Minimum Credits: 3
Maximum Credits: 3
Focusing on the modern period and on Hinduism, we examine recent developments in the history of religion in India.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1759 - JEWS IN THE ISLAMIC WORLD

Minimum Credits: 3
Maximum Credits: 3
A survey of Jewish life in Spain, North Africa and the Middle East in medieval and early modern times.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1760 - JEWS & JUDM IN THE MEDEVL WRLD

Minimum Credits: 3
Maximum Credits: 3
An introduction to the facets of medieval and early modern Jewish life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1761 - CONTEM ISLAM: INTERNAL DEBATES

Minimum Credits: 3
Maximum Credits: 3
From the second part of the 19th century, Muslim intellectuals have been involved in an intensive ideological/theological debate. While this debate was prompted by the strong presence and influence of the West, it has not been simply a debate between the Islamic fundamentalism and the Western world. The modernist and fundamentalist debates of the last century are primarily the internal debates around historically significant issues that transformed Islamic intellectual traditions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1762 - RELIGION & POLITICS MIDDL EAST

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the role of religion in the politics of the contemporary Middle East. A general survey of the role of religion in the history of the region, and a cross regional historical-comparative view of the relationship between religious phenomena and political movements and institutions set the context for an investigation of the politics of religion in recent developments in the region.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1763 - POLITICS OF CNTMPRY MIDDL EAST

Minimum Credits: 3
Maximum Credits: 3
The main emphasis of the course will be on conflict and conflict resolution in the Middle East. Conflict has been a constant feature of the region since 1945. This course will be primarily concerned with how and why these conflicts are generated, escalate, become protracted, and are resolved.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1764 - ISRAEL: STATE/SOCIETY 1948-88

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the impact of immigration and its role in the shaping of the state, the interaction between religion and politics (state), and the experiences of the Arab citizens of the Jewish state.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1765 - ISRAEL IN THE BIBLICAL AGE

Minimum Credits: 3
Maximum Credits: 3
This course explores the history and development of the people of Israel in ancient times. What do we know about the Israelites and how do we know it? Students will read both biblical and extra-biblical materials and study the remains of key archaeological sites. They will learn about everyday life in ancient Israel, the role of class and gender, life-cycle events, religious festivals, political institutions, systems of belief, and famous personages in history and lore. The trajectory of the course will begin with the Near Eastern origins of the people, continue through the rise of the Israelite and Judahite monarchies, and end with the post-exilic reestablishment of the Second Temple commonwealth in the Persian period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1766 - MODERN ISRAEL

Minimum Credits: 3
Maximum Credits: 3
We trace the history of modern Israel from the idea of the return in the second half of the 19th century through the state of Israel today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1767 - JEWS & JUDAISM IN MODERN WORLD

Minimum Credits: 3
Maximum Credits: 3
Here we examine the specific challenges that the modern period posed to existing Jewish life and the nature of the responses made by Judaism to those challenges.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1768 - CHRISTIANS, MUSLIMS, JEWS

Minimum Credits: 3
Maximum Credits: 3
The emergence of Christianity from Judaism and the implications of the relationship between Christianity and Judaism have been of critical importance in the history of Europe and the world and both Christians and Jews continue to grapple with the theological, political, and cultural impacts of that relationship in today's world. This course surveys the relationships between Jews and Christians from the time of Jesus through the modern era, as viewed by Jews, Christians, and sometimes those in neither category. Topics include the Jewish origins of Christianity; rabbinic views of Christianity and church fathers' views of Judaism; the status of Jews and Jewish communities in the Roman Empire and in Medieval Europe, medieval persecution of Jews; interreligious disputations and polemics; the impact of the reformation and the enlightenment; Jewish-Christian relations in modern 'secular' states; the rise of new forms of anti-Semitism; the Holocaust; and post-Holocaust dialogue and new theologies of interreligious encounter. We will discuss not only the significance of Jewish-Christian interactions for European and American history but also assess Jewish-Christian relations as a case study in the broader history of religious diversity, pluralism, and conflict.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1769 - HOLOCAUST HISTORY & MEMORY

Minimum Credits: 3
Maximum Credits: 3
The Holocaust, that is, the genocide of six million Jews in Nazi-occupied Europe during World War II -- was a critical event of the early twentieth-century that continues to resonate today. Our historical survey will look at the Holocaust primarily through the experiences of its Jewish victims, though we will discuss some of the other groups, such as the Roma, disabled people, and gays and lesbians, who were also targeted and systematically murdered by the Nazis. Additionally, we will think about the perpetrators of the Holocaust and the ideologies that led to the genocide, such as racism, nationalism, and anti-Semitism. Finally, we will move beyond the history of the Holocaust to think about the ways that this event has been remembered and reconstructed by survivors, nations, institutions, museums, the arts, popular culture and the media. Looking at how institutions here in Pittsburgh commemorate the Holocaust will offer us local, concrete examples of how people continue to grapple with this history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1770 - AFTER THE HOLOCAUST

Minimum Credits: 3
Maximum Credits: 3
A survey of the impact of the Holocaust on Jewish life in the Soviet Union, the Middle East, and the United States in the period 1945-1985.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1772 - RACE, CASTE ETHNY GLBL PERSP

Minimum Credits: 3
Maximum Credits: 3
This course will compare and contrast the ways in which race, caste and ethnicity operate in a variety of national, economic, demographic and cultural settings, notably Cuba, Brazil, South Africa, India, China, and the U.S. The course will include films, readings and slides obtained for a semester-at-sea voyage to those countries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1773 - SLAVERY/ANTI-SLAVRY GLBL PERSP

Minimum Credits: 3
Maximum Credits: 3
This course traces the modern cycles of an institution that flourished in all areas of the globe for thousands of years. During the past 500 years, the very European states that had already eliminated slavery from their own communities expanded and then abolished the institution in their overseas dominions. Finally, just as Europeans ending slavery throughout the rest of the world new and more virulent forms of bondage emerged in the Twentieth Century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1775 - ORIGINS OF CHRISTIANITY

Minimum Credits: 3
Maximum Credits: 3
This course presents a historical-critical investigation of Christian origins. Special attention is paid to varieties of 1st century Hellenistic and Palestinian Judaism within the Greco-Roman world. Primary readings include selected Biblical passages and apocrypha, 1st century historians and philosophers (Josephus, Tacitus, Suetonius, and Philo), the New Testament corpus (including Paul and the Pastorals), and selected readings from the

Dead Sea Scrolls. In addition there will be assignments from various modern New Testament critics, historians, and theologians.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1776 - VARIETIES OF EARLY CHRISTNITY

Minimum Credits: 3
Maximum Credits: 3
An examination of the diverse strands of Christianity as developed both in the Christian bible and outside of it.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1777 - CATHOLICISM & GLOBAL MODERNITY

Minimum Credits: 3
Maximum Credits: 3
The course focuses on the changing relationship between catholicism and the modern world in the 19th and 20th century. It will look at culture wars, Catholic revival and colonialism. It investigates how the globalization of the Catholic community affected European Catholicism and how the church tried to adapt to these changes, most visibly during the II Vatican council (1962-65). The course also deals with the tensions between Catholicism and revolutionary movements in Europe, South America and Asia, particularly at the impacts of liberation theology and the opposition against communism.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1778 - WOMEN IN JUDAISM

Minimum Credits: 3
Maximum Credits: 3
This course explores the image and legal status of women in Judaism, from antiquity to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1779 - HISTORY AND IMAGINATION

Minimum Credits: 3
Maximum Credits: 3
This course examines the political, religious, and cultural history of Jerusalem, focusing primarily on Jerusalem as a concrete and conceptual phenomenon in the premodern period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1780 - JEWS AND THE CITY

Minimum Credits: 3
Maximum Credits: 3
This course will trace the eastern European Jewish diaspora to urban destinations around the world, before training its lens on the Jewish encounter with American cities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1781 - ROMAN HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course surveys the history of Rome from the earliest times through the late empire, with particular emphasis on political and social developments during the late republic and early empire.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1782 - EMERG OF GRECO-ROMAN CIVILZTN

Minimum Credits: 3
Maximum Credits: 3
This course attempts to isolate those elements which are particularly characteristic of Greco-Roman civilization, to identify the components out of which each characteristic element grew, and to understand the process of its evolution in light of various models and explanatory hypotheses.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1783 - GREEK HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course surveys the history of ancient Greece, with special emphasis on political and social developments during the fifth century B.C.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1784 - GREEK HISTORY/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking HIST 1783 as a writing course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HIST 1785 - EMERG GRECO-ROMAN/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking HIST 1782 as a writing course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HIST 1786 - ROMAN HISTORY/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking HIST 1781 as a writing course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HIST 1787 - CHRISTIAN-MUSLIM RELATIONS

Minimum Credits: 3
Maximum Credits: 3
This course surveys the historical interaction between Christian and Muslim communities over the past 1400 years and focuses on the art of polemic as an important tool in the human construction of religious concepts. We will begin by understanding the evolution of Islam in the seventh century, and continue with the encounters between Islam and the byzantine empire, and the medieval caliphate's encounters with the West, including the crusades. We will then consider specific elements of the interaction between Christian and Muslim communities, drawing from a variety of Muslim communities in Europe and the United States.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HIST 1788 - ALEXANDER & HELLENISTIC AGE

Minimum Credits: 3
Maximum Credits: 3
This course deals both with the career of Alexander the Great and with political, social, and intellectual developments in the several successor states into which Alexander's Empire dissolved after his death.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1789 - LAW & SOCIETY IN GREECE & ROME

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course examines the legal systems of Ancient Greece and Rome with particular attention to interrelations with contemporary society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1790 - MEDITERRANEAN WORLD

Minimum Credits: 3
Maximum Credits: 3
With uniformity and diversity in the Mediterranean world as its overarching theme, this course examines the singularly important role of the sea between the lands" from the fall of Rome to the present day. Concentrating on the lands and people of the Northern shore from Gibraltar to Anatolia, the focus alternates between thematic approaches to the Mediterranean region as a whole and specific attention to the sub-regional histories of Iberia, Italy, and the Balkans."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1791 - JEWSH CULTUR IN MEDIEVAL SPAIN

Minimum Credits: 3
Maximum Credits: 3
Medieval Spain was the scene of varied interactions among Jews, Christians, and Muslims. Jews participated vigorously in this culture as they did nowhere else at the time, producing an enduring heritage that is universal in its appeal.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1792 - NAVIGATING WORLD HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course surveys the content of world history and approaches of world historians, at an advanced undergraduate level. It provides both a comprehensive narrative and a critical analysis of world history by asking how best to teach world history. Through lecture, discussion, and group work, it emphasizes global conceptualization, world geography, social change over time, and such major themes as flows of goods, ideas, and peoples. It provides guidance to students preparing to teach world history at the high school level and to graduate students preparing to teach college world history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1796 - HISTORY OF AFRICA SINCE 1800

Minimum Credits: 3
Maximum Credits: 3
Surveys history of Africa from 1800 to the present day. Major themes include African statecraft, European colonization, African nationalism and postindependence problems. Processes of African institutional growth within the perspectives of resiliency, change and adaptation will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HIST 1900 - HISTORY INTERNSHIP

Minimum Credits: 1
Maximum Credits: 6
This course enables students to combine academic training and practical work experience related to the major.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

HIST 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 9
Individual project administered under the supervision of a faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

HIST 1902 - WRIT: HISTORY HONORS SEMINAR

Minimum Credits: 3
Maximum Credits: 3
The content of the course will vary according to the faculty member teaching it. It will center on a theme involving historical writing/research, developing skills required for primary historical research. Students will complete a number of writing requirements. Attention will be directed towards style, structure, and issues of academic presentation, as well as historical content. Seminar forms a part of the departmental honors program.
Academic Career: UGRD

Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HIST 1903 - HONORS THESIS/MAJORS
Minimum Credits: 1
Maximum Credits: 9
This course is only for students writing an honors thesis.
Academic Career: UGRD
Course Component: Thesis Research
Grade Component: Letter Grade

HIST 1904 - UNDERGRADUATE RESEARCH ASST
Minimum Credits: 1
Maximum Credits: 6
This course offers students the opportunity to participate in a research project, working as a research assistant under the guidance of a history professor. The aim of the course is to give the student training in historical research methods, and also to promote mentoring relationships between students and faculty. Subject to faculty approval more than one enrollment is possible.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

History and Philosophy of Science

HPS 0410 - EINSTEIN: MDRN SCI & SURPRISES
Minimum Credits: 3
Maximum Credits: 3
Do astronauts age more slowly? Can a finite universe have no edge? Is time travel possible? Can time have a beginning? Does the moon change because a mouse looks at it? Surprisingly, modern science answers yes to all these questions. This course provides simple-to-understand explanations of these and other related questions, their broader philosophical significance and their histories. The course is suitable for students with no science background but with an interest in the world of modern science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0419 - REVOLUTIONS & REVOLUTIONARIES
Minimum Credits: 3
Maximum Credits: 3
This course examines revolutionary change in all of its aspects: social, political, historical, cultural, and scientific. Revolutions will be considered in terms of their intrinsic context as well as in terms of the explanatory theories advanced to explain them. Change, and the identification of change, in all its manifestations is the core subject of this course. The ways in which the inter play between the past and the present conditions our social and intellectual outlook is the main focus. In this connection we study the notions of progress and progressiveness.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0427 - MYTH AND SCIENCE
Minimum Credits: 3
Maximum Credits: 3
The Greeks in the sixth to fourth century B.C. Initiated forms of thinking we have from then on called scientific" and "philosophical". This course examines the question of how science is distinguished from "non-science" by studying the role of myth and science in ancient Greece. The aim is to understand what distinguishes the ideas of the first scientists and philosophers from those earlier beliefs called myth."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0430 - GALILEO & CREATN MDRN SCIENCE
Minimum Credits: 3
Maximum Credits: 3
Galileo is the father of modern science. This course explores his revolutionary discoveries, his attack on Aristotle's natural philosophy, and his transformation of the notion of science, and his epoch-making clash with the religious authorities of the time.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0437 - DARWINISM AND ITS CRITICS

Minimum Credits: 3
Maximum Credits: 3
Charles Darwin's ideas have had an enormous impact on biology and on culture generally. These ideas have been criticized within biology, by philosophers, social theorists and religious fundamentalists. This course studies the historical growth of Darwinism and the criticisms mentioned, and evaluates those criticisms and their impact on the theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0515 - MAGIC, MEDICINE AND SCIENCE

Minimum Credits: 3
Maximum Credits: 3
This course introduces students from all backgrounds to humanistic ecology, an interdisciplinary method of learning which combines the humanities with science. Humanistic ecology teaches how to integrate scientific research, philosophy, pedagogy, literature, and health in a holistic framework. Students will learn about classical forms of self-transformation, healing, and knowing that will help them find original pathways to knowledge and wellbeing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0517 - THINKING ABOUT THE ENVIRONMENT

Minimum Credits: 3
Maximum Credits: 3
The goal of HPS 0517, thinking about the environment, is to promote clear and rigorous thinking about environmental issues such as nuclear power, global warming, acid rain, or the use of chemical pesticides. Deciding where to stand on such issues depends on being able to evaluate both scientific and philosophical arguments. We aim to help students develop the skills needed to find the best available information on an environmental issue, and to make informed judgments about what conclusions, and what actions, are warranted on the basis of that information.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0545 - SPACE-TIME-MATTER ANTIQU-20THC

Minimum Credits: 3
Maximum Credits: 3
This is an introductory course for students with either scientific or non-scientific backgrounds. It examines the development of the concepts of space, time and matter from the crucible of ancient Greece to the 17th century scientific revolution and foreshadows the revolutionary modifications of the 19th and 20th centuries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0546 - SPACE-TIME-MATTER/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking HPS 0545 as a writing course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HPS 0605 - THE NATURE OF THE EMOTIONS

Minimum Credits: 3
Maximum Credits: 3
This course will examine selected historically important theories and portrayals of the human emotions and passions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0608 - PHILOSOPHY AND SCIENCE

Minimum Credits: 3
Maximum Credits: 3
An introductory course in philosophy of science
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0609 - PHILOSOPHY & SCIENCE/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course `philosophy and science'
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HPS 0610 - CAUSAL REASONING

Minimum Credits: 3
Maximum Credits: 3
Do school vouchers really help inner city students become better educated? Do gun control laws really make society safer? This course examines how scientists reason about causal claims like these. It considers use of scientific statistical data that informs our public policy debates. The course uses an interactive, web-based text and exams. In addition, there is an on-line virtual causality lab" in which students will set up, run, and then analyze simulated experiments. They will construct causal theories, use the lab to derive predictions from these theories, and then test the predictions against the simulated data. While course materials are delivered on-line."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0611 - PRINCPL OF SCIENTIFIC REASNING

Minimum Credits: 3
Maximum Credits: 3
This course will provide students with the skills to understand and assess scientific claims that confront them in daily life. Special attention will be given to reasoning based on samples, evaluating hypotheses and causal claims, as well as common mistakes in scientific reasoning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0612 - MIND AND MEDICINE

Minimum Credits: 3
Maximum Credits: 3
Mind and medicine deals with fundamental problems and questions that arise in considering the nature of mental health, mental illness, and branches of medicine that aim to promote mental health and treat mental illness. We will begin by considering the concepts of 'health', 'disease' and 'illness' in general, and several different models of medicine. From there we will move on to a consideration of the nature of explanation in medicine generally. We will examine some explanatory successes in the domain of physical health and disease, and consider how those successes were achieved. In the second half of the course we will look at controversies over the question of whether there is such a thing as mental illness, and if so, how one is to define, diagnose and treat it. In order to better understand what is at stake, we will explore these controversies by focusing on a specific mental illness, schizophrenia. Looking at recent research on schizophrenia will allow us to see the extent to which the kind of understanding we have achieved in physical medicine is or is not to be expected with serious mental illness. Students who successfully complete this course will be able to identify and analyze different philosophical approaches to selected issues in medicine and psychiatry; have gained insight into how to read and critically interpret philosophical arguments; and have developed skills that will enable them to think clearly about foundational questions as future or current health care providers, policy makers, and consumers. This course is also part of a core sequence leading to certification in the Conceptual Foundations of Medicine Certificate Program, and is a companion course to HPS 0613 (Morality and Medicine) but may be taken independently. The course is of particular interest to pre-medical and pre-health care students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0613 - MORALITY AND MEDICINE

Minimum Credits: 3
Maximum Credits: 3
Ethical dilemmas in the practice of health care continue to proliferate and receive increasing attention from members of the health care profession, ethicists, policy makers, and the general public as health care consumers. In this course we will examine a number of ethical issues that arise in the context of contemporary medical practice and research by analyzing articles and decision scenarios. Topics to be covered typically include the physician-patient relationship; informed consent; medical experimentation; termination of treatment; genetics; reproductive technologies; euthanasia; resource allocation; and health care reform. Students who successfully complete this course will be able to identify and analyze different philosophical approaches to selected issues in medical ethics; have gained insight into how to read and critically interpret philosophical arguments; and have developed skills that will enable them to think clearly about ethical questions as future or current health care providers, policy makers, and consumers. This course is part of a core sequence leading to Certification in the Conceptual Foundations of Medicine Certificate Program, and is a companion course to HPS 0612 (Mind and Medicine) but may be taken independently. The course is of particular interest to pre-medical and pre-health care students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0614 - MIND & MEDICINE/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking HPS 0612 as a writing course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HPS 0616 - ARTFCL INTELGNC & PHIL OF SCI

Minimum Credits: 3
Maximum Credits: 3
Artificial intelligence has been and still is one of the core disciplines of contemporary cognitive science. It raises fascinating questions: can robots think? Is artificial intelligence really intelligence? Could artifacts be conscious? What can we learn about the human mind from building robots? How should intelligent robots be built? We will survey the main controversies that artificial intelligence has provoked.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0620 - SCIENCE AND RELIGION

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course addresses two questions: does the scientific understanding of the world suffer from a kind of incompleteness that can be remedied by the supernaturalist religions? Or is there even a clash between contemporary science and such religion?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0621 - PROB SOLVING: HOW SCI WORKS

Minimum Credits: 3
Maximum Credits: 3
This course provides a gentle introduction to quantitative methods in science, showing how these methods are designed to control our natural tendencies to misread nature. It uses the examples of the science of energy and statistics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0623 - EXPLANS OF HUMANS & SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This course will look at some of the original writings of the three giants" of modern psychology: Freud, Skinner and Piaget. The three movements of psychoanalysis, behaviorism and developmental cognition will be explored through their most articulate and well known proponents. Topics to be discussed include the nature of the emotions, the structures of behavior and the forms of human thought. Specifically, we will discuss how the concepts of desire, love, jealousy, homosexuality, skilled actions, language, and logical and moral reasoning can be used to understand human beings."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0624 - EXPLAN HUMNS & SOCTY/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking HPS 0623 as a writing course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HPS 0626 - DEVELOPMENT OF MODERN BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is an alternative second" course in the two course sequence constituting an introduction to the biological sciences. (Currently it is an alternative to Biological Sciences 0160.) The subject matter includes classical and molecular genetics, evolutionary theory and ecology. This course includes historical and methodological readings in addition to those from the standard first-year biology text."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0628 - PARADOX

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to use the natural appeal of paradoxes to introduce students to the methods of philosophical analysis and to give them a taste of the basic content of a wide range of branches of philosophy of science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0630 - SCIENCE AND PSEUDOSCIENCE

Minimum Credits: 3
Maximum Credits: 3
This course probes the distinction between genuine and pseudo-science using a number of case studies, including ESP and other paranormal phenomena, scientific creationism, UFO's and extraterrestrial life, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0633 - SCIENCE, PHIL & PUBLIC POLICY

Minimum Credits: 3
Maximum Credits: 3
The course studies problems that arise in making public policy decisions. Topics studied include the nature of science, the nature of technology, our system of values, relations between science, values, and technology. Case studies include teaching creation science in public schools, genetic engineering, legislating sexual morality, and other policy issues on which scientific knowledge has some bearing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0634 - SCI, PHIL & POLCY/WRIT PRAC

Minimum Credits: 0
Maximum Credits: 0
Writing practicum for students taking HPS 0633 as a writing course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HPS 0635 - SCI, PHIL & POLCY/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking HPS 0633 as a writing course.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HPS 0682 - FREEDOM AND DETERMINISM

Minimum Credits: 3
Maximum Credits: 3
This course analyzes three concepts of determinism- theological determinism, logical determinism or fatalism, and physical determinism -- and examines the various philosophical arguments designed either to show that determinism and free will do clash or alternatively that they are reconcilable.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0685 - MATHEMATICS AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to the role of mathematical ideas in various cultural settings. It focuses on the use of math in everyday life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 0700 - HISTORY PHILOSOPY MUSICAL SCI

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 1410 - CHANGE, PROGRESS AND IDEOLOGY

Minimum Credits: 3
Maximum Credits: 3
How and why do human societies change? How do we determine that change is progressive? In what ways do scientific change interact? How do ideological currents within societies affect social and scientific change? These questions are at the heart of the issues that concern this course. Its focus is on the nature of societies and on the causes that shape and change relations of authority and social power.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1501 - ANCIENT SCIENTIFIC ASTRONOMY

Minimum Credits: 3
Maximum Credits: 3
In this course we examine Babylonian and Greek mathematical astronomy and the relationship to Greek and near eastern religions and cosmologies. Transmission to other cultures will be noted.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1502 - ASTROLOGY AND WITCHCRAFT

Minimum Credits: 3
Maximum Credits: 3
This course deals with both intellectual currents and popular culture in 17th century England, exploring the relationship between magic, science, and religion, as well as the social forces that led to the belief in astrology and witchcraft.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1508 - CLASSICS IN HISTORY OF SCIENCE

Minimum Credits: 3
Maximum Credits: 3
Four hundred years ago Galileo Galilei aimed a telescope at the sky. He revolutionized astronomy. Equally revolutionary were his theories and experiments in physics, published in his masterpiece two new sciences. In this course we will learn why Galileo's theories and experiments in physics were revolutionary. We will read Galileo's two new sciences, setting it in the context of the history and philosophy of Western science and civilization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1528 - EURPN INTELLCL HIST 1750-1930

Minimum Credits: 3
Maximum Credits: 3
A course of readings and discussions focused upon selections from major texts in the European intellectual tradition from the enlightenment to the 1930s. There will be occasional lectures on the social and intellectual context; but the predominant emphasis will be on class discussions of primary readings. Examples of possible topics are: Hume and the enlightenment, Rousseau and democratic theory, Kant and the German tradition, burke and conservatism, mill and liberalism, the Romantic critique, Hegel, Marx, Comte and positivism, Durkheim and the new societism, Freud, Max Weber.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1530 - EURPN INTELCL HIST 2 1870-1940

Minimum Credits: 3
Maximum Credits: 3
A course of readings and discussions focused on major texts in the European intellectual tradition from the age of positivism to the second World War. There will be occasion al lectures, especially on the social and institutional contexts, but the predominant emphasis will be on class discussions of primary readings.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1531 - MAN & COSMOS IN RENAISSANCE

Minimum Credits: 3
Maximum Credits: 3
An exploration of the intellectual and scientific activity of the European Renaissance and its influence in shaping modern man and the discoveries of modern science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1551 - HISTORY OF SCIENCE 1

Minimum Credits: 3
Maximum Credits: 3
This is the first of two core" seminars designed to survey the development of scientific thought in Western civilization. In this first seminar, Greek medicine, astronomy, mathematics, biology and physics, its disappearance in the West, its preservation and development in Islam, and finally the emergence of modern science in the renaissance, are the main focus."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1552 - HISTORY OF SCIENCE 2

Minimum Credits: 3
Maximum Credits: 3
This course is the second part of the two-part series. It will provide an overview of major developments in the sciences from the second half of the seventeenth century to the beginning of the Twentieth Century, considering principally the physical, biological and geological sciences. It will deal with the work of individuals, of general movements and their institutional and national settings.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1553 - WRITING WORKSHOP FOR HPS MAJS

Minimum Credits: 1
Maximum Credits: 1
This writing workshop is designed to introduce HPS majors to the methods and standards of good scholarly writing in history and philosophy of science. It will be offered to HPS majors only in conjunction with either of the history and philosophy of science core seminars, HPS 1551 or HPS 1552.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit
Course Requirements: LVL: So, Jr, or Sr; PLAN: History and Philosophy of Science (BA)

HPS 1600 - PHILOSOPHY & RISE MDRN SCIENCE

Minimum Credits: 3
Maximum Credits: 3
It is generally agreed that what happened in the 17th century changed the human landscape irrevocably. The religious reformation was consolidated; divinely ordained kingship was decisively uprooted; upheavals across Europe ushered in non-traditional political and constitutional formations; and the forces of transformation forged new sociocultural contexts in which life was lived. Lying at the core of these transformations was the impact of early modern science as it emerged in the 17th century. This course will examine the dynamics of the `scientific revolution' paying close attention to such figures as Kepler, Galileo, Descartes, Hobbes, Leibniz, and Newton. We will be concerned with the philosophical consequences of their thought within the context of their period, but also with the affect it had on the scientific world-picture of the 18th century enlightenment
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1602 - RACE; HIST BIOL PSY PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 1605 - AESTHETICS AND SCIENCE

Minimum Credits: 3
Maximum Credits: 3
How does one appreciate painting, literature or music? Is knowing about art useful or, even, necessary? Is beauty in the eye of the beholder? The course deals with psychological and social science attempts to explain human responses to art. Also the question of how art is like and unlike science will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1610 - PHILOSOPHY OF ANTHROPOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course studies the nature of anthropological knowledge. Topics covered include: the possibility of a human science; classification, description, and the nature of anthropological evidence; laws and explanation in anthropology; and various forms of relativism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1612 - PHIL OF 20TH CENTURY PHYSICS

Minimum Credits: 3
Maximum Credits: 3
An examination of the fascinating philosophical problems to which modern physical theories have given rise. No previous formal training in physics or mathematics will be presupposed, since the basic physical ideas needed will be introduced largely qualitatively with an emphasis on concepts rather than equations. Topics will vary from year to year with instructor, but center around classical mechanics, quantum mechanics, and relativity theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1615 - PHILOSOPHY OF SOCIAL SCIENCE

Minimum Credits: 3
Maximum Credits: 3
The central theme of this course is whether or not there can be a genuine social science on the model of the physical sciences. Topics to be discussed include laws of human behavior, the role of idealization in social science, predictability and human freedom, methods for studying social phenomena, functionalism, and cognitive relativism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1616 - ARTFCL INTELGNC & PHIL OF SCI

Minimum Credits: 3
Maximum Credits: 3
This course investigates the problem of mechanizing reasoning. For the case of deductive inference, it draws on work in symbolic logic and computation theory. For the case of inductive inference, it draws on work in confirmation theory from philosophy of science and learning theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1620 - PHILOSOPHY OF BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
Philosophy of biology will consider foundational conceptual issues in biology like the nature and structure of biological explanation, the possibility of laws in evolutionary theory, the relationship between different causal components of biological processes (genetics and development), the problem of species reality and classification, the explanatory character of ascription of biological function, and the extension of biological explanations to human psychology and culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1625 - PHILOSOPHY OF MEDICINE
Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to philosophical and yet practical issues in medical science. Students will examine the concepts of health", "normality", and "disease", and also some representative theories in clinical biochemistry, microbiology and physiology."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1626 - NEUROETHICS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 1627 - LIVING WITH TECHNOLOGY
Minimum Credits: 3
Maximum Credits: 3
Examination of the role of technology in the modern world. What are the cultural and psychological implications of technology? What are its limits, its dangers, its promises? What do concerned citizens need to know about technology to be responsible?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1630 - MUSIC, CULTURE AND TECHNOLOGY
Minimum Credits: 3
Maximum Credits: 3
In this course, we will explore the history of sound reproduction technology from the end of the nineteenth century into the present day, analyzing the way sonic technologies have shaped the creation, consumption, and social politics of music in North America. This is not a course about how to make sonic technology, or how to use it; instead, it engages with sound reproduction technology as a social, historical, and cultural artifact. Although the course is roughly chronological, it is not comprehensive the purpose is not to learn a single, continuous history of audio technology. We will be exploring various perspectives from more than a century of historical and technological change, moving from the use of sound in 19th-century laboratories to the culture of the iPod. By thinking critically about technology's broader social and intellectual contexts, this class sheds light on the historical and material stakes of sonic technology for listeners in the 21st
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HPS 1653 - INTRO TO PHILOSOPHY OF SCIENCE
Minimum Credits: 3
Maximum Credits: 3
This course provides a broad, introductory survey of current issues in philosophy of science and treats philosophical problems such as confirmation, which are common to all sciences, as well as problems peculiar to individual sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1660 - PARADOX
Minimum Credits: 3
Maximum Credits: 3
This course explores paradoxes both for the fun of untangling an intriguing puzzle and for the more serious reason of the easy access they provide to some of the most important foundations issues in philosophy and the sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1670 - PHILOSOPHY OF NEUROSCIENCE
Minimum Credits: 3
Maximum Credits: 3
This course will serve as in introduction to the conceptual problems around neuroscience for students with and without a background in experimental

neuroscience.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HPS 1682 - FREEDOM AND DETERMINISM

Minimum Credits: 3
Maximum Credits: 3
This course analyzes three concepts of determinism--theological determinism, logical determinism or fatalism, and physical determinism--and examines the various philosophical arguments designed either to show that determinism and free will do clash or alternatively that they are reconcilable.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: Jr, So, or Sr

HPS 1690 - TOPICS IN PHILOSPHY OF SCIENCE

Minimum Credits: 3
Maximum Credits: 3
Discussion, at the advanced undergraduate level, of selected problems such as confirmation, concept formation, the nature of theories. In any given term, the course might focus on problems in physical, biological, or social sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr; PLAN: History and Phil of Science (BA)

HPS 1702 - JR/SR SEMINAR FOR HPS MAJORS

Minimum Credits: 3
Maximum Credits: 3
The goal of this seminar (HPS 1702) will be to introduce you to the cutting-edge research in history and philosophy of science. The seminar is designed to complement the knowledge you have acquired about the classic debates in history and philosophy of science. We will focus on the recent debates in contemporary philosophy of science and on some debates in the history of science that are relevant for philosophy. We will read articles that have been published in the last ten years in the major philosophy of science and history of science journals. We will also read some classic papers that provide a background for the current debates.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (HPS 0427 or 0430 or 0515) and (HPS 0611 or PHIL 0500) and HPS 1653; CREQ: HPS 1703; LVL: Jr or Sr; PLAN: History and Philosophy of Science (BA)

HPS 1703 - WRITING WORKSHOP FOR HPS MAJS

Minimum Credits: 1
Maximum Credits: 1
This writing workshop is designed to introduce HPS majors to the methods and standards of good scholarly writing in history and philosophy of science. It will be offered to HPS majors only in conjunction with HPS 1702, Jr./Sr. seminar. Evaluation will be based on two short papers that will be rewritten on the basis of the instructor's comments. Must be an HPS major in junior or senior year.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit
Course Requirements: PREQ: (HPS 0427 or 0430 or 0515) and (HPS 0611 or PHIL 0500) and HPS 1653; CREQ: HPS 1702; LVL: Jr or Sr; PLAN: History and Philosophy of Science (BA)

HPS 1800 - SPEC TOPICS HIST & PHIL OF SCI

Minimum Credits: 3
Maximum Credits: 3
A major topic in history and philosophy of science will be developed in this course. The student will acquire an understanding of the topic and its significance in the field. The special topic covered will vary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr

HPS 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6
This is an opportunity for a student and instructor to determine a topic in history and/or philosophy of science which is of special interest.

Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: So, Jr, or Sr; PLAN: History and Philosophy of Science (BA)

History of Art & Architecture

HAA 0010 - INTRODUCTION TO WORLD ART

Minimum Credits: 3
Maximum Credits: 3
This course is intended to introduce the student to major monuments of Western art from Egypt to the 20th century, and to demonstrate the tools of analysis with which one may approach a work of art as an aesthetic object and as a historic document.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0011 - INTRO TO ART/WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Students enroll in HAA 0010 and may add this section and earn an additional one credit. It is taken in addition to the regular recitation and provides an opportunity to complete an A&S writing requirement.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

HAA 0020 - INTRODUCTION TO ASIAN ART

Minimum Credits: 3
Maximum Credits: 3
This base level survey is meant, on the one hand, to introduce the student to the arts of Japan, China, and India and on the other, to teach some fundamental techniques of visual analysis. The course considers the development of Chinese bronzes, Chinese Buddhist sculpture, Indian Hindu and Buddhist sculptures, and Japanese temples, sculptures, and paintings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0021 - INTRO TO ASIAN ART/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Students enroll in HAA 0020 and may add this section and earn an additional one credit. It is taken in addition to the regular recitation and provides an opportunity to complete an A&S writing requirement.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

HAA 0030 - INTRODUCTION TO MODERN ART

Minimum Credits: 3
Maximum Credits: 3
The course will present a chronological survey of Western European, Russian, and American art from the mid-nineteenth century to the present (impressionism to post-modernism). In addition to charting the dramatic stylistic and conceptual changes in art during this time period, the course will consider the historical circumstances which caused a disintegration in accepted notions of what constituted a significant work of art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0033 - INTRO MODERN ART/WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Students enroll in HAA 0030 and may add this section and earn an additional one credit. It is taken in addition to the regular recitation and provides an opportunity to complete an A&S writing requirement.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

HAA 0040 - INTRO TO WESTERN ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3

Introduces students to the conscious observation and analysis of architecture and to a broad survey of the major masterpieces of architecture in Western civilization. Formative concepts behind the designs, structural principles involved in the construction, and societal values promoted and reinforced by the formal character of buildings will be considered along with the analysis of style. Required for the architectural studies major and recommended as a beginning course for others interested in architecture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0041 - INTRO TO ARCHITEC/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Students enroll in HAA 0040 and may add this section and earn an additional one credit. It is taken in addition to the regular recitation and provides an opportunity to complete an A&S writing requirement.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

HAA 0045 - INTRO TO MODERN ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the cultural and visual analysis of architecture. It treats the principle theoretical, formal, and technological developments in the formation of progressive architecture of the Twentieth Century, chiefly that of Europe and America. The course material will focus on pivotal buildings and their architects.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0050 - INTRODUCTION TO MEDIEVAL ART

Minimum Credits: 3
Maximum Credits: 3
A survey of the architecture, painting, sculpture and minor arts of the medieval world from ca. 300 To ca. 1450 With the emphasis on visual analysis of period styles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0051 - INTRO TO MEDIEVL ART/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
Students enroll in HAA 0050 and may add this section and earn an additional one credit. It is taken in addition to the regular recitation and provides an opportunity to complete an A&S writing requirement.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

HAA 0055 - SPECIAL TOPICS: MEDIEVAL ART

Minimum Credits: 1
Maximum Credits: 1
Special topics in medieval art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0060 - MASTRPIECES OF WESTERN PAINTNG

Minimum Credits: 3
Maximum Credits: 3
This course will help students with no experience in the arts feel comfortable when they visit a museum or discuss paintings, upon completing this course a student should not only have an easy familiarity with some of the greatest masterpieces of European and American painting, but he or she should also have attained the background and skill to understand and to discuss paintings they might discover in a gallery, antique shop or home. This course is especially intended for students without background in the arts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0061 - INTRODUCTION TO PAINTINGS

Minimum Credits: 3
Maximum Credits: 3
This course will help students with no experience in the arts feel comfortable when they visit a museum or discuss paintings. Upon completion of this course a student should not only have an easy familiarity with some of the greatest masterpieces of painting, but he or she should also have attained the background and skill to understand and to discuss paintings they might discover, in a gallery, antique shop or home. This course is especially intended for students without a background in the arts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0070 - EURPN VISL TRADTN RENASNC-PRES

Minimum Credits: 3
Maximum Credits: 3
An introduction to European art and architecture from the early Renaissance to the present. The course will also include American works from the 18th century onwards.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0080 - WORLD RELIGIOUS ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3
From Buddhist stupas and Gothic cathedrals to Shinto torii arches and the natural sites sacred to tribal practice, the search for spirituality through history has led to a rich variety of sacred spaces and places. This introductory course studies religious sites and monuments around the globe and through history through an examination of the cultural and historical factors behind their development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0090 - INTRO TO CONTEMPORARY ART

Minimum Credits: 3
Maximum Credits: 3
This course explores the latest developments in contemporary art in the context of changes in world visual cultures since the 1960s. The first weeks will concentrate on the transformations of artistic practice that occurred initially in pop art, and on the minimal-conceptual shift in Western art. This will be followed by a survey of the diversification of artistic practice in the 1980s and 1990s, including the emergence of new internationalisms reflecting postcoloniality, global contemporary art and digital media.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0100 - SPECIAL TOPICS-ANCIENT

Minimum Credits: 3
Maximum Credits: 3
Special topics in ancient art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0101 - FOUNDATIONS OF ART HISTORY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HAA 0102 - PROSEM FOR UG MAJS IN ART HIST

Minimum Credits: 1
Maximum Credits: 1
This one-credit course is required of all majors in art history who must enroll at least twice, in two consecutive fall semesters. 1) Helping students to envision the relationship between their Undergraduate studies in art history and the range of career and advanced degree options for which their studies will make them eligible 2) how to conduct research in the field - a basic introduction to the practice and ethos of research in the discipline will be offered 3) how to maximize progress through the program by setting broader goals with advice on qualifying for internships, independent research, teaching assistantships, fellowship opportunities, and conference participation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HAA 0110 - SPECIAL TOPICS - ART HISTORY
Minimum Credits: 1
Maximum Credits: 1
This is a special 1 credit lecture section attached to a regular HAA course that is designated specifically for an honors course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0150 - ANCIENT ART
Minimum Credits: 3
Maximum Credits: 3
The Mediterranean Sea is a lake and its shores have produced many important cultures and artistic traditions. The course will survey the artistic and cultural traditions of Mesopotamia, Egypt, and the Aegean, from the Neolithic to the end of the Bronze Age (ca. 6000-1200 BCE), a formative period for the cultures that developed in these regions. Special attention will be paid to: 1) the relationship between the artistic traditions of these areas and the societies which produced them, and 2) the way in which influences from one culture were transformed by another.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0160 - ANCIENT EMPIRES
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0200 - SPECIAL TOPICS-MEDIEVAL
Minimum Credits: 3
Maximum Credits: 3
Special topics in medieval art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0201 - SPECIAL TOPICS-ROMANESQUE
Minimum Credits: 3
Maximum Credits: 3
Special topics in Romanesque art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0202 - SPECIAL TOPICS-GOTHIC
Minimum Credits: 3
Maximum Credits: 3
Special topics in Gothic art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0210 - MEDIEVAL PAINTING
Minimum Credits: 3
Maximum Credits: 3
This course introduces the history of medieval painting. It begins with the ways in which the institution of the Christian church fashioned a new pictorial vocabulary out of classical and Jewish antecedents, in terms of form, techniques and subject matter. It follows the evolution of painting during the early Christian, Hiberno-Saxon, Byzantine, Carolingian, Romanesque and Gothic periods in the media of fresco, mosaic and book illumination, culminating with the triumph of oil painting in Flanders in the 15th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0220 - THE MEDIEVAL BOOK
Minimum Credits: 3
Maximum Credits: 3

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0221 - MEDIEVAL ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3
This course will treat the development of architecture in Europe from about ad 300 to 1500. It will focus primarily upon the building designed to serve Christian culture, especially churches. Lectures will include the social and political background as well as the liturgical, archaeological and aesthetic aspects of the great monuments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0240 - THE MEDIEVAL PATRON

Minimum Credits: 3
Maximum Credits: 3
This is a survey of medieval art focusing on the major ecclesiastical and secular patrons of the period. The works of art and architecture are studied in relation to contemporary writings - chronicles, inventories, descriptions that provide documentary evidence for their creation and appreciation. Specific patrons include Justinian, Charlemagne, the Cluniac order, Henry the Lion, Jean de Berry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0300 - SPECIAL TOPICS-RENAISSANCE

Minimum Credits: 3
Maximum Credits: 3
Special topics in Renaissance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0301 - SPECIAL TOPICS-BAROQUE

Minimum Credits: 3
Maximum Credits: 3
Special topics in baroque art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0302 - RENAISSANCE ART

Minimum Credits: 3
Maximum Credits: 3
We will explore the arts - painting, sculpture, architecture, and the decorative arts - that flourished in Italy between 1250 and 1590. The renaissance is one of the great epochs of western culture; this course offers an introduction to the visual evidence that reveals the development of new attitudes about human life and its meaning. Emphasis will be on works of those revolutionary individuals who transformed the arts - Giotto, Donatello, Brunelleschi, Michelangelo, Leonardo, Raphael, Bellini, titian, and Palladio, to name only the most important.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0303 - LANDSCAPE PAINTING, 1500-1700

Minimum Credits: 3
Maximum Credits: 3
This course will study the history of landscape painting in the centuries when it finally emerged as a recognized genre capable of artistic achievements as great as those hitherto reserved for history painters. The cultural context from which landscape painting emerged in Antwerp, Regensburg, and Venice in the early 16th century, its early Renaissance precedents, its ambiguous status in Renaissance art theory will be examined. The role of Patenir, Giorgione, Altdorfer, Titian, Elsheimer, Rubens, Jan van Goyen, Ruisdael, Claude and Poussin will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0305 - RENAISSANCE ART/WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Students enroll in HAA 0302 and may add this section and earn an additional one credit. It is taken in addition to the regular recitation and provides

an opportunity to complete an A&S writing requirement.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

HAA 0310 - NORTHERN RENAISSANCE ART

Minimum Credits: 3
Maximum Credits: 3
This class will feature art produced in Northern Europe during the Renaissance period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0320 - SPECIAL TOPICS-NORTHERN EURPAN

Minimum Credits: 3
Maximum Credits: 3
Special topics in European art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0350 - BAROQUE ART

Minimum Credits: 3
Maximum Credits: 3
This course will consider the careers of the major painters and sculptors of Italy (Caravaggio, the Carracci, Bernini, Cortona, Gaulli), Spain (Ribera, Zurbaran, Velazquez, Montanes, Murillo), France (G. De la Tour, P. De Champaigne, Poussin, Claude, le Brun, Puget), Flanders (Rubens, van Dyck, Jordaens) and Holland (Hals, Rembrandt, Vermeer, Ruisdael) in the 17thC. It will also consider definitions of the term baroque" in relation to the history of taste and later responses to 17thC artistic achievement."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0370 - REMBRANDT

Minimum Credits: 3
Maximum Credits: 3
This core level art history course, intended for a beginning student with no background in art history (but also open to devotees and majors), offers an introduction to Rembrandt by an intensive examination of his life, and his art; paintings, drawings, and etchings. The course is arranged chronologically, so that as the term proceeds we follow Rembrandt from his earliest training and his fascination with baroque dynamism through his greatest success as Amsterdam's most popular portraitist to his moving and universal final works.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0380 - ART OF THE SPANISH WORLD

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0400 - SPECIAL TOPICS-MODERN

Minimum Credits: 3
Maximum Credits: 3
Special topics in modern art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0401 - SPECIAL TOPICS-CONTEMPORARY

Minimum Credits: 3
Maximum Credits: 3
Special topics in contemporary art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0402 - WOMEN ARTISTS, 1550-1800
Minimum Credits: 3
Maximum Credits: 3
This course will focus on women artists from the late renaissance, when they first emerged and achieved some success, to the present. The social context in which women artists functioned and the roles played by the most successful women of each century in opening opportunities for the succeeding generation will be considered. Sofonisba Anguissola, Artemisia Gentileschi, Elisabetta Sirani, Judith Leyster, Rachel Ruysch, Rosalba Carriera, Angelica Kauffman, e\E. Vigee Lebrun, Rosa Bonheur, Mary Cassatt, Berthe Morisot and many 20thC women artists will be covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0420 - VAN GOGH
Minimum Credits: 3
Maximum Credits: 3
This introductory course will study one major artist as a means of approaching the methodology of art history. The major periods of his career will be presented in the context of European art of the nineteenth century, particularly impressionism and post-impressionism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0425 - DIGITAL HUMANITY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0440 - FRANK LLOYD WRIGHT
Minimum Credits: 3
Maximum Credits: 3
This course will deal with the life of the man who was America's greatest architect and one of the principal world figures in the art of building in the Twentieth Century. The lectures will treat his formation as an architect as well as the development of his career and will focus upon a theoretical analysis of wright's work in comparison with that of his great contemporaries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0450 - TWENTIETH CENTURY ARCHITECTURE
Minimum Credits: 3
Maximum Credits: 3
This course deals with the major developments in European and American architecture from the 1890s to the present day. It will treat changes in theory, technology, and concepts of style - in other words, the ideas involved in the creation of architecture. The goal is to identify the significant ways in which the built environment has been transformed during this century for the purpose of serving society in ways not previously imagined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0460 - PUBLIC ART
Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the social, political, and artistic issues surrounding the creation and interpretation of public monuments and public art. We will focus on our local urban environment, particularly the rich collection of works in and around Oakland, but we will also put these local works in larger national and global contexts. The course emphasizes hands-on learning, through multiple site visits, encounters with the works of art in their real urban contexts, and individual and group exercises building on these encounters.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0470 - PHOTOGRAPHY AND ART
Minimum Credits: 3
Maximum Credits: 3
This introductory course is intended to provide a thorough familiarity with the history of photography from its development in the 19th century to the present day, and to link that history to major trends in the history of modern art, such as realism, impressionism, cubism, surrealism, abstract art, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0480 - MODERN ARCHITECTURE
Minimum Credits: 3
Maximum Credits: 3
The development of architecture in Europe and America from around 1800 to the present, involving a number of revolutionary changes; the appearance of many new building types, the availability of new materials produced by industry, the transformation of structural design by technology, and the emergence of strikingly new ideas about how a building should be conceived.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0490 - CONTEMPORARY ART
Minimum Credits: 3
Maximum Credits: 3
This course provides a survey of the important painting, sculpture and intermedia art from 1945 to the present. Special attention will be given to European art (surrealism and realist currents) before WW II and to their impact on America. Abstract expressionism, pop art, color field, minimal and conceptional art, and neo-expressionism will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0500 - SPECIAL TOPICS-AMERICAN
Minimum Credits: 3
Maximum Credits: 3
Special topics in American art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0501 - AMERICAN ART
Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to American painting, sculpture, and architecture, with an emphasis on painting, from the colonial period to the post-World War II era. Students will also learn the vocabulary of visual analysis and become familiar with the scope of art historical methodology. Students should leave the class with a broad understanding of the contexts in which American artists worked, a fund of information about artists and monuments of art in the American heritage, skills in visual analysis, and the capability to focus several types of critical questions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0502 - SPEC TOPC: LATIN AMERICAN ART
Minimum Credits: 3
Maximum Credits: 3
Special topics in Latin American art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0510 - PITTSBURGH ARCHITEC/URBANISM
Minimum Credits: 3
Maximum Credits: 3
The course studies the physical environment of Pittsburgh; the topography, early settlement, the expansion of its industrial center, the post-war renewal, and the current shift from production to a service-based economy. A parallel study in the architectural history of Pittsburgh focuses on images of individual buildings from fort Pitt to the new skyscrapers. Student papers will integrate an analysis of a Pittsburgh building with an analysis of the neighborhood around it.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0520 - ART & POLITICS IN MOD LAT AM
Minimum Credits: 3
Maximum Credits: 3
This course examines artistic developments in modern Latin America in relation to broader political forces. Latin America offers rich opportunities to study cases of artists and architects who worked in the service of governmental regimes during the twentieth century, such as Diego Rivera in Mexico and Oscar Niemeyer in Brazil. At the same time, we will consider historical moments in which artists employed their artworks to challenge or subvert political repression, as occurred in Ecuador in the 1930s and in Chile during the dictatorship of Augusto Pinochet. Beyond politics, this

course focuses on the tensions indigenous vs. cosmopolitan, urban vs. rural, rich vs. poor, and the international dialogues that have informed the production and reception of art and architecture in Latin America from the age of independence to the present day.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0600 - SPECIAL TOPICS-CHINESE

Minimum Credits: 3
Maximum Credits: 3
Special topics in Chinese art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0601 - SPECIAL TOPICS-JAPANESE

Minimum Credits: 3
Maximum Credits: 3
Special topics in Japanese art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0602 - SPECIAL TOPICS-ASIAN

Minimum Credits: 3
Maximum Credits: 3
Special topics in Asian art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0620 - ART OF CHINA

Minimum Credits: 3
Maximum Credits: 3
One way of learning about the cultural history of china is to look at the visual arts produced there. This course offers a chance to examine both traditional and modern expressions. Such topics as Neolithic pottery, bronze art of the first dynastic period (Shang and Chou), tomb sculpture and burial practices, Buddhism and the state, landscape painting and attitudes toward nature, poster art and crafts in new china will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0640 - ART OF JAPAN

Minimum Credits: 3
Maximum Credits: 3
This course introduces the visual arts of Japan, prehistory to the 19th century, focusing on selected works of painting, sculpture, architecture, and gardens under the broader themes of patronage, Buddhist worship and practice, and function.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0690 - CHINA: LANDSCAPE PTG & NATURE

Minimum Credits: 3
Maximum Credits: 3
The famous Chinese landscape painter named Kuo Hsi of the Song Dynasty (960-1126) asked, Why the virtuous man takes delight in landscapes?" He reasoned that contemplation of a painting of landscape could refresh the mind and heart in as compelling a fashion as wandering among the mountains themselves. The Chinese landscape painter who in his pictures satisfies this longing depicts not merely the outward and visible forms of nature, but the inner life and harmony that pervade them. This course attempts to discover the sources of the symbolic language."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0700 - SPECIAL TOPICS-INDIA

Minimum Credits: 3
Maximum Credits: 3
Special topics in Indian art.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0701 - ART OF INDIA

Minimum Credits: 3
Maximum Credits: 3
The major religions of India, Buddhist, Hindu, Jain and Islamic, will be examined against the background of architecture, sculpture and paintings. We will see how various art expressions have been deeply influenced by major religious trends in India. Buddhist caves, Hindu temples and images of mugal court paintings and Himalayan miniatures will be discussed. By the end of the semester students will be able to recognize some aspects of Indian art and will have some understanding of religious traditions of India.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0710 - AFRICAN ART

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the art produced on the West coast and central part of sub-Sahara Africa. Through the use of slides, films and artifacts, the wide range of style groups will be examined and studied. Particular attention will be paid not only to the artifacts but to the functional use of the art object in the particular society. Since many of the art objects are used in religious ceremonies, the nature of these ceremonies and the associated religion will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0720 - HINDU ART

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the Hindu beliefs, myths and philosophical ideas from the earliest to the modern times. These will be studied and understood in relation to Hindu architecture, sculpture and paintings, the course will contain lectures, slide presentations and readings. The influence of Buddhism, Islamand Christianity on Hinduism will be analyzed and the eclectic nature of Hinduism discussed. By the end of the term students will have some understanding of Hinduism and Hindu art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0730 - ISLAMIC ART

Minimum Credits: 3
Maximum Credits: 3
This course will study the development of the art and architecture which came to be associated with the territories ruled by Muslims, from the origins in the seventh century A.D. To the eighteenth century. The mosque, the Islamic book, the arts of the princely life (carpets, metalwork, textiles), Islamic Spain, and the impact of Islamic art on the West are among the topics surveyed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0800 - SPECIAL TOPICS-FILM

Minimum Credits: 3
Maximum Credits: 3
Special topics in the history of film.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0801 - FILM ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the art of the cinema, and to the techniques for its formal and iconographic analysis. It examines the nature of shot composition and visual framing, the use of color, the role of lighting as a pictorial element, the potentials of camera movement, the modes of editing and the nature of image/sound montage. It also introduces students to dominant cinema forms- narrative, experimental, documentary, etc.--And connects the cinema to such visual arts as painting and sculpture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0810 - EXPERIMENTAL CINEMA

Minimum Credits: 3
Maximum Credits: 3
This course examines the development of experimental cinema beginning in Europe in the 1920s with dada and surrealist films by Marcel Duchamp, Luis Bunuel and others, and continuing in the U.S. and elsewhere after World War II. The films, many of which are non-narrative and some of which are abstract", will be examined for the ways in which cinema is used for the filmmakers' personal expression. Consideration will be given to the artistic and cultural contexts in which the films were made, and comparisons will be made with other media, especially painting and sculpture."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0820 - WORLD FILM HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course both introduces students to techniques of film analysis and acquaints them with major works and movements in international cinema. The course pays particular attention to the evolution of film narrative and visual style and landmarks in film development--European avant-garde films, the British documentary, the classic Hollywood film, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0900 - SPEC TOPICS-ARCHTCTRL STUDIES

Minimum Credits: 3
Maximum Credits: 3
Special topics in architectural studies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 0940 - APPROACHES TO BUILT ENVIRNMNT

Minimum Credits: 3
Maximum Credits: 3
This foundational course for architectural studies majors seeks to acquaint students with contemporary ideas that affect our understanding of the built environment across the globe through a series of units dealing with different architectural issues and building types. The course engages in intensive reading of canonical texts in the field and current studies of issues shaping the built environment today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1000 - SP TOPICS: ART HISTORY 1

Minimum Credits: 1
Maximum Credits: 1
Special topics in art history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1009 - RESEARCH SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This course was developed to expand the capstone research experience of undergraduate students in the History of Art and Architecture department. It is conceived as a supplement to HAA 1010: approaches to art history, which is the official writing seminar required of all HAA majors. It provides faculty with the opportunity to teach one of their topics courses or a newly developed course to fewer students in a given semester, and mentor these students through a more significant research experience than is typically possible in a regular lecture-based class.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1010 - APPROACHES TO ART HISTORY

Minimum Credits: 3
Maximum Credits: 3
HAA 1010 is the capstone research seminar required of all HAA majors and is an official w-course. Students in this class will conduct extensive readings on a special topic devised by the course instructor. Each student in the class will be required to produce a substantive research paper under the guidance of the instructor. Students will work to master the skills that are fundamental to the discipline and broader arts related professions: critical thinking, research, and written and oral communication.
Academic Career: UGRD
Course Component: Seminar

Grade Component: Letter Grade
Course Requirements: PLAN: History of Arts and Architecture (BA) or Architectural Studies (BA)

HAA 1020 - MUSEUM STUDIES EXHIBITION SEM

Minimum Credits: 4
Maximum Credits: 4
This course teaches museum practice through practical experience with the permanent collection and with special exhibitions. Students will help in all aspects of exhibitions, from writing labels and/or catalogue copy, deciding how to best display the works, participating in the actual installation of exhibitions and planning related events such as tours.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HAA 1025 - HIST AND ETHICS OF COLLECTING

Minimum Credits: 3
Maximum Credits: 3
This course will critically examine the history of public and private collecting practices, the cultural and scholarly rationales behind collecting, and the legal and ethical challenges that collections face. Case studies will include the british museum and the louvre, Pittsburgh's private collectors frick and mellon, the fate of art in Europe during World War II, the antiquities trade, and ethnographic collections. Using these and other examples, we will evaluate the arguments for and against universal art museums, the repatriation of works to source nations or original owners, and the protection of cultural heritage during times of conflict.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1030 - SPECIAL TOPICS- MUSEUM STUDIES

Minimum Credits: 3
Maximum Credits: 3
This course will discuss specific subjects in museum studies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HAA 1040 - ARCH: IMAGE, TEXT, THEORY

Minimum Credits: 3
Maximum Credits: 3
This course treats the historical development of aesthetic theories employed in the conception of architectural design through the course of Western civilization. It focuses on Vitruvius in antiquity, the re-writings of Vitruvius in the renaissance, and the key theorists - both moralists and rationalists - of the modern era (including Ruskin, Viollet le-Duc, Le Corbusier).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: HAA 0040; PLAN: Architectural Studies (BA)

HAA 1078 - FULBRIGHT SEMINAR ITAL STUDIES

Minimum Credits: 3
Maximum Credits: 3
The Fulbright seminar in Italian studies is the spring-term undergraduate-level course offered by the visiting Fulbright distinguished scholar from Italy. This course is typically offered in the fields of art history, cultural studies, film, history, literature, museum studies, political science, or urban studies.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HAA 1100 - SPECIAL TOPICS-ANCIENT

Minimum Credits: 3
Maximum Credits: 3
Special topics in ancient art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1103 - RELIGIONS OF ANCIENT EGYPT

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to ancient Egyptian religious thought and practices with its massive temples, multitude of gods and goddesses, and

fascinating funeral rites. The course includes a group project to design a hypothetical Egyptian exhibit for a museum and sessions at the Carnegie museum of natural history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1105 - JERUSALEM HISTRY & IMAGINATION

Minimum Credits: 3
Maximum Credits: 3
Jerusalem was and remains both a magnet for cultic devotion and an epicenter of religious conflict. This course examines the political, religious, and cultural history of Jerusalem, focusing primarily on Jerusalem as a concrete and conceptual phenomenon in the premodern period. Beginning our story in the bronze age, we will explore a wide range of sources-literary, archaeological, and iconographical-that bear witness to the remarkable transformation of a small, backwater village in the hills of Canaan to a sacred center for millions of Jews, Christians, and Muslims today. We will study the political, physical, and conceptual development of this urban space through its multiple destructions and reconstructions, considering the emergence of Jerusalem as a sacred space, an apocalyptic space, and a contested space.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HAA 1106 - PRE-COLUMBIAN ART

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the art and culture of pre-Columbian peoples of MesoAmerica and Peru from the time of the earliest foraging societies to the conquest by Spain. The goal is to integrate artistic expression with the cultural structures which inspired it. Students will become aware of the achievements of pre-Columbian civilizations and develop appreciation for artistic traditions native to the Western hemisphere.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1110 - GREEK ART

Minimum Credits: 3
Maximum Credits: 3
The study of Greek art begins ca. 3000 B.C. In the so-called age of bronze" and traditionally ends in 30 B.C. With the completion of the Roman conquest of the eastern Mediterranean. The course will trace the development of architecture, sculpture and painting in mainland Greece and to a lesser extent in the Greek colonies of Asia minor and Italy, emphasizing the changes in style and taste which took place over this period."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1130 - ROMAN ART

Minimum Credits: 3
Maximum Credits: 3
Roman art served as the funnel through which the principles of Greek art passed into European culture, but the principles were transformed in the process of transmission. The course will trace the beginnings and subsequent development of the arts of painting, sculpture, and architecture in Italy from the period of the kings to the middle years of the empire (ca. 150 A.D.).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1150 - ROMAN SCULPTURE

Minimum Credits: 3
Maximum Credits: 3
The Romans were influenced throughout their history by Greek models in relief and sculpture in the round. Nevertheless, they chose their models selectively and according to tastes and social needs which were distinctly Italian or Roman. The course will examine the development of the sculptural arts in Italy from the regal period to the middle empire (ca. 150 A.D.), Emphasizing the problems involved in the reconstruction of this development as a continuous history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1160 - ROMAN ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3
The course will examine the development of Roman architecture from its origins in Etruria and Central Italy to the Middle Empire (ca. 150 AD). Special attention will be given to the relationship of architectural forms, types and functions to changes in Roman politics and society and the significance of materials and outside influences on the development of local Italian traditions and forms. The interaction between Roman

architectural forms and local traditions in the provinces to create a Roman imperial Koine" will be treated only in passing."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1200 - SPECIAL TOPICS-MEDIEVAL

Minimum Credits: 3
Maximum Credits: 3
Special topics in medieval art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1201 - SPECIAL TOPICS-ROMANESQUE

Minimum Credits: 3
Maximum Credits: 3
Special topics in Romanesque art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1202 - SPECIAL TOPICS: GOTHIC

Minimum Credits: 3
Maximum Credits: 3
Special topics in gothic art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1203 - SPECIAL TOPICS: BYZANTINE

Minimum Credits: 3
Maximum Credits: 3
In this course special topics in byzantine art will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1210 - MEDIEVAL ICONOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
This course examines the major themes of the art of the middle ages, including subject matter from the old and new testaments, biblical commentary and exegesis, from the classical tradition, and from the vernacular literature of the period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1212 - PALAEOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the history of hand writing in the West from antiquity through the sixteenth century and a practical introduction to reading the scripts of the period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1215 - MEDIEVL MANUSCRPT ILLUMINATION

Minimum Credits: 3
Maximum Credits: 3
A survey of the illuminated books of the middle ages from late antique times to the late 15thc. With particular emphasis on the art of Western Europe. Methodological approach includes fundamentals of codicology, palaeography and minor decoration, with the emphasis on chronological development of types of book, style and iconography. In addition to material presented in class using slides, extensive use will be made of originals in local collections and facsimiles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1220 - EARLY CHRISTIAN/BYZANTINE ARCH

Minimum Credits: 3
Maximum Credits: 3
This course on early Christian and Byzantine architecture balances modern scholarship on the origins and development of church-building with a conceptual study of what worship is and how it has been housed. Individual topics of study vary from Rome and Constantinople, to underground" churches, to the splendor of the basilicas built for Constantine and Justinian. Field trips to analyze a church and synagogue service complement the lectures and readings."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1230 - PAGANS & CHRST:ERLY MIDL AGES

Minimum Credits: 3
Maximum Credits: 3
This course examines the art of the early middle ages, paying particular attention to the slow disintegration of the Roman empire, the rapid rise of Christianity, and the evolving identity of Europe and the Mediterranean in a period of migration, crisis, and transformation. Special attention will be paid to the roles played by emperors and kings in this period, including Constantine, Justinian, Clovis and Charlemagne, and the peculiar blend of pagan and Christian cultures that defined early medieval art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1235 - ENGLISH MEDIEVAL ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3
This course treats selected examples of English medieval architecture from the seventh through the fifteenth centuries. While attention will be given to fortification and residential structures, emphasis will be placed on ecclesiastical buildings. Discussion will be directed to rationale of plan (particularly liturgical requirements), structural formulation, and style, in the light of historical context.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1240 - ROMANS AFTER ROME

Minimum Credits: 3
Maximum Credits: 3
Romanesque architecture, evolving from the building practices of about A.D. 800 In the Carolingian empire, marks the coming of age of European culture in the post-antique era. Most of what survives was ecclesiastical in purpose and consists predominantly of monastery churches and their claustral structures. This course will treat both formal and functional issues in the development of the Romanesque tradition and will emphasize the mature period, 1050-1140.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1250 - CONSTRUCTING THE GOTHIC

Minimum Credits: 3
Maximum Credits: 3
Treats the development of gothic architecture from the beginning, in 1140, to the death of St. Louis, in 1270, with emphasis on Northern France. Focuses on liturgical requirements, structural rationale, stylistic formulation, and decorative programs. Includes analysis of major documents.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1255 - GOTHIC ART

Minimum Credits: 3
Maximum Credits: 3
The survey of the architecture, painting and sculpture of the period circa 1140 to 1500 with an emphasis on French art and its influence in the rest of Europe.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1258 - ITALIAN GOTHIC ART

Minimum Credits: 3
Maximum Credits: 3
This course, which might well be sub-titled the beginnings of the Renaissance in Italy, will explore the painting and sculpture created in Tuscany between about 1250 and 1400. What makes this period so exciting is that this is the moment when art begins to be more closely related to the realities

of life. Artists begin to represent not only physical reality, but emotional and psychological reality as well, and slowly one moves toward the great rebirth which the Italians of the fifteenth century dubbed the renaissance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1300 - SPECIAL TOPICS-RENAISSANCE
Minimum Credits: 3
Maximum Credits: 3
Special topics in Renaissance art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1301 - SPECIAL TOPICS-BAROQUE
Minimum Credits: 3
Maximum Credits: 3
Special topics in baroque art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1303 - ITAL RENAISSANCE PORTRAITURE
Minimum Credits: 3
Maximum Credits: 3
Topics in Italian Renaissance portraiture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1304 - LEONARDO, MICHELANGELO,RAPHAEL
Minimum Credits: 3
Maximum Credits: 3
This course will cover painting and sculpture in Italy from 1480 to 1580, emphasizing major figures (Leonardo, Raphael, Michelangelo, Giorgione, titian, Veronese, Andrea del Sarto, Salviato, Vasari) and consider relevant art theory and historiography (High Renaissance, Maneria and Mannerism).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1305 - EARLY RENAISSANCE ARCHITECTURE
Minimum Credits: 3
Maximum Credits: 3
The early Renaissance (1420-1500) marked a fundamental change in the way mankind saw and thought about the world. This course examines the buildings, cities, projects, and theories of that period through its major designers. It concentrates on the new acceptance of rationality and modular linkage in building, which prefigures the rationality and scientific method so characteristic of the modern world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1306 - HIGH RENAISSANCE ARCHITECTURE
Minimum Credits: 3
Maximum Credits: 3
The architecture of the high Renaissance and mannerism (from about 1500 to about 1580 in Rome and other centers of Italy) changed forever the face of architecture. This course focuses on the Roman projects of Bramante, Raphael, Michelangelo and Leonardo da Vinci. It then follows the mutation of high Renaissance ideals into mannerism and the spread of both styles in Northern Italy, particularly in town planning and in the villas and churches of Andrea Palladio around Venice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1307 - PAINTING IN 17TH CNTUR HOLLAND
Minimum Credits: 3
Maximum Credits: 3
This course will focus on key figures such as Frans Hals, Rembrandt, Vermeer, and Jacob van Ruisdael, and will also examine the development of portraiture, landscape, and genre painting. Though the primary concern will be with painting, drawings and prints will also be introduced when

relevant. The historical and social context for the "golden age" of Dutch art will also be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1308 - ITALIAN 17TH CENTURY PAINTING

Minimum Credits: 3
Maximum Credits: 3
The course will focus on the major painters working in Florence, Rome, Lombarby and Venice and the history and definition of the terms high Renaissance and mannerism. The evolution of artistic theory and its relation to practice and styles in major centers will also be covered. The artists discussed include Raphael, G. Romano, Michelangelo, A. Del Sarto, R. Fiorentino, Pontormo, Correggio, Parmigianino, Primaticcio, Giorgione, Lotto, S. Del Piombo, Titian, Tintoretto and Veronese.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1320 - SPECIAL TOPICS-NORTHERN EURPAN

Minimum Credits: 3
Maximum Credits: 3
Special topics in Northern European art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1400 - SPECIAL TOPICS-MODERN

Minimum Credits: 3
Maximum Credits: 3
Special topics in modern art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1401 - SPECIAL TOPICS-CONTEMPORARY

Minimum Credits: 3
Maximum Credits: 3
Special topics in contemporary art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1404 - MODERN SCULPTURE

Minimum Credits: 3
Maximum Credits: 3
The course analyzes the major figures in modern sculpture from Rodin to the present. Special attention will be given to the inter-relationships between modern painting and sculpture, particularly in the cubist period, surrealism and in the post-World War II era.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1405 - EIGHTEENTH CENTURY ART

Minimum Credits: 3
Maximum Credits: 3
The course surveys the painting, sculpture and decorative arts of Europe in the 18th century. Special attention will be given to trends in painting in France, from Watteau to David. In addition, major figures in prints such as Goya, Hogarth and Piranesi will be studied. The course will emphasize the social and philosophical writers of the enlightenment and suggest the ways art and ideas mingle.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1406 - HISTORY OF GRAPHIC ART

Minimum Credits: 3
Maximum Credits: 3
This study of the graphic arts media as they developed historically will focus on several major innovators such as Durer, Rembrandt, Goya, Daumier, Hayter and Picasso.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1407 - ARCHITECTURE AND ENLIGHTENMENT

Minimum Credits: 3
Maximum Credits: 3
This course will examine architecture, city planning, interior design, and gardening in eighteenth-century Europe as the product of social, industrial, administrative, and intellectual transformations that began to radically challenge traditional spatial configurations and conventional approaches to building. In cosmopolitan centers like London and Paris, an unprecedented explosion of print media, rapid rises in literacy, and the development of a public sphere outside official power structures opened debate in the arts to previously marginal figures. A range of new voices thus emerged that impacted policy decisions in the urban realm and proffered advice and guidance in thinking about aesthetics and artistic production. The rise of science held out the possibility that cities and institutions could be reshaped to improve human welfare through better hygiene and the expansion of commerce. Influential new classes defined by wealth or specialized knowledge generated the creation of building types for a range of new activities. Elite domestic space in particular reflects a wholesale transformation of social priorities motivated by the novel concept of privacy. Narrowly defined Renaissance discourses on the arts founded exclusively on the model of ancient Rome collapsed under an avalanche of data gathered in remote sites around the Mediterranean and through contact with more far-flung civilizations around the world. New intellectual paradigms reconfigured the relationship between individual and nature, between modern present and historical past. Consequently, the purpose of architecture mutated in the course of the eighteenth century as a bewildering range of new possibilities for shaping building and reshaping social relations were explored. Well before political revolution rocked European governments and toppled traditional hierarchies, the built environment served as a laboratory for experimentation and as a forum for reimagining society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1408 - CLASSICAL TRAD IN ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3
This course deals with classical Greek architecture and the subsequent reinterpretations of that tradition in Western culture, in the Roman, renaissance, and neo-classical eras. The course will explore the significance of the classical aesthetic qualities of order, harmony, symmetry and rational proportion in a variety of cultural climates and the changing roles which the classical order has played in projecting the meaning of a building.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1410 - REALISM AND IMPRESSIONISM

Minimum Credits: 3
Maximum Credits: 3
These movements in 19th century European art were important in the formation of later modern art currents. The course will consider the major developments in Romanticism, then study Courbet, Manet and Degas, and finally move to the major impressionist masters, Monet, Renoir, Sisley, and Pissarro. Much attention will be given to the literary and scientific framework for the art of the period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1411 - MODERNISM

Minimum Credits: 3
Maximum Credits: 3
Something happened in the history of art around the time of Manet which set painting upon a new course. This change has been described as a kind of skepticism or uncertainty about the nature of representation in art, characterized by an attention to the material means by which illusions and likenesses are made. This course will examine several monuments in the history of modernism, in an attempt to define the political ambitions of modernism and to confront the issue of whether modernism has become simply an aesthetic or is still a viable artistic strategy in the post-modern" era."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1440 - EXPRESSIONISM

Minimum Credits: 3
Maximum Credits: 3
A history of the development of modernist art in Germany from the founding of the bridge" group in 1905 to the "death" of German expressionism in 1920. Although primarily focused on the art of the "bridge" and "blue rider" groups, the course will also situate this art within the broader context of German art production during these years (academic art, jugendstil, secession, dada)."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1441 - DADA AND SURREALISM
Minimum Credits: 3
Maximum Credits: 3
This course provides an international history of dada and surrealism between the two World Wars. Special attention will be devoted to art and politics in these two movements. We will examine dada and surrealist work in a variety of media, including collage, painting, photography, film, and fashion.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1450 - ART IN THE WEIMAR REPUBLIC
Minimum Credits: 3
Maximum Credits: 3
The course will examine art and architecture in Germany from the end of World War I to the rise of the national socialist dictatorship in 1933. Emphasis will be on a chronological study of the ways in which art developed in Germany under democratic social concepts and a new internationalist outlook in the early years of the republic, and the ways art became embedded in the political structures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1455 - ART IN THE THIRD REICH
Minimum Credits: 3
Maximum Credits: 3
This course examines national socialist art and the fate of modernism under Hitler in the years between 1933 and 1945. As we will explore, Hitler's regime enlisted the arts and architecture, through party rallies, art exhibitions, building programs, and film, in enforcing its dictatorial policies on everything from the extermination of the Jews to sexuality and the war effort. We shall also consider the impact of the purge of modern art under Hitler on the work of such noted modernists as Otto Dix and Käthe Kollwitz, who chose to remain in Germany, and on the art of those who fled into exile, among them John Heartfield, George Grosz, and Max Beckmann. The final weeks of the course will consider critical issues involved in recent--and invariably controversial--attempts in museum building, sculpture, and site-specific installations to memorialize the Holocaust and examine Germany's Nazi past.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1470 - PHOTGRPHR PHOTGRPHY SINC WWII
Minimum Credits: 3
Maximum Credits: 3
This course explores the tremendous range of photographic expressions and examines the contributions of significant post-World War II image-makers.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HAA 1475 - MODERNITY, MODERNISM & HOUSING
Minimum Credits: 3
Maximum Credits: 3
This course offers multiple perspectives on architectural modernism and modernity through the perspective of dwelling. We will consider examples of modern architecture from the Americas, Europe, Africa, the middle East and Asia from the late 19th century (starting with the debates regarding tenements in this country and working-class housing in England) and end with the demolition of the Pruitt-Igoe housing projects in St. Louis in 1972. The lens of housing will allow us to consider modernism in different geographic contexts (East and West); under different political conditions (in the colonial periphery, in the heart of empire, as part of state-sponsored redevelopment projects, and as part of the nation-building process in the developing world) and through a range of theoretical vectors (i.e. The modernist house as a manifesto for a new way of living; the attention received by vernacular building traditions and various schemes to replicate them as part of the modern project; the role of post-war technology in prefabricated housing; and the role of museums, such as the MOMA and other institutions such as the united nations in calcifying modernism in various locales around the world). This course is designed to give students a strong foundation in the theoretical, aesthetic and historical expressions of architectural modernism. It is also designed to expand the range of architectural modernism beyond the traditional Euro-Ameri-centric canon to include alternative modernisms across global geographies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1480 - ARCHITECTURE SINCE 1945
Minimum Credits: 3
Maximum Credits: 3
Treats the key developments in architecture throughout the world since World War II, including theory as well as practice. The course will focus on such figures as Frank Lloyd Wright, Miles van der Rohe, le Corbusier, James Stirling, Eeko Saarinen, Louis Kahn, Kenzo Tange, Robert Venturi,

Richard Rogers, and Norman Foster.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1490 - ART SINCE 1945

Minimum Credits: 3
Maximum Credits: 3
This course will present a review of art movements in America and Europe form 1905 - 1945 in the introduction, followed by a more intensive study of post-World War II art movements in Western Europe and America from 1945 to the 1980's. We will give special attention to: a) different styles of art which fit into the label "abstract expressionism' b) different styles under "pop(ular) art" c) conceptual art movements d) issues in critical evaluations of contemporary art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1500 - SPECIAL TOPICS-AMERICAN

Minimum Credits: 3
Maximum Credits: 3
Special topics in American art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1502 - SPEC TOPCS: LATIN AMERICAN ART

Minimum Credits: 3
Maximum Credits: 3
Special topics in Latin American art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1510 - PITTSBURGH ARCHITEC/URBANISM

Minimum Credits: 3
Maximum Credits: 3
The course studies the physical environment of Pittsburgh; the topography, early settlement, the expansion of its industrial center, the post-war renewal, and the current shift from production to a service-based economy. A parallel study in the architectural history of Pittsburgh focuses on images of individual buildings from fort Pitt to the new skyscrapers. Student papers either expand research in building categories (industrial, domestic, etc.) Or integrate the physical development of the region with its political and social history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1512 - AMERICAN SCULPTURE

Minimum Credits: 3
Maximum Credits: 3
This course surveys American sculpture from the founding of the nation to the present, with special attention paid to the role played by sculpture in public life. Through a combination of lectures, readings, and frequent visits to local sculptural sites we will explore such themes as the nature and function of monuments, the politics of race and gender in the representation of the human body, and the transformation of public space in modern times.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1530 - EARLY AMERICAN ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3
Architecture often serves as a prime document and indicator of America's past and future. The theme of this course is the search for identity in American architecture in the centuries from the colonial settlements to the Civil War. The course studies both the recorded history of American architecture and the unrecorded millennium before that, to show its surprising cohesion in the fact of great cultural and territorial diversity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1531 - AMER ARCH SINCE INDSTRLZTN

Minimum Credits: 3
Maximum Credits: 3
By 1880 traditional American architectural values had broken down under a barrage of ornament and imported European styles. But at the same moment a new American architecture was taking shape to express the new wealth of post-Civil War America and its new social order. The next hundred years would see a succession of brilliant architects in Sullivan, Wright, Mies, Johnson and the pluralists of today. These individual successes only partially mask some major problems; both constitute the underlying themes of this course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1533 - THOMMAS JEFFERSON, ARCHITECT

Minimum Credits: 3
Maximum Credits: 3
Expert in politics, music, archaeology, agriculture, foreign and ancient languages, drawing, writing and surveying, Thomas Jefferson also educated himself from a conventional dilettante to the status of a formidable power in architecture. Creator of three unquestioned building masterpieces, Jefferson was the prime mover in style in architecture. The course alternates lectures on the significant monuments with students' reports on individual research topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1600 - SPECIAL TOPICS-CHINESE

Minimum Credits: 3
Maximum Credits: 3
Special topics in Chinese art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1601 - SPECIAL TOPICS-JAPANESE

Minimum Credits: 3
Maximum Credits: 3
Special topics in Japanese art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1602 - SPECIAL TOPICS-ASIAN

Minimum Credits: 3
Maximum Credits: 3
Special topics in Asian art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1605 - EARLY CHINA: POWER & IDENTITY

Minimum Credits: 3
Maximum Credits: 3
The course is designed to look carefully at the ancient culture of the Chinese. The first task is to learn more about how and where they lived and to gain an understanding of the changes in culture throughout the period dating from c. 2500 BC-C. 200 A.D. It is hoped that the participants in the class will be able to distinguish various periods in Chinese history through study of the material culture; jade, bone, ivory, and bronze artifacts of all kinds. As each period is discussed significant art historical problems will be noted and examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1610 - EARLY CHINESE PAINTING

Minimum Credits: 3
Maximum Credits: 3
Illusionistic painting developed in china as an independent art form at a time contemporary with the rise of Confucian humanism. Although the craft of painting can be traced to the Neolithic period. Its real beginnings can be studied in relation to the art of writing. This course will examine paintings form c. 2500 B.C. To the tang dynasty (618-907 A.D.).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1620 - LATER CHINESE PAINTING
Minimum Credits: 3
Maximum Credits: 3
A lecture and a discussion course on secular painting in china during the T'ang, Sung, Ming, and Ch'ing periods--form the VIIth century through the early XIXth century. Pre T'ang works will be used mainly as introductory information, although attention will be given to the development of the literary and critical evidence of earlier eras. Buddhist painting and wall-painting will be dealt with only when these can be shown to relate to studio painting.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1630 - CHINA: ARCHITECTURE
Minimum Credits: 3
Maximum Credits: 3
The design of Chinese cities is guided by philosophical principles established in the early dynastic period. Imperial cities follow a regular grid pattern that faces south, and includes an inner city, open only to the imperial leaders and aristocrats, and an outer city in which the business is carried out. The design and use of the city is guided by Confucian and Daoist ideals. Religious centers follow palace designs, but are tied to Buddhist, Confucian and Daoist practice. Village centers are arranged according to Daoist ideas about nature called Fengshui.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1640 - 20TH CENTURY CHINESE ART
Minimum Credits: 3
Maximum Credits: 3
The 20th century in china was a period of tremendous change. Artists and the society in which they lived crashed into the modern world to struggle with the weight of tradition as well as the draw of the new. We will consider this period and artistic visions of it by looking at arts including printmaking, painting, film, installation and other synthetic and combined forms. All artistic production will be contextualized within the political and cultural history of the period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1650 - CHINA'S ARCHAEOLOGICAL PAST
Minimum Credits: 3
Maximum Credits: 3
An introduction to Chinese archaeology from the earliest known beginnings through the Han civilization of the second century A.D. Attention will be given to innovations of people in this part of the world and to agriculture beginnings, the first cities and states, the formation of an empire. Emphasis will be placed on such topics as the role of archaeology in the study of history and art as well as in understanding china today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1652 - JAPAN: BUDDHIST ART & RITUAL
Minimum Credits: 3
Maximum Credits: 3
The course will examine pre-modern Japanese Buddhist art, including architecture, sculpture, and painting, and the relationship of these images to ritual practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1653 - ANCT EAST ASIAN VISUAL TRADTNS
Minimum Credits: 3
Maximum Credits: 3
This course is designed to look at early cultures of East Asia through the study of material culture. It is arranged in chronological order, beginning with the Paleolithic and including the Neolithic, through the formation of states and empires in China, Korea and Japan. We will consider the artifacts as cultural documents and learn how to explain why they look the way they do based on an understanding of their patron's input, their function, use and time of manufacture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1654 - EARLY JAPAN: MATERIAL & RITUAL
Minimum Credits: 3
Maximum Credits: 3

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1655 - THE WORLD OF JAPAN

Minimum Credits: 3
Maximum Credits: 3
Students will receive a grounding in basic principles of Japanese classical literature, poetry and aesthetics. They will read the entire text in English of the tale of Genji and examine important works in Japanese literature composed in later periods.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HAA 1656 - JAPAN: ARCH PERFORMATIVE SPACE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1659 - LANGUAGE OF JAPANESE AESTHTCS

Minimum Credits: 3
Maximum Credits: 3
For over a thousand years, aesthetic values have been seen by the Japanese as central in defining the particular significance of their civilization and the driving force of these insights into the beauty of truth remains powerful even today. Learning to appreciate the development of traditional Japanese aesthetic sensibilities and their historical manifestations in a variety of art forms such as poetry and painting to theatre and folk art not only helps one to understand Japanese culture but provides a nonWestern model to consider creativity, beauty, and life. Readings in English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1660 - JAPAN: HANDSCROLLS

Minimum Credits: 3
Maximum Credits: 3
The course begins by considering how handscroll paintings, as the first secular art of Japan, developed out of earlier religious painting. It seeks the source of this development in changes in religion itself, showing how as religion in Japan became increasingly philosophical, the making of religious art creased to be the ritual creation of "magic objects" and became little more than the illustration of sutra texts. The course shows how these notions of art were codified into a "classic" tradition by the imperial court and ends with a look at how this aesthetic influenced ink ptg.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1675 - JAPAN: LANDSCAPE PTG & NATURE

Minimum Credits: 3
Maximum Credits: 3
This course is a topical survey of 15-16th century Japanese ink painting and garDening. The course considers how these two art forms depicted nature and attempts to understand the nature of nature in Japan as presented in these art forms. Finally, this course relates these arts to the philosophy of zen, the aesthetics of the tea ceremony, the politics of rising individualism among warriors, and other influences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1680 - JAPAN: ARTIST AND CITY

Minimum Credits: 3
Maximum Credits: 3
This course will examine the dichotomy in aesthetic tastes and values visible in the arts of the Edo period (1615-1868), focusing primarily on the imperial city of Kyoto and the urban milieu of Edo. Topics to be covered include paintings, prints, performance arts, and architecture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1700 - SPECIAL TOPICS-INDIA

Minimum Credits: 3
Maximum Credits: 3
Special topics in Indian art.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1800 - SPECIAL TOPICS - FILM

Minimum Credits: 3
Maximum Credits: 3
Special topics in film.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1805 - EARLY FRENCH FILM

Minimum Credits: 3
Maximum Credits: 3
This course examines the first three decades of film in France, from turn-of-the century 'primitive' experiments to the first films with sound by Jean Vigo and Jean Renoir in the early 1930s. The works considered include narrative films from the 'teens and twenties', as well as experimental works by artists such as Marcel Duchamp, Ferdinand Leger, Man Ray, Jean Cocteau, Luis Bunuel and Salvador Dali. The course emphasizes the extraordinarily innovative contributions of French film during these years.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1806 - AMERICAN INDEPENDENT FILM

Minimum Credits: 3
Maximum Credits: 3
This course examines the development in the U.S. Of independently produced film as an art form, and the filmmaker as an artist, from World War II to the present. Filmmakers to be considered include Maya Deren, Kenneth Anger, Stan Brakhage, Bruce Baillie, Hollis Frampton and others. An examination will be made of the relationships between the films studied and other forms of modern art, such as "abstract expressionism", "structuralism" and "postmodernism". This course does not include "independent" Hollywood and other commercial feature filmmaking.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1810 - EXPERIMENTAL VIDEO

Minimum Credits: 3
Maximum Credits: 3
This course will examine a variety of new uses of video as a means of individual artistic expression. The course does not include commercial broadcast or cable television, or music television". The course begins with the early experiments and video sculptures of the 1960s. Topics will include the use of video by performance artists, and video works which use computer technology to create abstract imagery. Consideration will be given to single channel tapes and to three-dimensional video "installations". Comparisons will be made with other contemporary art forms."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1820 - DOCUMENTARY FILM

Minimum Credits: 3
Maximum Credits: 3
This course examines the development of documentary film from the late 19th century to the present. The films to be considered include such classics as Nanook of the North, Man with a Movie Camera, Triumph of the Will, and Titicut Follies. The premise of the course is that documentaries are never objective" in any absolute sense. The course will demonstrate, rather, that the forms and strategies employed in a documentary film invariably reveal the thinking of the filmmaker as an individual, and reveal the era and context in which the film was made."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1880 - WORLD CITIES

Minimum Credits: 3
Maximum Credits: 3
This course establishes a set of issues and a chronological context through which to understand the main patterns of city development. Thus the paring of St. Petersburg and Brasilia, London and loss Angeles, Amsterdam and Chicago, points out similarities and differences in their shape and social context. Student reports on individual cities are an integral element of the course, and influence the choice of cities to be studied in detail.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1900 - ARCHTCTRL STUDIES INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
Academic credit is awarded for practical professional experience gained through a directed internship. The internship is arranged by the student through the university internship office in consultation with the director of architectural studies.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: PLAN: Architectural Studies (BA)

HAA 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
Independent reading and research with one faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

HAA 1903 - HISTORY ART & ARCH INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
Academic credit is awarded for practical professional experience gained through a directed internship. The internship is arranged by the student through the University internship office in consultation with the undergraduate advisor in art history.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: PLAN: History of Art & Architecture (BA)

HAA 1904 - UG TEACHING ASSISTANTSHIP

Minimum Credits: 1
Maximum Credits: 3
This course enables advanced majors to partner with a faculty member as a teaching assistant in a pre-existing departmental course. This collaborative project will result in the enrichment of the course and improve the teaching-learning enterprise for all parties (faculty, Undergraduate teaching assistants, and students enrolled in the course).
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

HAA 1905 - MUSEUMS STUDIES INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
Museum studies minors are required to complete a 3-credit academic internship under the course number haa 1905. this is both an academic course and an internship placement. Students receive substantive mentoring from a site supervisor at a local museum, collection or historic site, and engage in projects with learning outcomes, whether in curatorial, educational, communications or development departments. Students also participate in monthly cohort meetings with the other interns enrolled in the course, under the guidance of an haa faculty member, and are required to produce a final product. Note: academic internships through HAA 1905 are also available to HAA majors as an optional elective. the student must apply for the internship through the HAA department.

Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

HAA 1906 - INTEGRATED FIELD TRIP ABROAD

Minimum Credits: 2
Maximum Credits: 2
This is a course that students can take while studying abroad.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1907 - ARCH & THE CITY CENTRAL EURP

Minimum Credits: 3
Maximum Credits: 3
This course will enable students to investigate the modernization of three important central European cities and the impact of new ideas about design, technology, and social organization on the development of new building types and urban infrastructure in the 19th and 20th centuries.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1909 - UNDGR RESEARCH ASSISTANTSHIP

Minimum Credits: 1
Maximum Credits: 3
This course enables students to receive academic credit for serving as assistants to faculty members who are conducting pre-existing research projects (i.e. Preparing work for publication or a conference). This collaboration will result in a meaningful experience for the student that introduces them to and gives them grounding in the ethos and mechanics of research and publication.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

HAA 1910 - SPECIAL TOPICS-ARCHITECTURE

Minimum Credits: 3
Maximum Credits: 3
Special topics in architecture. Course varies from term to term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1911 - ARCHTCRL SEM: MONOGRPHIC TOPCS

Minimum Credits: 3
Maximum Credits: 3
A seminar for senior architectural studies majors, with changing topics: treats single architects, buildings, or cities.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

HAA 1912 - ARCHITECTURE & DIGITAL MEDIA 1

Minimum Credits: 3
Maximum Credits: 3
An introduction to the graphic communication of architectural documents utilizing computer aided drafting (CAD) techniques. This introductory cad course is designed to give students a working knowledge of the AutoCAD drafting system. The course has been designed to better acquaint students with concepts, processes and skills required by professionals in the field to create and modify computer-generated drawings. Students will learn the commands and functions necessary to input, process and output two dimensional working drawings in the form of plans, elevations and sections. Three-dimensional visualization will also be covered as a means to explore massing and proportion. In addition to the fundamental design methods and practices for the creation of architectural drawings, exercises will focus on fundamental concepts such as scaling, dimensioning, annotating as well as maintenance of CAD drawing files through the use of operating system commands.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1913 - FOUNDATIONS STUDIO 1

Minimum Credits: 6
Maximum Credits: 6
The architectural studies seminar is intended to provide experience working on an advanced level with a specialized topic in architecture. In some years the seminar will deal with history or theory, in others with conceptual issues. For this offering it will focus on several particular problems in the development of Frank Lloyd wright's career in architecture.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

HAA 1914 - ARCHITCTR AND DIGITAL MEDIA 2

Minimum Credits: 3
Maximum Credits: 3
The architecture, engineering, construction and operations industry has well documented inefficiencies stemming primarily from fragmentation in the project delivery process. At the same time, the industry faces significant challenges such as the demand to deliver projects more economically, the desire for more environmentally responsible projects, and the expectation of more predictability in performance -- all of which call for more integration and collaboration throughout a project's lifecycle. New technologies such as building information modeling (BIM) are revolutionizing architecture and construction, providing a platform that allows project information to be captured, structured and analyzed throughout the entire lifecycle of a project, enabling a more integrated, collaborative process that supports more informed decision making and higher levels of efficiency. In this course, students will learn the principles of BIM using Revit software.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Arts and Sciences (ARTSC)

HAA 1916 - ARCHITECTURE DESIGN STUDIO 1

Minimum Credits: 6
Maximum Credits: 6
At the core of every nationally accredited school of architecture is the design studio. The design studio integrates skills learned in other architecture courses in the production of a design project. This course prepares students for the rigor of the architectural design process and exposes them to the unique pedagogical experience of a design studio. This course is designed to give students who are majoring in architectural studies and who intend to pursue a professional degree in architecture at the graduate level exposure to a sophisticated conceptual framework for thinking about three-dimensional composition and architectural problem solving. The course is also intended to emphasize the necessity of excellent graphic skills and technical skills in model-making to communicating design ideas. This course is meant to serve as an intermediary step between the /architectural studies seminar/ (HAA 1913) and the studio arts requirements for the architectural studies major, and the more advanced architectural design work in HAA 1917.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: HAA 1913

HAA 1917 - ARCHITECTURE DESIGN STUDIO 2

Minimum Credits: 6
Maximum Credits: 6
This course is designed to give students who are majoring in architectural studies and who intend to pursue a professional degree in architecture at the graduate level exposure to a sophisticated conceptual framework for thinking about three-dimensional composition and architectural problem solving known as /system-based design/. The course is also intended to emphasize the necessity of excellent graphic skills and technical skills in model-making to communicating design ideas. This course is meant to serve as a capstone for the architectural studies major.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: HAA 1916

HAA 1918 - DESIGN STUDIO 3

Minimum Credits: 6
Maximum Credits: 6
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1919 - DESIGN STUDIO 4

Minimum Credits: 6
Maximum Credits: 6
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1920 - INTRO TO HISTORIC PRESERVATION

Minimum Credits: 3
Maximum Credits: 3
This course explores the goals, methods, and practice of historic preservation in the United States through a variety of historical, theoretical, and practical points of view. Through intensive reading, class discussion, field trips, case studies, and guest speakers representing various sectors of the preservation community in Pittsburgh, the course investigates such topics as: (1) the influence of historic preservation in the built environment; (2) philosophies and politics of preservation; (3) 'reading' buildings and landscapes for their cultural meanings; (4) protecting historic places and documenting their significance.*
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: School of Arts and Sciences (ARTSC)

HAA 1921 - DOCUMENTATION AND CONSR STUDIO

Minimum Credits: 6
Maximum Credits: 6
This course is intended to provide an intensive foundation in the proper techniques of working in the field of architectural conservation. Primary emphasis is on learning directly from specific buildings and sites, with secondary emphasis on placing these findings within a practical preservation planning context. Background knowledge for analysis and for developing preservation recommendations will come from intensive reading, guest speakers, case studies, class discussions, field trips and exercises in building materials conservation. Concurrent with the development of approaches to conservation, students will also acquire or sharpen a variety of academic skills such as the ability to conduct historical research; graphic

representation techniques; and professional writing and public presentation skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HAA 1922 - PRESERVATION - TEXTS & THEORY
Minimum Credits: 3
Maximum Credits: 3
This course is the capstone writing seminar for architectural studies majors pursuing the track in preservation planning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HAA 1923 - GLOBAL PRESERVATION
Minimum Credits: 3
Maximum Credits: 3
The late-nineteenth and early-twentieth century debates regarding the role of the architectural monument as a signifier of the past, as a container of memory and more importantly authenticity, were the definitive moment in the institutionalization and professionalization of architectural preservation around the world. In a 1903 essay titled 'The Modern Cult of Monuments,' art historian Alois Reigl claimed that while the creation of monuments (i.e. structures built to memorialize certain events or persons) had a long history that predates modernity, the 'cult of the monument' (i.e. the allocation of the monument as a unique and original object in a pre-ordained historical narrative of social and cultural evolution) came about as recently as the nineteenth-century. It is this coupling of the advent as well as the progress of modernity along with the formalization of systems of historic preservation that this course seeks to explore.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HAA 1950 - SENIOR THESIS
Minimum Credits: 3
Maximum Credits: 3
In this course a senior major in the history of art will research and write a research paper and present it as if for publication. The area and topic will be decided upon in consultation with a specific faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

HAA 1951 - HONORS RESEARCH SEMINAR
Minimum Credits: 3
Maximum Credits: 3
This seminar is intended for undergraduate students pursuing an honors thesis project in the department of the History of Art and Architecture. Students will devise and carry out research for their thesis paper under the direct supervision of a qualified faculty member in the department, depending on the student's specialized interest. That faculty member will guide the student through the production of the paper in accordance with stipulated deadlines for outlines and drafts leading up to the final work.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

HAA 1990 - 20THC RUSS ART:BETWN EAST/WEST
Minimum Credits: 3
Maximum Credits: 3
This course surveys Russian art of the 20th century - including painting, graphic design, handicrafts, stage design, and architecture spanning the period from the world of art/Mirisskustva (1890s) to the present day. It (1) acquaints students with major art groups, movements and their key representatives, (2) traces the role of icons and folklore traditions in works throughout the century, (3) elucidates the system of patronage and museums and galleries, and (4) examines the symbiosis between Russian art and ideology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Honors

HONORS 0001 - UNIVERSITY ORIENTATION
Minimum Credits: 1
Maximum Credits: 1
An informational seminar open to honors-qualified freshmen. Students gain a better understanding of university services, functions and policies as well as the opportunities available through the honors college.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0002 - UHC TRANSFER STUDENT ORIENTATN

Minimum Credits: 1
Maximum Credits: 1
An informational seminar open to honors-qualified transfer students. Students gain a better understanding of university services, functions and policies as well as the opportunities available through the honors college.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0010 - CHANCELLOR SCHOLAR ORIENTATION

Minimum Credits: 1
Maximum Credits: 1
An informational seminar open to freshmen chancellor scholars. Students will gain a better understanding of university services, functions and policies as well as the opportunities available through the honors college.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0021 - SEMINAR: HUMANITIES

Minimum Credits: 1
Maximum Credits: 1
An informational seminar open to honors-qualified sophomores considering majors in the humanities. Students will explore majors in greater depth, how to conduct research in the disciplines, and preparation for post-graduate opportunities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0022 - SEMINAR: SOCIAL SCIENCES

Minimum Credits: 1
Maximum Credits: 1
An informational seminar open to honors-qualified sophomores considering majors in the social sciences (including psychology). Students will explore majors in greater depth, how to conduct research in the disciplines, and preparation for post-graduate opportunities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0023 - SEMINAR: NATURAL SCIENCES

Minimum Credits: 1
Maximum Credits: 1
An informational seminar open to honors-qualified sophomores considering majors in the natural sciences. Students will explore majors in greater depth, how to conduct research in the disciplines, and preparation for post-graduate opportunities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0080 - BRACKENRIDGE RESEARCH SEMINAR

Minimum Credits: 1
Maximum Credits: 1
This seminar will provide Brackenridge research fellows with the opportunity to develop their summer research projects further, culminating in an abstract, a research paper and a poster.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0082 - SEMINAR IN CONDUCTING RESEARCH

Minimum Credits: 1
Maximum Credits: 1
This seminar is intended for students wishing to learn about research, particularly the kind of research intended to result in a significant project, e.g., A research monograph, a thesis written for a senior project for the BPhil degree. Students at any point of their research process will benefit from this seminar. Topics will include how to do research from an interdisciplinary perspective, how to focus in on a suitable research topic, how to approach faculty to engage their assistance, and the various research opportunities available.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0101 - CHANCELLOR SCHOLAR FRESHMN SEM

Minimum Credits: 1
Maximum Credits: 1
A forum for a variety of scholarly discussions for freshman chancellor scholars.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0102 - CHANCELLOR SCHOLAR SOPHMR SEM

Minimum Credits: 1
Maximum Credits: 1
A forum for a variety of scholarly discussions for sophomore chancellor scholars.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0103 - CHANCELLOR SCHOLAR JUNIOR SEM

Minimum Credits: 1
Maximum Credits: 1
A forum for a variety of scholarly discussions for junior chancellor scholars.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0104 - CHANCELLOR SCHOLAR SENIOR SEM

Minimum Credits: 1
Maximum Credits: 1
A forum for a variety of scholarly discussions for senior chancellor scholars.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 0510 - WORLD OF MONGOLIA

Minimum Credits: 3
Maximum Credits: 3
An introductory course to the culture, arts, history, politics and economics of Mongolia in the context of their relations with Russia and china.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

HONORS 1010 - SPECIAL TOPICS SEMINAR

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

HONORS 1020 - SPECIAL TOPICS SEMINAR 2

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

HONORS 1110 - COMPARATIVE STUDIES-LEADERSHIP

Minimum Credits: 3
Maximum Credits: 3
This course examines comparatively the nature of leadership in different areas such as business, government, the arts, education, the military and politics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HONORS 1120 - HUMAN SCIENCES
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HONORS 1130 - DISCOURSES IN THE HUMANITIES
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: MIN CUM GPA: 3.25

HONORS 1131 - GREAT BOOKS, PART 1
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

HONORS 1132 - GREAT BOOKS, PART 2
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

HONORS 1133 - GREAT BOOKS AND MODERNITY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

HONORS 1140 - DISCOURSES IN SOCIAL SCIENCES
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HONORS 1150 - DISCOURSES IN NATURAL SCIENCES
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HONORS 1160 - DISCOURSES IN HUMAN KNOWLEDGE
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HONORS 1210 - SPECIAL TOPICS: HUMANITIES
Minimum Credits: 3
Maximum Credits: 3
A course offering a special topic in the humanities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HONORS 1310 - SPECIAL TOPICS: SOCIAL SCIS
Minimum Credits: 3
Maximum Credits: 3
A course offering a special topic in the social sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HONORS 1410 - SPECIAL TOPICS: NATRL SCIENCES
Minimum Credits: 3
Maximum Credits: 3
A course offering a special topic in the natural sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

HONORS 1510 - SPECIAL TOPICS
Minimum Credits: 3
Maximum Credits: 3
This course focuses on a special topic which will vary from term to term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HONORS 1520 - HONORS FIELD STUDIES MONGOLIA
Minimum Credits: 3
Maximum Credits: 12
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

HONORS 1520IS - HONORS FIELD STDS MONGOLIA -IS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

HONORS 1520OS - HONORS FIELD STDS MONGOLIA -OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

HONORS 1530 - HONORS FIELD STUDIES-S AFRICA
Minimum Credits: 9
Maximum Credits: 9
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

HONORS 1540 - HONORS FIELD STUDIES - WYOMING
Minimum Credits: 6
Maximum Credits: 6
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

HONORS 1541 - HNRS FIELD STDS SPRING CREEK
Minimum Credits: 5
Maximum Credits: 5

Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

HONORS 1542 - HONORS FLD STUDIES IN WY-ARTS

Minimum Credits: 3
Maximum Credits: 3
This summer field study program will be conducted at the Allen l. Cook spring creek preserve near Rock River, Wyoming. The course will focus on studio arts topics.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

HONORS 1544 - READING THE EARTH

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

HONORS 1610 - CONCEPTS & VALUES IN MEDICINE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HONORS 1611 - CONCEPTS & VALUES IN MED-WRTG

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis

HONORS 1620 - CLINICAL AND MEDICAL RESEARCH

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HONORS 1630 - CRITL EVAL OF SCIENTIFIC LIT

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HONORS 1640 - MEDICINE AND SOCIETY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

HONORS 1905 - BPHIL THESIS RESEARCH

Minimum Credits: 1
Maximum Credits: 6
Undergraduates pursuing the bachelor of philosophy degree through the honors college may register for this course only after their thesis proposal has been approved and they have been admitted to honors college candidacy.
Academic Career: UGRD
Course Component: Thesis Research
Grade Component: Satisfactory/No Credit

HONORS 1910IS - HONORS SUMMER EDGE - IN-STATE

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

HONORS 1910OS - HONORS SUMMER EDGE - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

Human Resources Management

BUSHRM 1050 - HUMAN RESOURCES MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Provides an introduction to the management of human resources at the organizational level. HRM is viewed as an integral part of the basic management process and the orientation of the course is toward developing managerial skills useful in establishing organizational personnel policy. Specific topics include the role of HR in the management process, HR planning and forecasting, job information systems, recruitment and selection, HR development, compensation, legal framework and evaluation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: College of Business Admin; LVL: So, Jr, Sr

BUSHRM 1447 - TOPCS IN INT'L HUMN RESORC MGT

Minimum Credits: 3
Maximum Credits: 3
This course explores topics of current interest in international human resources management. Topics covered will vary by instructor in areas such as HRM planning, selection, recruitment, appraisal, compensation and benefits, training and development, labor relations, and organization culture and structure.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

BUSHRM 1665 - NEGOTIATING IN BUSINESS

Minimum Credits: 3
Maximum Credits: 3
Negotiating permeates human interactions. It affects balance and distribution of resources among nations, organizations, families and individuals. In business, outcomes of negotiations influence bottom-line. Students will understand theory behind successful negotiations; recognize situations that call for negotiation; explore use of alternative negotiating strategies and tactics; and be able to analyze, plan, and carry out a successful negotiation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSHRM 1050 (MIN GRADE 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSHRM 1670 - GLOBAL WORKFORCE MGT & CHANGE

Minimum Credits: 3
Maximum Credits: 3
This course provides a framework for understanding business and legal challenges associated with effective workforce management around the world. We will examine how labor markets in the Americas, Europe and Asia compare in terms of labor costs and supply, workplace culture, and employment law. News events will be used to illustrate the complex cultural and regulatory environment that multi-international firms face in such areas as talent and performance management, offshore outsourcing, downsizing and industrial relations. Finally, we will focus on successful expatriate assignments and globally-oriented careers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: BUSHRM 1050 (MIN GRADE 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSHRM 1675 - HUMAN RESOURCES STAFFING

Minimum Credits: 3
Maximum Credits: 3
Provides an in-depth examination of the organizational staffing process. Procedures for human resource needs assessment such as personnel audits and forecasting are discussed. Recruitment strategies and recruitment sources are explored. The process of organizational choice by candidates may be covered. Emphasis on understanding basic types of assessment tools and procedures for choosing new employees. Core concepts in measurement and validity are discussed. Issues relating to organizational entry and socialization may also be covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: BUSHRM 1050 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSHRM 1677 - TRAINING AND DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
In 2012 U.S. Firms spent $62 billion on training and development programming for their employees. Such programs address the diversity of skills and demographic characteristics of the workforce, the complex technologies that workforce utilizes in the workplace and the competition resulting from ongoing globalization. This course is designed to provide students with an understanding of the strategic advantage gained by a firm as it designs and implements training and development programs. Topics covered include needs assessment, training design, training methods, and evaluation of training. In addition, employee, career and management development and the use of technology in training will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: BUSHRM 1050 (MIN GRADE 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSHRM 1680 - COMPENSATION & PERFORM MGMNT

Minimum Credits: 3
Maximum Credits: 3
Examines the general structure of an organization and the rewards employees seek in exchange for the efforts and contributions they provide. Topics include: rewards and motivating work environment; government and union influences; job content analysis, description and evaluation; determining competitive relationships, developing pay structures; measuring performance and paying for performance; employee benefits; administration of the compensation plan; executive, managerial, professional, and sales compensation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: BUSHRM 1050 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSHRM 1685 - EMPLOYMENT AND LABOR RELATIONS

Minimum Credits: 3
Maximum Credits: 3
Provides a close examination of the day-to-day labor-management relationship and processes. Considers contract negotiations, contract administration, discipline and grievance procedures, and third-party conflict resolution assistance such as mediation, fact-finding and arbitration. Emphasis is placed on the structure, organization, and objectives of the parties. The similarities and differences between private and public-sector bargaining are also considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: BUSHRM 1050 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSHRM 1687 - HR STRATEGY & PLANNING

Minimum Credits: 3
Maximum Credits: 3
The role of human resources in creating a sustainable competitive advantage is covered in detail. Topics often include organizational factors (e.g. cultures, values) that impact HR planning and strategy, HR environmental analysis and competitor analysis, internal analysis of the HR system for competitive initiatives, HR contributions to business strategy formulation, human resources forecasting and planning, HR strategy implementation, succession planning, facilitating organizational change, downsizing and restructuring the organization, and HR aspects of mergers and acquisitions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: BUSHRM 1050 (MIN GRAD 'C'); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSHRM 1689 - SPORTS MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Many students aspire to careers in the NFL, NBA, and major league baseball. But, as we all know, employment prospects in those organizations are decidedly limited. However, a February, 2014 forbes.Com post indicates that the sports industry as a whole will grow by $145.3 billion between 2010 and 2015. This course recognizes that the sports industry is much broader than just professional sports teams including firms in sports clothing, sports equipment, sports drink, sports medicine, venue management, food and beverage, sports media, and sports marketing. The sports industry is a labor intensive industry with human resource and project management skills as key success factors. This class is designed to examine these administrative skills which will serve well you in any of your career pursuits while satisfying your passion for sports. Planned topics, exercises and activities in the course include a look at game day preparations, facilities management including a behind the scenes tour of a facility, player selection (through a draft simulation) and retention, coaching, licensing, sports media, and sports marketing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, or Undeclared.

BUSHRM 1690 - HUMN RESOURCES MGMNT INTRNSHIP
Minimum Credits: 3
Maximum Credits: 3
The human resources management internship provides business credits for project assignments that augment a professional HRM work experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: PREQ: BUSHRM 1050 (MIN GRAD 'C')

BUSHRM 1695 - HUMN RESOURCS MGMNT INDP STUDY
Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of human resources management issues or problems to which they have been introduced in other human resources management courses. The course involves directed reading and research under the guidance of a full-time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade
Course Requirements: PREQ: BUSHRM 1050 (MIN GRAD 'C')

BUSHRM 1711 - ITALIAN HOSPITALITY & TOURISM
Minimum Credits: 3
Maximum Credits: 3
The course will explore the history, culture and heritage of Italy including food, wine and coffee. Museums, historical and religious landmarks will also be explored. Tourism is an important aspect of the Italian culture. Students will take an objective view on agritourism, wine tourism and ecotourism and analyze the impact and benefit to Italian tourism industry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSHRM 1712 - INTRO TO SPA MANAGEMENT
Minimum Credits: 3
Maximum Credits: 3
This course will provide a contemporary look at the SPA industry and importance of SPA operations and management by providing site visits, guest speakers and hands-on experiences in the SPA industry. It will also address the SPA industry basics, how to establish the business, operations and management, business skills and knowledge, and future trends in the industry. This course will help students understand what it takes to manage a SPA and succeed in this evolving industry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Human Sexuality

CURPBS 0016 - HUMAN SEXUALITY
Minimum Credits: 3
Maximum Credits: 3
This course aims at providing a clearer understanding of the sexual attitudes that exist in one's self, peers, parents and society and how they interrelate. It deals with the issue of how sexual attitudes are developed and the changes they undergo.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Industrial Engineering

IE 0015 - INTRO INFORMATION SYS ENGINRNG

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to systems thinking and information management. Students learn to identify the risks of system sub-optimization created by silo oriented operations in organizations. They practice how to define, design, and develop databases needed to satisfy the information requirements of their customers and the entire organization. Using object based data models students design a conceptual model to discuss with customers (end users) and then convert the concepts to relational models for database developments using normalization methods. To practice the database development process students are assigned a project that requires research and preparation for customer interviewing, conceptual design, customer verification, logical design, prototype development using ms-access, testing and presentation of results. This course serves as a primer for advanced courses in information management and systems optimization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0012 or 0016 or 0711; PLAN: Industrial Engineering (BSE or BEH)

IE 1010 - COMMUNICTN SKILLS FOR ENGINRS

Minimum Credits: 3
Maximum Credits: 3
Utilizing a variety of spoken, written, and audio-video activities, the students learn how to give instructions, use feedback, listen, conduct the job and appraisal interview, run meetings, use groups, make presentations, manage crises...Most of the skills they need to strengthen their personal, interpersonal, group and organizational communicative skills. The instructing-learning process emphasizes motivation, concentration, participation, organization, comprehension, repetition, articulateness, and confidence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1012 - MANUFACT STRUCTRL NANOMATRLS

Minimum Credits: 3
Maximum Credits: 3
Description: this course covers contemporary research topics on the design and manufacture of nanostructured materials. In addition to design and manufacturing, this course would also emphasize the nanometer-scale phenomena that make nanostructured materials particularly attractive for structural applications. Topics such as dislocation theory, large strain plasticity phenomena, super plasticity and kinetics of coarsening will be discussed in the context of structural nanomaterials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1013 - MFG PROCESS ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
The objective of this course is to instill a fundamental understanding of manufacturing processes by focusing on the processes, metallurgy and mechanics of deformation in metal forming. To this end, analysis techniques will be developed from solid mechanical principles (stress-strain relationship, deformation and failure) which would then be applied bulk deformation and material removal processes. The course assumes no prerequisites except basic concepts of stress, strain and strength of materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1014 - DATA BASE DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course introduces the fundamental aspects of database design and management within the context of a relational data base management system (DBMS). Covered topics include: relational model, database design life-cycle, database design optimization, client/server architecture, data modeling, SQL, database security, database management, data warehousing, internet database environment. Students will gain hands-on experience in analysis, design, implementation, and management of relational data base systems.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1015 - GEOGRAPHIC INFORMATION SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
Explore the concepts and history of geographic information systems and learn to effectively use the most utilitarian GIS software, ArcGIS.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1021 - MODELING WITH COMPUTR APPLCTNS

Minimum Credits: 3
Maximum Credits: 3
Review of personal computer fundamentals, including descriptions of hardware, operating system, and operating procedures. Use of the university's mainframe computers. Review of spreadsheets. Intermediate-level Fortran, including interactive programming applications. Select numerical methods of interest to industrial engineers. Introduction to database concepts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1022 - SOFTWARE ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
This course will cover the fundamentals of software engineering to include development, user interfaces, project management and life cycles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

IE 1029 - KNOWLEDGE ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
This course covers artificial intelligence (AI) techniques that are based heavily on expert knowledge and how they can be used to improve decision making. Ai systems to be explored may include neural networks, fuzzy systems, symbolic AI, etc. This course will concentrate on model building given the issues and needs of the expert system and the richness of the data.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

IE 1030 - BEHAVIORAL SYSTEMS ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
Organization theory, effectiveness, structure and design; individual and group behavior; motivation; leadership; human behavior in organizations; communication and decision systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1032 - CASES IN SYSTEMS MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
This course involves case analysis with emphasis on design and execution of strategist for technical and scientific organizations. Students are expected to use concepts, knowledge and understanding gained in previous project and engineering management courses to critically evaluate various case situations and participate in classroom discussion. Topics include: introduction and basic project and engineering mgt. concepts, scope/integration mgt., schedule/time mgt., cost mgt., quality mgt., contract/procurement mgt., risk mgt., human resources mgt., and communications management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1033 - BOARD GOVERNANCE & MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
This course captures the new era in enterprise governance, where performance of an organization is shaped and ultimately determined by the characteristics and management of its board of directors. It utilizes the study of boards of directors in contemporary profit and non-profit organizations in conjunction with students' experiences in leadership roles. Topics covered will include foundation of boards, board structure, info management, communication, and relations with senior management and the function of boards. The course will include case studies and group projects.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1035 - ENGINEERING MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
This course focuses on management theory applied to engineering and technical organizations. Topics include: the management process and management functions (planning, organizing, leading, and controlling); project management; managing technical people; engineering ethics, globalization, and other contemporary management concepts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Industrial Engineering (BS)

IE 1038 - INTEGRATED PRODUCT DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
The aim of this course is to familiarize students with the current principles and philosophies of product development and realization. Topics will span product specification and conceptual design through detailed and domain specific design, including manufacturing process development. Students will learn the principles of product data management and value of capturing product information and implications explicitly. In addition, cutting-edge technologies and tools will be introduced to students to give hands-on experience with a true collaborative engineering & design environment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1039 - ENTREPRENEURSHIP FOR ENGINEERS

Minimum Credits: 3
Maximum Credits: 3
This course considers the development of a new technology company from ideation and opportunity evaluation to capital generation and launch. It includes an understanding of accounting principles, budgeting, capital markets, venture capital, operating in the development stage, executive and employee requirements, product development, and growing the company.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1040 - ENGINEERING ECONOMIC ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Discusses cost estimation, time value of money, interest rate calculations, economic equivalence concepts, comparison of alternative investments, evaluating economic life and replacement alternatives, depreciation, the impact of taxes on engineering economic decisions, and dealing with uncertainty.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0140 or 0220 or 0221 or 0235; PROG: Swanson School of Engineering (UENGR)

IE 1042 - ENGINEERING DERIVATIVES MARKET

Minimum Credits: 3
Maximum Credits: 3
The basic building blocks for engineering futures contracts, call and put options, and swaps are studied within the context of real-world environments. By the end of this course learners will have a good understanding of how these tools are built for the purposes of hedging risks and formulating portfolio strategies, all within the goal of managing financial risk.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: IE 1071 and IE 1081; PLAN: Industial Engineer (BEH or BSE)

IE 1044 - INVESTMENT SCIENCE

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to basic concepts of modern quantitative finance and investment. Group projects involving financial market data. Topics: basic interest rate; evaluating investments: scenario-based analysis and Monte Carlo simulation; fixed-income markets: bonds, yield, duration, and portfolio immunization; measuring risk: volatility and value at risk; the concept of investment diversification in the presence of uncertainty; designing optimal security portfolios; the capital asset pricing model, practical implementation of the concepts, including comparison of loan (e.g., house and auto) terms, credit card financial terms; derivative market and option pricing. No prior knowledge of finance required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1070 or ENGR 0020 ; PLAN: Industrial Engineering (BSE or BEH)

IE 1049 - E-MFG STRATEGIES & APPLICATNS

Minimum Credits: 3
Maximum Credits: 3
This course will provide an introduction to e-business in the context of product design and manufacturing. It will show how modern manufacturing environments utilize information systems to achieve global competitiveness and world-class status. Case studies will also be analyzed to provide a pragmatic perspective. Teaching methods will include lectures, case discussions, problem-solving exercises and class projects. This course should enable you to expand your understanding of modern manufacturing. It is intended to equip engineering, business and other students with concepts, knowledge and strategies for success in the new e-product development and manufacturing era.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1050 - MANUFACTURING INFORMTN SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
This interdisciplinary course considers the diverse aspects of the product realization process. Aspects include defining user requirements, design concepts, selection of the best concept, design details, and development of a working prototype. Teams of 3-4 students from engineering and business disciplines work with an industrial advisor and faculty mentor to develop a product from concept to realization, addressing issues of market analysis, design, manufacturing, and commercialization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1051 - ENGINEERING PRODUCT DESIGN

Minimum Credits: 3
Maximum Credits: 3
Lectures will cover the following: cad functions and cad systems; design process; hardware issues; software issues; use of commercial software; graphics primitives; mathematical transformations; solid modeling; database management systems; relational databases; adding intelligence to cad systems. Laboratory sessions will deal with a diversity of design projects utilizing commercial software packages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1052; PROG: Swanson School of Engineering

IE 1052 - MFG PROCESSES AND ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Introduction to manufacturing principles and their importance in product development. Traditional and emerging processes are covered, including additive manufacturing, micro manufacturing, and nonmanufacturing. The integration of manufacturing, design, and materials is presented as a key to rapid product realization. Unit manufacturing processes are considered in work cell organization, flexible flow lines, and quality control. The course laboratory involves examination of the details of manufactured products, using various manufacturing processes, and learning the importance of material and process selection in product development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: ENGR 0022; PROG: School of Engineering

IE 1053 - AUTOMATION IN MFG & PRODC DSGN

Minimum Credits: 3
Maximum Credits: 3
The goal of this course is to gain knowledge in the principles of automating product design and manufacture. Design conceptualization; design for x: manufacturability, assimilability, testability, use, etc. Will be presented. Process planning automation and rapid prototyping will be studied. Students will examine design and manufacturing integration issues as well as typical automated manufacturing equipment. Issues in concurrent engineering and necessary communication networks will also be studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

IE 1054 - PRODUCTIVITY ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Introduction to industrial engineering concepts and thought process mapping, operations analysis, and design, 6s, lean systems, root cause analysis, methods engineering, standards development, predetermined time systems, computerized work measurement, motivation and incentives.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: ENGR 0020 or IE 1070; PROG: Swanson School of Engineering

IE 1055 - FACLT LAYOUT & MATRL HANDLING

Minimum Credits: 3
Maximum Credits: 3
Introduction to facility layout and location topics including activity relationships, space and personnel requirements, layout types, manual and computer algorithms for constructing layouts, single facility location methodologies, and warehouse operations. Material handling methods and equipment including conveyors, lift trucks, carousels, automated guided vehicles, and automated storage and retrieval systems are also discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1070 or IE 1081 or ENGR 0020; CREQ: IE 1052; PLAN: Industrial Engineering(BSE)

IE 1056 - PRODUCTION & INVENTORY CONTROL

Minimum Credits: 3
Maximum Credits: 3
Course uses operations research techniques to solve problems related to production and manufacturing. Particular emphasis is placed on modern methods of forecasting, inventory and production control, including material requirements planning and just-in-time manufacturing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1057 - COMPUTER AIDED MANUFACTURING

Minimum Credits: 3
Maximum Credits: 3
Overview of traditional manufacturing systems; control and analysis of flow lines; basics of automation and NC/CNC machines; computer aided process planning; introduction to industrial robots and their applications in industrial engineering; flexible manufacturing systems; integration of computers and one or more of the above concepts in automated manufacturing systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1051 and 1052; PROG: Swanson School of Engineering

IE 1058 - AUTOMATIC DATA COLLECTION

Minimum Credits: 3
Maximum Credits: 3
This is an introductory course teaching basic knowledge and skills in various automatic data collection technologies. It includes barcodes, magnetic stripe, computer vision, voice recognition, and radio frequency. Laboratory component includes exercises in barcode printing and analysis, barcode application development, magnetic stripe encoding and decoding, radio frequency application development, inspection using voice recognition, and machine vision.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1059 - AUTOMATC IDENTFCTN PROJECT

Minimum Credits: 3
Maximum Credits: 3
This is a course in the development of automatic identification hardware and software development. Students work in small teams to learn these technologies, assemble and test equipment, and develop a project or experiment for various automatic identification technologies. Projects may be in areas of barcoding, magnetic stripe, vision, voice, and radio frequency.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1061 - HUMAN FACTORS ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
A study of human abilities, characteristics, behavior, and motivation in the design, development and operation of components and systems designed for human use.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: ENGR 0020 or IE 1070; PROG: School of Engineering

IE 1062 - DATA MINING

Minimum Credits: 3
Maximum Credits: 3
Introductory course on data mining. Topics covered include: knowledge representation, classification methods such as decision trees, naive Bayesian, covering algorithms, neural networks, and instance based learning; association rules; clustering; applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1068 - INDUSTRL ROBOT PRIN & APPLCTNS

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the industrial robot as part of a flexible and automated manufacturing system. It will introduce students to the basic elements of industrial robots and will emphasize knowledge needed to integrate these robots into a larger manufacturing system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1070 - PROBLTY, RANDOM VARBLS, DISTBS

Minimum Credits: 3
Maximum Credits: 3
The main objective of this course is to introduce IE majors to probability and probabilistic modeling as a foundation for motivating statistics and statistical methods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0150 or MATH 0230 or 0231 or MATH 0235

IE 1071 - STATSTCL TESTING & REGRESSION

Minimum Credits: 3
Maximum Credits: 3
Hypotheses testing; multiple regression; empirical model building; analysis of variance and design of experiments; goodness-of-fit tests and contingency tables; introduction to statistical quality control.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0020 or IE 1070 (MIN GRADE 'C'); PROG: School of Engineering

IE 1072 - DSGN OF EXPRMT & QUALT ASSUR

Minimum Credits: 3
Maximum Credits: 3
This elective course serves as a continuation of the second course to provide IE majors with background in designed experiments and quality assurance methods.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1071

IE 1073 - MODELING IN SPORTS AND GAMES

Minimum Credits: 3
Maximum Credits: 3
This course will cover fundamental stochastic and statistical modeling concepts arising in the context of sports prediction and strategy. The course will rely heavily on tools such as statistical analysis and Markov processes. Elementary concepts from game theory, decision theory and Markov decision processes will be introduced. We will consider examples arising in baseball, basketball, football and ice hockey, as well as other sports and games. Students will present a project on a topic of their choosing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1081 and IE 1082 and IE 1083; PROG: Swanson School of Engineering

IE 1074 - CMPTL METH INFOMTCS DSGN & MFG

Minimum Credits: 3
Maximum Credits: 3
This is an introduction to popular constructs and techniques in computational geometry. It covers topics such as polygon triangulation and partitioning, convex hulls, proximity algorithms, geometric duality and transformations, search, and intersections. Various applications of these techniques in informatics, design and manufacturing will be discussed in detail.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1075 - E-COMMERCE TOOLS PRODUCTIVITY

Minimum Credits: 3
Maximum Credits: 3
Enterprise software technology, Java technology, enterprise systems development life cycle, it project management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1076 - TOTAL QUALITY MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
The total quality management philosophies of Dening, Juran, and Crosby are the basis for exploring modern concepts of kaizen, quality control, Taguchi, Evop, etc. The course will include learning the techniques used in TQM as well as gaining an understanding of how major corporations implement TQM programs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1077 - INT MATRX NUMRC METH SYMS ENGR

Minimum Credits: 3
Maximum Credits: 3
This is an introductory course to the theory and applications of vector, matrix and other numerical methods. The topics covered in this course include solution of systems of linear and nonlinear equations, polynomial interpolation, numerical integration, characteristic values, error analysis, and discrete methods. We will discuss implementation of numerical methods using matlab.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1078 - ADV MODLING TECHNQ OPRATNS RES

Minimum Credits: 3
Maximum Credits: 3
This course introduces advanced operations research techniques to model and solve complex real-world problems. Particular emphasis is placed on formulating and solving integer programs and stochastic optimization problems. Application areas include sports scheduling, medical decision making and logistics.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1079 - LOGISTC & SUPPLY CHAIN ENGRNG

Minimum Credits: 3
Maximum Credits: 3
Modern supply chains are based on networks with a number of actors from manufacturer to distributor to retailer. This course covers the use of modeling for coordinating production, inventory, distribution, and transportation across a supply chain network.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (ENGR 0020 or IE 1070) and IE 1081; PROG: Swanson School of Engineering

IE 1080 - SUPPLY CHAIN ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
An overview of supply chain management with an emphasis on operations and strong quantitative orientation. Supply chain strategies; sourcing decisions; demand forecasting; aggregate planning; managing supply and demand; production and inventory control systems including MRP and JIT; dealing with uncertainty; distribution networks; coordination and integration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1055 or IE 1082; PROG: Swanson School of Engineering

IE 1081 - OPERATIONS RESEARCH

Minimum Credits: 3
Maximum Credits: 3
Introduction to the decision-making process and mathematical modeling; theory and methodology of the simplex algorithm; duality theory, complementary slackness, post-optimality analysis; transportation and assignment problems; introduction to integer programming application to real-life case problems; computer codes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0250 or 0280 or 0206 or 0135 or 1181; PROG: Swanson School of Engineering

IE 1082 - PROBLSTC METH IN OPERATNS RES

Minimum Credits: 3
Maximum Credits: 3
Stochastic decision modeling techniques including discrete-time Markov chains, continuous 'time Markov chains and queuing theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (IE 1070 or ENGR 0020) and (IE 1071 or 1081); PROG: Swanson School of Engineering

IE 1083 - SIMULATION MODELING

Minimum Credits: 3
Maximum Credits: 3
Random number generation; distribution functions and random variates; game of chance; applications of discrete event simulation methods of queuing, inventory control, and production planning problems. Introduction to special-purpose simulation languages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0020 or IE 1070; PROG: Swanson School of Engineering

IE 1084 - OPERATIONS RES SERVICE SECTOR

Minimum Credits: 3
Maximum Credits: 3
The service sector covers 70-80% of U.S. Employment and 60 -70% of GNP, yet has received little attention from engineers relative to much smaller sectors such as manufacturing. The course will expose students to modeling and optimizing various problems arising in the service sector. Applications of interest include medical decision making (liver transplantation, treatment for HIV patients), financial engineering, transportation, and hospitality.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1085 - DEPARTMENTAL SEMINAR

Minimum Credits: 0
Maximum Credits: 0
Departmental seminars present the engineering viewpoint by prominent speakers from industry and government. Also serves as an organizational forum for the university chapter of the institute of industrial engineers.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

IE 1086 - DECISION MODELS

Minimum Credits: 3
Maximum Credits: 3
Methodologies for use by decision makers to tackle problems that consider a range of issues. Covers both quantitative and behavioral methods. Topics include multiple-objective methods, decision making under uncertainty, risk and uncertainty management, expert judgement, and scenario planning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1070 or ENGR 0020; PROG: Swanson School of Engineering

IE 1087 - FINITE ELEMENT ANAL PRODC DSGN

Minimum Credits: 3
Maximum Credits: 3
This course investigates the growing trend of utilizing virtual design and analysis tools in the product development process. A brief overview of the product development process will be given, with particular emphasis on the role of virtual prototyping techniques. In this regard, the underlying theory of the finite element method will be demonstrated through the fundamental concepts of material models, stiffness matrices, loading and boundary conditions, and the generation of stress and displacement results. In addition, utilizing the commercial finite element software package ANSYS, potential consumer products will be virtual analyzed in an effort to rapidly change and obtain feedback on specific design solutions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1089 - ADDITIVE MANUFACTURING

Minimum Credits: 3
Maximum Credits: 3
In this course we will analyze the seven primary types of additive manufacturing, their materials, and machines, highlighting their benefits and limitations. Examples of industrial applications will be given along with ongoing research trends and future directions. Labs will focus on design for additive manufacturing, data capture and input, machine setup, and post processing. Field trips will include observation of machine building and part production at some local industries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

IE 1090 - SENIOR PROJECTS

Minimum Credits: 4
Maximum Credits: 4
Analytical investigation techniques for total project problems in technical organizations. Involves solving of client problems utilizing industrial engineering capabilities acquired by students during program of study. Provides students with project team experience, report writing and seminar presentation of team results. Students must be enrolled in this course at least one month prior to the start of the semester.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: IE 1035 or 1080 or 1083; PROG: Swanson School of Engineering

IE 1091 - UNSTRUCTURED PROBLEM SOLVING

Minimum Credits: 3
Maximum Credits: 3
This course consists of two successive projects. Each running for about seven weeks. The projects will be in the form of detailed, unstructured case-studies and require the integration of ie skills and their synthesis with other proficiencies. The first project will address a problem within a local context, the second within a global context. Students will work in teams on the same two projects.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1092 - FINITE ELEMENT ANAL PRODC DSGN

Minimum Credits: 3
Maximum Credits: 3
This course investigates the growing trend of utilizing virtual design and analysis tools in the product development process. A brief overview of the product development process will be given, with particular emphasis on the role of virtual prototyping techniques. In this regard, the underlying theory of the finite element method will be demonstrated through the fundamental concepts of material models, stiffness matrices, loading and boundary conditions, and the generation of stress and displacement results. In addition, utilizing the commercial finite element software package ANSYS, potential consumer products will be virtual analyzed in an effort to rapidly change and obtain feedback on specific design solutions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1098 - SPECIAL PROJECTS

Minimum Credits: 1
Maximum Credits: 4
Independent study projects in specialized industrial engineering topics. Students must have the permission of a faculty member who agrees to mentor the independent study. Independent study is not permitted for subject areas that are part of the regularly scheduled coursework.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

IE 1099 - WAREHOUSE SYSTEM ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
This is an independent study course focusing on the analysis of real time location systems in warehouses. The purpose of this independent study will be for students to become familiar with real time location systems and conduct analysis concerning the potential application and benefits of employing them. Students will meet on a regular basis with dr. Norman and will work directly with engineers from local industry utilizing real time location systems in warehousing operations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1101 - FACILITY LOGISTICS

Minimum Credits: 3
Maximum Credits: 3
This aim of this course is to study and analyze key factors affecting the productivity of logistics operations and material flows in facilities. In particular, the course focuses on warehouse and distribution center design and operation including: material handling equipment and system design, order picking, sortation systems, and cross docking. There is also an investigation of the use of different labor strategies such as bucket brigades.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1055; PROG: Swanson School of Engineering

IE 1102 - LEAN SIX SIGMA I (GREEN BELT)

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to lean and six sigma principles with an emphasis on the application of statistics to quality control. Topics include value stream mapping, various lean tools, DMAIC methodology, data collection and measurement, and applications of ANOVA and doe. A project is required and the student should be prepared for green belt certification at the end of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1054 and IE 1071; PROG: Swanson School of Engineering

IE 1103 - LEAN SIX SIGMA II (BLACK BELT)

Minimum Credits: 3
Maximum Credits: 3
This is a follow up course in lean and six sigma covering topics such as influence principles and techniques, systems analysis, design for six sigma, lean enterprise analysis and response surface methods. Several projects are required and the student should be prepared for green belt certification at the end of the course.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1102; PROG: Swanson School of Engineering

IE 1106 - OPERNS IMPROVEMENT IN HC

Minimum Credits: 3
Maximum Credits: 3
This course leads students to apply basic industrial engineering tools to healthcare. This includes fact gathering through interviews & observation, process mapping, system analysis and modeling, work sampling, work study and workflow improvement. Using the health operations laboratory, students learn to model core operations of key hospital departments, and are required to develop expertise in one of the following areas: work measurement in healthcare, quality improvement in healthcare, department productivity management, supply chain management, patient workflow through a department.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (IE 1040 and IE 1054) and (ENGR 0020 or IE 1070); PLAN: Industial Engineer (BEH or BSE)

IE 1107 - HEALTHCARE INFORMATION SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1108 - HEALTH SYSTEMS ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
This course uses the systems approach to lead students to understand the forces that drive the healthcare industry in the continuum of care and the role i.e. plays in improving healthcare delivery performance. The course focuses on the theme of i.e. in healthcare organizations as a catalyst of innovation and change. Students learn about the applications of i.e. in the bio-manufacturing, public health, and health care organization sectors; leaders in the field will discuss the different healthcare sectors from an i.e. perspective. Students will learn how the i.e. tools and methodologies which they already understand can be used in healthcare and how the performance improvements they generate relate to quality systems including the Baldrige performance excellence program.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (IE 1040 and IE 1054) and (ENGR 0020 of IE 1070); PLAN: Industial Engineer (BEH or BSE)

IE 1110 - HEALTH SYMS ENGINEERING SEMINR

Minimum Credits: 0
Maximum Credits: 0
The seminar supplements the education provided by health policy and management and industrial engineering departments by creating a forum for exposure and discussion of healthcare systems engineering issues. Students become aware and are exposed to the role of vendors/consultants that bring solutions for healthcare delivery processes. The standards for professional leadership required for health management are reinforced.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

IE 1122 - FUNDAMENTALS OF SYSTEMS ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the fundamentals of systems engineering, including technical processes (e.g., requirements definition, architecture design, system verification), technical management processes (e.g., project planning, risk management), agreement processes (acquisition and supply) and project-enabling processes (e.g., life-cycle model management, quality management). Key systems engineering techniques and methods (e.g., system modeling and simulation, function-based systems engineering) will also be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Industrial Engineering (BSE or BEH); LEVEL: Senior

IE 1123 - PROJECT MANAGEMENT FOR ENGNRS

Minimum Credits: 3
Maximum Credits: 3
The focus of the course will be to understand professional project management in achieving strategic organizational objectives and mitigating risks.

The process for obtaining professional project management (PMP) certification will be the foundation. The six domains of project management that will be addressed include: initiating the project planning the project, executing the project, monitoring and controlling the project, project transition and closure, professional and social responsibility.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1035; PROG: Swanson School of Engineering

IE 1180 - OPERATIONS ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Industrial engineers apply production concepts in manufacturing, retail, and healthcare settings. In today's increasingly competitive marketplace, companies must be efficient to remain in business. Many factors influence a company's efficiency but one key area is operational effectiveness. The purpose of this course is to enhance students' knowledge of several key aspects of operational effectiveness including just-in-time (JIT) and pull systems, fundamentals of factory dynamics, scheduling of machines and personnel, change management, and MRP and ERP systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1081 and IE 1082

IE 1201 - BIOMATRL AND BIOMANUFACTURING

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to provide students having a background in biomaterials and biomanufacturing with an opportunity to learn about the many modern aspect of biomaterials from basic science to clinical applications, across the formulations and chemistry of polymers, ceramics, metals and their use in various biomedical devices and implants, as well as their clinical performance and host responses. Students will also gain knowledge and experiences with designing and manufacturing biomedical devices through team projects. This one-semester, graduate course is intended for students majoring in the industrial engineering, or those who contemplating such a major (or minor). Students enrolled in the class should have an understanding of various biomaterials, and the ability to understand biological phenomena and manufacturing processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1207 - SUSTNBLY: APPLCS OPERATIONS

Minimum Credits: 3
Maximum Credits: 3
This course covers the use of operations research techniques for the design and optimization of sustainable systems in natural resource management and other areas. Through specific examples and case studies students will learn and apply advanced operations research techniques for these problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: IE 1081; PROG: Swanson School of Engineering

IE 1301 - INTRO TO SAFETY ENGR

Minimum Credits: 3
Maximum Credits: 3
"Introduction to safety engineering" provides a basis to assist students in understanding and applying the scientific and engineering principles associated with the field of safety engineering. Specifically, the course will provide a background in, information on and application exercises in the natural, chemical and physical laws and forces associated with safe design and implementation of work-related tasks and industrial and construction projects. These involve soils and excavation, trenching and shoring, permanent and temporary work platforms and scaffolding, cranes, rigging, ropes, slings and chains, fall protection, pressure vessels, confined space entry, energy isolation and preparation of equipment, hot work, welding, personal protective equipment and non-destructive testing. The course will also address safety related issues associated with building and facility design and layout, job, task and work setting layout. The course will stress the importance of safety engineering as part of both the corrective process and the design process.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1302 - ENGR FOR PROCESS SAFETY

Minimum Credits: 3
Maximum Credits: 3
"Engineering for process safety" provides for a basic understanding of the quantitative and qualitative analysis methods of process safety engineering and process safety management. The course also provides guidance in planning, implementing and managing an overall process safety management

program. It includes coverage of such applicable science and engineering principles as risk, human reliability, fault logic, failure modes, incident cost and prediction. The course is presented in an applied format where several different types of industries are discussed such as oil and chemical, pharmaceuticals, defense, nuclear, aerospace, paper, information technology and manufacturing industries. Regulatory influence on process safety is discussed. Quantitative aspects of the course include application of risk analysis, fault tree analysis, hazard and operability analysis, vapor-cloud dispersion modeling, human reliability analysis, failure modes and effects analysis, etc. This course is also intended to provide a background in managing an overall system safety program and its application to several industries, therefore, cost and effectiveness measurement are covered in the material.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1601 - GLOBAL MFG SYSTEMS ENGINEERING
Minimum Credits: 3
Maximum Credits: 3
This course will focus on the application of modern engineering principles, methods, and tools associated within a global context. Students will first acquire a knowledge of basic manufacturing process and principles. It will provide students with ability to analyze and visualize manufacturing engineering challenges and opportunities world-wide. Plant visits and interfaces with practicing engineers will allow students to appreciate the following professional characteristics: team-work, an appreciation for other disciplines, adaptability, and an appreciation for life-long learning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

IE 1602 - MANUFACTURING CULTURES
Minimum Credits: 3
Maximum Credits: 3
This course will focus on studying manufacturing and distribution organizational hierarchies with a view towards understanding unique organizational dynamics within different organizations and different cultures. It will allow students to gain an understanding of the unique manufacturing culture of each country visited both at the organizational level and the policy level. This course will also focus on the complexities of problems in global operations and supply chain management. One region of the world will be chosen and manufacturing case studies (of regions and organizations) will be studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

Information Science

INFSCI 0010 - INTRO TO INFORM, SYS & SOCIETY
Minimum Credits: 3
Maximum Credits: 3
Introduction to the concepts, principles, and skills of information science for students with no programming experience. Topics include: the need for information and the use of information, data collection, coding, storage and retrieval, information processing, information display, and the evaluation of information.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

INFSCI 0011 - INTRO TO INF SCI ADVANCED
Minimum Credits: 3
Maximum Credits: 3
THIS COURSE WILL INTRODUCE BOTH INFORMATION THEORY AND THE DESIGN AND STRUCTURE OF INFORMATION SYSTEMS. YOU WILL LEARN HOW COMPUTERS AND NETWORKS WORK AT A FUNDAMENTAL LEVEL. YOU WILL EXPLORE HOW SOCIAL NETWORKS, COLLECTION OF INFORMATION (DATABASES), AND PROGRAMMING LANGUAGES WORK. THE COURSE WILL SPEND PARTICULAR ATTENTION ON SECURITY AND PRIVACY ISSUES. THE COURSE WILL PROVIDE YOU WITH BASIC SKILLS SUCH AS BUILDING WEB PAGE, PROGRAMMING USING SIMPLE JAVASCRIPT ON WEB PAGES, DESIGN AND USE OF SIMPLE DATABASES, AND MANIPULATION OF DIGITAL MEDIA. THE COURSE MEETS THE QUANTITATIVE REQUIREMENT FOR THE COLLEGE OF ARTS & SCIENCES, IS DESIGNED FOR STUDENTS WITH MINIMAL PRIOR TECHNICAL COURSEWORK, AND DOES NOT REQUIRE PREVIOUS PROGRAMMING EXPERIENCE.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: College in High School - UGRD - students only.

INFSCI 0012 - INTRODUCTION TO PROGRAMMING

Minimum Credits: 3
Maximum Credits: 3
Introduction to concepts, principles, and skills of programming, including compilers, algorithms, and problem solving using a high level programming language such as c. Intended for students with little or no programming experience who seek an information science major.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

INFSCI 0013 - COMPUTER METHODS IN HUMANITIES

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the use of computational modeling and programming to conduct text-based research in the humanities. Course goals include 1) learning how to identify research questions in the humanities that are amenable to computational analysis and processing and 2) designing and implementing xml-based computational systems to explore those questions. No prior programming experience or knowledge of foreign languages required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

INFSCI 0015 - DATA STRUCT & PROGRMMNG TECHNQ

Minimum Credits: 3
Maximum Credits: 3
Definition, description, and implementation of several information structures such as linked lists, stacks, and queues, using a scientific programming language (e.g., C).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 0017 - FUNDAMNTLS OF OBJ-ORIEN PRGMG

Minimum Credits: 3
Maximum Credits: 3
First programming course for is majors, designed for students with little or no programming experience. Basic principles and concepts of object-oriented programming using java. Classes, interfaces, operators, program control, arrays, testing, debugging, inheritance, polymorphism, and event handling. Techniques for simplifying the programming process and improving code quality. Activity-based learning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: INFSCI 0010

INFSCI 0018 - FILE PROCESSING

Minimum Credits: 3
Maximum Credits: 3
The design of file organizations and their utilization in an integrated data processing system; utilizing COBOL programming language to implement sequential, indexed sequential, and random access file processing systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 0020 - PROGRAM DESGN & SOFTWARE TOOLS

Minimum Credits: 3
Maximum Credits: 3
Introduction to developing programs using c++. Emphasis on development of program modules that can function independently. Further theory of data structures and programming language design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1000 - STATISTICAL ANALYSIS OF DATA

Minimum Credits: 3
Maximum Credits: 3
A first course in applied statistics; the collection, organization, and reduction of data. Measurement and presentation of data, measures of central tendency and variability, introduction to probability theory, sampling theory, Bayesian analysis, normal and other theoretical distributions, significance tests, and hypothesis testing; chi-square, regression and correlation analyses. Introduction to non-parametric analysis, time permitting.

Emphasizes statistical programming utilizing canned statistical packages on the VAX/VMS.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1002 - ARCHITEC & ASSEMBLY LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
Uses assembly language as focus for a deeper understanding of computer architecture. Treats the relationship of higher-level languages to assembly language and its implementation in hardware.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1012 - LISP AND SYMBOLIC PROGRAMMING

Minimum Credits: 3
Maximum Credits: 3
Introduction to the lisp programming language and the basic concepts of symbolic programming. Programming examples include several basic techniques used in artificial intelligence such as: search in a symbolic problem space, the use of rule based inference systems, and the representation of knowledge in frames.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1014 - GRAPHICS

Minimum Credits: 3
Maximum Credits: 3
Techniques for producing graphical displays using computers. How to design and create computer graphics. Overview of artistic and technical knowledge needed to create graphics. What makes a good graphical display will be investigated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: INFSCI 0017 or 0015 or CS 0401

INFSCI 1016 - DESIGN OF OPERATING SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
Detailed treatment of the design and implementation of operating systems. Treats the concepts of scheduling, context switching, memory allocation and protection, file handling, and I/O.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1017 - IMPLEMENTATION OF INFO SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
Second programming course for is majors. Advanced java language features required for professional software development. Data structures, oo design, graphical user interfaces, exception handling, multithreading, i/o, web and network programming.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: INFSCI 0017 or INFSCI 0015 or CS 0401; CREQ: INFSCI 1022

INFSCI 1018 - DESIGN OF COMPUTER LANGUAGES

Minimum Credits: 3
Maximum Credits: 3
General aspects of programming languages; data types, control structures, scope of variables, functions and procedures, and definitions of languages. Comparisons are made across pascal, c, Fortran, basic, COBOL, and lisp. Implementation of language (compiler, interpreter) is examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1022 - DATABASE MANAGEMENT SYSTEMS
Minimum Credits: 3
Maximum Credits: 3
The design, implementation, and utilization of database management systems. Contrasts the methodologies of file systems, data management systems, and database management systems. Various data structures (e.g., Tree, network, linked list) and several database models (e.g., The Codasyl database task group model and the relational database model). Administrative tasks required in database management are considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: INFSCI 0010

INFSCI 1024 - ANALYSIS OF INFORMTN SYSTEMS
Minimum Credits: 3
Maximum Credits: 3
Requirements management; best practices in eliciting, documenting and verifying requirements; writing effective use cases; constructing uml-compliant models (class, state and activity diagrams); specification of user interface and data layers; rapid prototyping.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: INFSCI 0010

INFSCI 1025 - DESIGN OF INFORMATION SYSTEMS
Minimum Credits: 3
Maximum Credits: 3
Object-oriented design best practices; principles of system architecture; design patterns; requirements traceability; construction of UML-compliant models (class, sequence, communication and package diagrams); refactoring; iterative development of system prototype. Requires knowledge of fundamental oo programming concepts including abstract classes, interfaces, inheritance, polymorphism, and message passing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (INFSCI 0017 OR INFSCI 0015 or CS 0401) and INFSCI 1024; CREQ: INFSCI 1022

INFSCI 1026 - MGMNT OF INFORMATION SYSTEMS
Minimum Credits: 3
Maximum Credits: 3
This course identifies the IT management practices that distinguish high-performing organizations and how students can leverage that knowledge to maximize their career potential. Students deliver a series of presentations on critical issues in it management suitable for inclusion in their professional IT portfolio. Topics include leading management frameworks (e.g., CMM, COBIT, ITIL), popular agile methodologies, financial analysis techniques, and how to write a professional resume.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

INFSCI 1030 - INFORMATN STORAGE & RETRIEVAL
Minimum Credits: 3
Maximum Credits: 3
Basic principles and tools for analysis and retrieval of documents in bibliographic information systems; acquisition of information, subject analysis, terminology control, coding and recording of results of analysis on a searchable medium, and question analysis and search strategy development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1032 - ONLINE RETRIEVAL SYSTEMS
Minimum Credits: 3
Maximum Credits: 3
An introduction to hardware, software, and other resources required for interactive system development and the searching capabilities of an interactive textual retrieval system. Dialog, BRS and various CD-ROMs are presented as models of interactive textual retrieval systems. Students will create small databases utilizing available software.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1034 - DESIGN OF INFORMATION CENTERS

Minimum Credits: 3
Maximum Credits: 3
Investigation of the operational and procedural techniques for information handling utilized by specialized information centers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1038 - MANAGEMENT INFORMATION SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
To provide students with an appreciation of the actual working environment of the typical misdepartment within the business community, including organizational structure and communication, budgeting issues, personnel issues, equipment acquisition and installation, planning for daily operations, and system evaluation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1042 - HUMAN INFORMATION PROCESSING

Minimum Credits: 3
Maximum Credits: 3
Introduction to research and theory on topics in human cognition including: perception, attention, pattern recognition, memory, representation of knowledge, language, problem solving, reasoning, and learning, with emphasis on the relationship to computer models of these processes and implications of this body of knowledge for building information systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: INFSCI 0010

INFSCI 1044 - HUMAN FACTORS IN SYSTEM DESIGN

Minimum Credits: 3
Maximum Credits: 3
Examines human-machine designs with special emphasis on human-computer interaction. Topics center on how to analyze, create, and improve equipment and environment to be compatible with human capabilities and expectations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: INFSCI 0010

INFSCI 1050 - BEHAVIORAL MODELS

Minimum Credits: 3
Maximum Credits: 3
Examines the roles of models and theories in science, and surveys several approaches to modeling cognitive and behavioral phenomena. Topics include: mathematical modeling, representational modeling, expert/novice differences and user models, psychological and computer simulation methods, the roles of analogy, metaphor, learning, and other cognitive processes in the development and use of cognitive models, and the role of models in the development of science and scientific theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1052 - USER CENTERED DESIGN

Minimum Credits: 3
Maximum Credits: 3
Introduces principles and programming of interactive systems. Interaction techniques are surveyed and incorporated in the design of interfaces.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: INFSCI 1044

INFSCI 1054 - ARTIFICIAL INTELLIGENCE

Minimum Credits: 3
Maximum Credits: 3
An overview of the basic concepts of AI including: search and problem solving, knowledge representation techniques, system architectures, natural language processing and machine learning.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1056 - COMPTR MODLS HUMN INF PROCSSNG

Minimum Credits: 3
Maximum Credits: 3
Presents the historical background of cognitive science and the computational approach to intelligence. Programs that simulate human activities in language, problem solving, memory, learning, and vision will be analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1059 - WEB PROGRAMMING

Minimum Credits: 3
Maximum Credits: 3
This course will introduce the PHP scripting language. Students will download and install the apache web server, PHP, and MYSQL database. In addition, PHP installation in the sis labs will be utilized. The course will cover programming concepts, client server architecture, database access and XHTMLl/cascading style sheets. Students will write a full scale web application as their final project.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (INFSCI 0017 or INFSCI 0015 or CS 0401) and INFSCI 1022; LVL: Jr or Sr; PROG: School of Information Sciences

INFSCI 1062 - MATHMTCL COMMUNICATION THEORY

Minimum Credits: 3
Maximum Credits: 3
Treats the mathematical theory of communication. Applies the general model to natural language, both spoken and written, electrical and mechanical transmission of messages, and behavior of machines in relation to information and communication channels. Topics include: the properties of codes and messages, the methods of dealing with noise in communication messages, channel capacities, and channel reliabilities. Transmission of messages is considered at the level of physical transmission and the transmission of meaning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1064 - SIMULATION METHODOLOGIES

Minimum Credits: 3
Maximum Credits: 3
The use of simulation in representing both physical and social processes. Treats the analysis of the system, collection of data (e.g., Arrival times, service times, number of service facilities, the representation of the data in terms of theoretical distributions, implementing the system with a simulation package, and the analysis of results in terms of comparative benefits -- e.g., Average queue length, maximum queue length) versus comparative costs of providing these benefits.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1065 - INTERNET ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
Telecommunications technologies of the internet including routing and how to use routers, real time traffic (VOIP), performance analysis, use of sniffers to collect data, differences between wired and wireless networks, use of wireless access points and performance of wireless networks, network management and SNMP software, network security and firewalls.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Science

INFSCI 1068 - GEOSPATIAL INFO SYSTEMS (GIS)

Minimum Credits: 3
Maximum Credits: 3
Introduction to geographic information system (GIS) concept and technology including spatial data sources, spatial data models and structures,

spatial database management, map projection systems, geocoding and Georeferencing, spatial analysis, spatial data visualization (maps), GIS applications (e.g., Address-location finding, navigation, routing), and commercial GIS software packages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (INFSCI 0017 or 0015 or CS 0401) and INFSCI 1022

INFSCI 1070 - INTRO TO TELCOM & NETWORKS

Minimum Credits: 3
Maximum Credits: 3
Introduction to telecommunications and networks. Top-down orientation relates networking technologies to organizational goals and needs. Data communications and internet technologies and basic system performance analysis. TCP/IP, lans, wans, internetworking, and signals and communications media.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: INFSCI 0010

INFSCI 1071 - APPLICATIONS OF NETWORKS

Minimum Credits: 3
Maximum Credits: 3
Second course in telecommunications and networks. Network architecture, protocols, performance, design, and analysis based on application needs, organizational requirements, user requirements, and performance objectives.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (INFSCI 0017 or INFSCI 0015 or INFSCI 0401) and (INFSCI 1070 or 1004)

INFSCI 1072 - INTRO TO WIRELESS NETWORKS

Minimum Credits: 3
Maximum Credits: 3
Introductory broad overview for students with a basic background in telecommunications. Not for telecom majors. Principles of wireless communications and how they differ from wired communications. Fundamental concepts including: transmission and mitigation techniques (e.g., Modulation and coding, propagation, interference and antennas) for wireless systems, multiplexing techniques, wireless system architectures, mobility management, security, protocols and location technology. Systems include: cellular phone networks (e.g., Cdma2000, umts), wireless local area networks (e.g., Ieee 802.11G), personal area networks (e.g., Bluetooth), fixed point broadband wireless (e.g., WiMAX) and satellite systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: INFSCI 1070 or 1004

INFSCI 1073 - APPLC DEVELP MOBILE DEVICES

Minimum Credits: 3
Maximum Credits: 3
Focus on information system applications that run on top of wireless infrastructure such as multimedia messaging, mobile inventory control, location aware services including wireless technologies (GSM, cdma2000, umts, 802.11, Bluetooth), mobile information systems and applications (m-business, location-based services, wireless CM), wireless information system challenges and architectures (security, reliability, mobility, power conservation, gateways, proxies), mobile application protocols (SMS, ems, mms, WAP), thin and thick client mobile application development (WML, vSMLl, Java, J2me, J2ee, .Netcf, c+), and business case studies of mobile applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (INFSCI 0017 or INFSCI 0015 or CS 0401) and (INFSCI 1070 or 1004)

INFSCI 1074 - COMPUTER SECURITY

Minimum Credits: 3
Maximum Credits: 3
Overview of information security. Principles of security including confidentiality, integrity, and availability. Operating systems and database security concepts. Basic cryptography and network security concepts. Secure software design and application security. Evaluation standards, security management. Social, legal and ethical issues. Human factors in security.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (INFSCI 0017 or INFSCI 0015 or CS 0401) and (INFSCI 1070 or INFSCI 1004)

INFSCI 1075 - NETWORK SECURITY

Minimum Credits: 3
Maximum Credits: 3
Network security and cryptographic protocols. Network vulnerabilities, attacks on TCP/IP, network monitoring, security at the link, network and transport layers. Cryptography, e.g., Secret and public key schemes, message authentication codes and key management. Wlan security, ipsec, ssl, and vpns. E-mail security (pgp, s/mime); kerberos; x.509 Certificates; AAA and mobile IP; SNMP security; firewalls; filters and gateways. Policies and implementation of firewall policies; stateful firewalls; firewall appliances. Network related physical security, risk management and disaster recovery/contingency planning issues and housekeeping procedures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (INFSCI 0017 or INFSCI 0015 or CS 0401) and (INFSCI 1004 or INFSCI 1070)

INFSCI 1076 - PHYSICAL LAYER OF COMMNCTNS 1

Minimum Credits: 3
Maximum Credits: 3
Fundamental phenomena, components, and concepts related to electricity and electronics required for TELCOM 2210, as well as for other courses in the graduate telecommunications curriculum. Covers TELCOM applications of AC circuits and bandwidth, semiconductors and amplifiers, digital electronics and logic design, Fourier theory and frequency analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (INFSCI 1070 or 1004) and (MATH 0400 or MATH 0120)

INFSCI 1077 - NETWORK ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Analysis of network traffic and flows and network management. Methods and tools for monitoring and analyzing network traffic and performance including data mining and visualization. Techniques of planning, controlling, organizing, and decision making for a communications work; accounting, security, fault management, configuration, and maintenance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: INFSCI 1070 and STAT 0200; PROG: School of Information Science

INFSCI 1079 - COMPUTER NETWORKING LABORATORY

Minimum Credits: 3
Maximum Credits: 3
The objective of this lab-based course is to gain knowledge of fundamental computer networking issues through hands-on experiments with network equipment and services. The sequence of labs start at the physical layer and progress up the protocol stack to the application layer. Topics covered are signal generation and analysis at the physical layer, ethernet and wlan performance and management, ip address planning and management, ip router configuration including rip, ospf, bgp, mpls protocols, tcp connection control, stateful packet filtering, network monitoring and management, signaling protocols for voip services, and web-based services configuration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: INFSCI 1070 and INFSCI 1071; PROG: School of Information Sciences

INFSCI 1080 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
Development of readings, research, and practical implementation of a system or other forms of study as arranged between student and instructor.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: School of Information Sciences; LVL: Jr or Sr

INFSCI 1085 - INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
Supervised work in an information environment providing a frame of reference for understanding and an opportunity to apply the skills, methodologies, and theories presented in information science courses.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit
Course Requirements: PROG: School of Information Sciences; LVL: Jr or Sr

INFSCI 1090 - SPECIAL TOPICS: PROGRAMMING
Minimum Credits: 3
Maximum Credits: 3
Advanced class focusing on current or specialized topic in programming area.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: Jr or Sr; PROG: School of Information Sciences

INFSCI 1091 - SPECIAL TOPICS: BEHAVIORAL
Minimum Credits: 3
Maximum Credits: 3
Advanced class focusing on current or specialized topic in behavioral area.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: Jr or Sr; PROG: School of Information Science

INFSCI 1092 - SPECIAL TOPICS: SYSTEMS
Minimum Credits: 3
Maximum Credits: 3
Advanced class focusing on current or specialized topic in systems area.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL: Jr or Sr; PROG: School of Information Science

Instruction and Learning

IL 0210 - COLLEGE READING & STUDY SKILLS
Minimum Credits: 3
Maximum Credits: 3
This is a computer based course designed to provide assistance for students in achieving academic success. Course content includes self-management, vocabulary development, reading comprehension, study strategies, and preparation for examinations. Additionally, students study and practice using online databases and other resources.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

IL 1000 - INTRODUCTION TO TEACHING
Minimum Credits: 3
Maximum Credits: 3
Introduction to teaching explores contemporary perspectives of education. It provides a basic introduction to instructional planning, curriculum, and classroom management. Additionally, the class provides opportunities for practice of proven teaching strategies designed to meet individual student needs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1041 - INTRO TO EARLY CHILDHOOD ED
Minimum Credits: 3
Maximum Credits: 3
The course is a general introduction to the theoretical, political, economic, and social issues that are inherent in the conduct and development of services for young children. The primary thrust is intended to provide students with both an overview of current issues and a basis for assessment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1042 - LANGUAGE & LIT FOR YOUNG CHILD
Minimum Credits: 3
Maximum Credits: 3
An introduction to language and literacy for children birth through grade 4. Includes applied theories and stages of language development, transitions from oral to written expression, family literacy, and guidelines for the selection and use of quality literature.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

IL 1043 - EARLY CHLDHOOD ED INTEGRTV SEM

Minimum Credits: 3
Maximum Credits: 3
For early childhood majors during student teaching term. Will examine philosophy, program evaluation, child progress, roles of cooperating teacher and teacher candidate. Will simulate parent conferences and employment interviews, review advocacy, special-needs learner, team membership, and teacher empowerment.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

IL 1045 - YOUNG ENGLISH LANGUAGE LEARNRS

Minimum Credits: 3
Maximum Credits: 3
Prospective early childhood education teachers will identify, investigate and assess impacts of a variety of social agencies, organizations and current issues in early child hood education through planned interviews as well as class lectures, discussions and reports.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1047 - INTEGRATED CURRCLM PRE-K - 4

Minimum Credits: 3
Maximum Credits: 3
Engagement with general and specific issues related to the development of content and lessons that cross a broad range of curricular areas for children in pre-k through grade 4.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1048 - SPECIAL TOPICS: ELEMENTARY ED

Minimum Credits: 1
Maximum Credits: 3
A flexible curriculum oriented to special research topics of interest to faculty and students or to current practice and policy issues of concern to teachers and teacher educators.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

IL 1049 - SEM RELTD PRE-STDNT TCH PRE-K

Minimum Credits: 1
Maximum Credits: 1
This a weekly seminar that supports students during their pre-k practicum. This course is designed to facilitate student learning as they make connections between theory and practice. Students will receive guidance in the completion of required field practicum competencies and the preparation of the on-line pre-k portfolio.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

IL 1070 - PROF ISSUES IN ELEMENTARY EDUC

Minimum Credits: 1
Maximum Credits: 3
Examines local, national, and international issues in elementary education. Topics include curriculum censorship, professionalism, job opportunities, and teaching in multi-cultural settings.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

IL 1071 - CURRENT ISSUES IN EDUCATION

Minimum Credits: 2
Maximum Credits: 2
Students analyze educational reform movements, the school environment, and instructional research findings as related to classroom strategies and the development of a profession al identity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1207 - READING & WRTNG IN CONTNT CURR

Minimum Credits: 3
Maximum Credits: 3
Reading and writing skills for effective work in secondary school subjects. Examines student achievement differences and problems of illiteracy. Offers techniques for developing vocabulary, comprehension, and skills in thinking, content writing, and study. Weekly workshop experiences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1208 - RDG/WRIT METHS 1:PREK-GRADE 1

Minimum Credits: 3
Maximum Credits: 3
This course is intended for teacher candidates who are pursuing prek-4 certification. It is the first in a two-course sequence that focuses on classroom teaching methods for literacy. It is also part of a set of courses that focus on literacy development and instruction. Other courses in the set include reading/writing methods 2: grades 2-4, language and literature for the young child, and literacy assessment and instruction for children with disabilities in inclusive settings. Teacher candidates in reading/writing methods 1 will have opportunities to build their knowledge about specific aspects of literacy, including: (a) oral language development, (b) emergent literacy, (c) concepts about print, (d) comprehension, and (e) writing. In addition, candidates will learn about specific instructional approaches and resources for supporting students in developing those aspects of literacy in pre-kindergarten - grade 1.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1209 - RDG/WRIT METHODS 2: GRADES 2-4

Minimum Credits: 3
Maximum Credits: 3
This course is intended for teacher candidates who are pursuing prek-4 certification. It is the second in a two-course sequence and builds on concepts introduced in reading/writing methods 1. It is also part of set of courses that focus on literacy development and instruction. Other courses in the set include language and literature for the young child, and literacy assessment and instruction for children with disabilities in inclusive settings. Teacher candidates in reading/writing methods 2 will have opportunities to build their knowledge about specific aspects of literacy, including: (a) word study--decoding, spelling, and vocabulary, (b) comprehension, and (d) composition, including handwriting. In addition, candidates will learn about specific instructional approaches and resources for supporting students in developing those aspects of literacy in grades 2-4.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1230 - INTRO INQUIRY IN ENGLISH EDUC

Minimum Credits: 3
Maximum Credits: 3
The course is designed to introduce students to basic issues in the teaching of writing, literature, and language with special emphasis on class discussions.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

IL 1246 - THRY & PRA: MULTI-CULTURAL LIT

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide teachers with a multi-cultural philosophical perspective, criteria for selecting multicultural literature, and strategies and techniques for infusing literature from diverse cultures into a literature program.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

IL 1252 - INTRO TO FOREIGN LANG EDUC

Minimum Credits: 3
Maximum Credits: 3
A basic introduction course dealing with the most current issues in foreign language education in elementary, middle and secondary schools.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1257 - TEACHING ENGLISH LANG LEARNERS

Minimum Credits: 3
Maximum Credits: 3
This course will explore strategies for teaching English language learns (ell's) in formal and informal education settings. Students will be introduced

to foundational theories and current research on the social and academic factors that influence ells learning experiences. The class will include a video component so students can observe instructional approaches for working with linguistically and culturally diverse ells.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1260 - INTRO TO SOCIAL STUDIES EDUC

Minimum Credits: 3
Maximum Credits: 3
A basic introductory course; primary focus is upon secondary schools as institutions in contemporary society and the role of social studies programs and teachers within this context.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1264 - INTRNATNAL RESOURCES TUTORIAL

Minimum Credits: 2
Maximum Credits: 2
Through working with international students at the university, the student develops a curriculum unit focusing on a selected country, providing extensive background on the global perspective; to be used by the student teacher upon assuming teaching responsibilities.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

IL 1268 - SOCIAL STUDIES METHS PRE-K-4

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide a theoretical background in social studies education and to exemplify the appropriate principles and practices necessary to deliver effective social studies instruction in pre-k through grade 4.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1270 - INTEGRTG ART & MUSC ELEM CLSSR

Minimum Credits: 3
Maximum Credits: 3
To introduce preservice classroom teachers to art and music contents and processes with relevance to their expected role in integrating authentic arts learning experiences in their instruction. Emphasis is placed on developmental aspects of children's' responsive and expressive skills in art and music.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1298 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 6
The student proposes and carries out an independent study project under the direction and supervision of an appropriate member of the faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

IL 1348 - SP TOPC: KOREAN TRADTN & CULT

Minimum Credits: 1
Maximum Credits: 3
A flexible curriculum oriented to special topics of interest to faculty or current issues of concern to educators, focused on areas within programs.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

IL 1398 - DIRECTED STUDY IN IDT

Minimum Credits: 1
Maximum Credits: 9
An independent study contract is negotiated. The student proposes and carries out an independent study project under the direction and supervision of an appropriate member of the faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

IL 1430 - INTRO TO SCIENCE EDUCATION

Minimum Credits: 3
Maximum Credits: 3
The goal of the course is to (a) encourage prospective teachers to become critical and reflective in thinking about science, students and the practice of teaching; and (b) provide an overview of various components of the science teaching/learning process. Course activities are structured to promote reflective thinking, and to assist students who are considering the teaching profession by providing experiences with classroom settings. The course is very intensive, requiring a good deal of reading & writing. It also requires time outside of class for observing & interviewing students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1433 - MATH/SCI INSTC YOUNG LRNRS 1

Minimum Credits: 3
Maximum Credits: 3
The first half of a two-semester course sequence in which pre-service teachers learn about young (pre-k through grade 4) children's thinking related to core ideas in mathematics and science and gradually, through a series of scaffolded tasks, develop pedagogical skills for designing and implementing math and science instruction.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1434 - MATH AND SCIENCE METHODS 2

Minimum Credits: 3
Maximum Credits: 3
The second half of a two-semester course sequence in which pre-service teachers learn about young (pre-k through grade 4) children's thinking related to core ideas in mathematics and science and gradually, through a series of scaffolded tasks, develop pedagogical skills for designing and implementing math and science instruction.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1473 - MATH FOR ELEMENTARY TEACHERS

Minimum Credits: 3
Maximum Credits: 3
Students will improve their mathematics knowledge and skills in numeration systems, integers, rationales, geometry, probability/statistics, and other selected topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1479 - INTRO TO MATHEMATICS EDUC

Minimum Credits: 3
Maximum Credits: 3
Basic orientation to the issues, lectures, and resources in the field of mathematics education. Issues currently affecting the teaching and learning of mathematics focused on middle and secondary schooling.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1497 - INDEPNDNT STUDY MATH & SCI ED

Minimum Credits: 1
Maximum Credits: 9
Registration for independent study when the student must maintain active registration and needs to extend work on an uncompleted task or project from a previous term or when preparing for special examinations.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

IL 1498 - DIRCTED STUDY IN MATH & SCI ED

Minimum Credits: 1
Maximum Credits: 9
The student proposes and carries out a study project under the direction and supervision of an appropriate member of the faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

IL 1505 - AUTISM: CHARACT AND INTERVNTN

Minimum Credits: 3
Maximum Credits: 3
This course will present information on the characteristics of and intervention approaches for children with autism spectrum disorders (ASDS). Introductory material will include diagnosis criteria and characteristics of ASDS. Current research on theories of etiology will be explored and analyzed. Screening tools and assessments specific to this population will be examined in detail. Intervention approaches (e.g. IBI/discrete trial, ABBLs, precision teaching, teacch) will be described and analyzed in terms of basic premises, research base, associated curricula, and evaluative guidelines from the autism society of America and national institute of mental health. Representatives from local education and behavioral health systems serving children with ASDS will present services/intervention models available in the area.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1543 - BRAILLE

Minimum Credits: 2
Maximum Credits: 2
Reviews research and literature on systems for reading and writing braille. Emphasizes proficiency in reading and writing grades i and ii braille, as well as teaching pre braille and braille readiness to individuals who are visually disabled.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1553 - SIGN LANGUAGE 3

Minimum Credits: 3
Maximum Credits: 3
Designed to provide intermediate-level proficiency in American sign language and signed English, and the ability to converse with deaf people.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1554 - ASL IN THE CLASSROOM

Minimum Credits: 1
Maximum Credits: 3
Designed to provide advanced-level proficiency in American sign language. Focuses on the use of ASL in teaching deaf students.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

IL 1557 - SIGN LANGUAGE 1

Minimum Credits: 3
Maximum Credits: 3
Designed to develop vocabulary and receptive and expressive skills in American sign language and signed English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1558 - SIGN LANGUAGE 2

Minimum Credits: 3
Maximum Credits: 3
Designed to develop vocabulary and receptive and expressive skills in American sign language and signed English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1561 - EDUCL PRGMG: YNG CHILD DISABS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1562 - ASSMNT: YOUNG CHILD W/DISABS

Minimum Credits: 3
Maximum Credits: 3

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1563 - INCLUSION PRE-K

Minimum Credits: 3
Maximum Credits: 3
This course will cover the rationale, service delivery methods, teaming components, family considerations and curriculum development that are a part of inclusive pre-k settings. In addition, it will cover adaptations, accommodations, and individualized instructional strategies for creating early childhood programs that meet the needs of children without disabilities in inclusive pre-k settings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1580 - FOUNDATIONS OF SPECIAL EDUC

Minimum Credits: 3
Maximum Credits: 3
Course provides an overview of the field of special education. It includes such topics as 1) identification; 2) placement; 3) programming; 4) inclusion; 5) advocacy; and other topics relating to individuals with disabilities, and gifted and talented individuals. The course examines the various philosophical views of exceptionality.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1582 - WRKNG W/FAML: CHILD W/DISABS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1610 - METHDS TECHNG SHRTHND & TYPWRT

Minimum Credits: 3
Maximum Credits: 3
Procedures, strategies and methods are presented in short hand and typewriting. Development, evaluation, speed, accuracy and application are addressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1614 - TEACHING METH BASC BUS SUBJCTS

Minimum Credits: 3
Maximum Credits: 3
Students develop materials and procedures appropriate for teaching students basic business. Lesson plans, evaluation and community resources are among the topics discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1615 - METHODS OF TEACHING ACCOUNTING

Minimum Credits: 3
Maximum Credits: 3
Students develop methods to present material in an accounting curriculum. Grade placement, lesson plans, evaluation, and lab experiences are also addressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1624 - COORDINATION OF COOPERTV EDUC

Minimum Credits: 3
Maximum Credits: 3
Students are provided the principles and practices of cooperative education coordination. Instruction includes coordination, planning, implementation and evaluation problems and techniques, and legal and professional responsibilities. Students are required to complete a term that evidences school/community involvement as they demonstrate the attainment of teaching competencies.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade

IL 1700 - EARLY FIELD EXPERIENCE-ELEM

Minimum Credits: 3
Maximum Credits: 3
Introductory field experience for undergraduate students who plan to enter the teaching profession. Offers opportunities to observe young children and assist master teachers in elementary school classrooms and early childhood education centers.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

IL 1701 - ERLY FIELD EXPERNC-SECONDARY

Minimum Credits: 3
Maximum Credits: 3
This is an introductory field experience class for undergraduate students who plan to enter the teaching profession. The course provides opportunities for students to observe adolescent learners in middle and high school settings through observations in a classroom, talking with school personnel and meeting in student seminars at Pitt to reflect on what they have seen and heard. Students are provided with guidelines that will assist them in analyzing their observations.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis

IL 1704 - CURRENT ISSUES SECONDARY EDUC

Minimum Credits: 3
Maximum Credits: 3
This course is an exploration of public schools and their programs with an emphasis on analyses of current trends, issues, influences, and problems that impact teaching theory and practice. The purpose of this course is to provide Undergraduate students with a well-rounded grounding in issues, influences, problems, and potential solutions related to 21st century learning environments. This course facilitates students' development as academics and scholars by compelling them to engage in rich readings and discourse on these and related topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1710 - LITERACY IN CONTEXT

Minimum Credits: 3
Maximum Credits: 3
This course will provide students with the opportunity to learn about literacy tutoring strategies, basic reading instruction and behavior management techniques. These skills will be implemented in an afterschool setting at a local public school. One hour of tutoring per week is a requirement of this class. All students must bring act 33 and 34 clearances to class or they will not be able to go to school sites.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1761 - PRACTICUM BUSINESS EDUCATION

Minimum Credits: 2
Maximum Credits: 2
This pre-student teaching activity is designed to provide prospective teachers learning experiences in the secondary high school business education classroom where they will observe and assist a model classroom teacher.
Academic Career: UGRD
Course Component: Practicum
Grade Component: H/S/U Basis

IL 1762 - TEACHING LAB-BUSINSS EDUCATION

Minimum Credits: 2
Maximum Credits: 2
Laboratory practicum for teacher certification candidates. Provides opportunities to observe and practice basic teaching skills, analyze videotaped teaching episodes, and receive feedback from instructors and peers.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

IL 1800 - PRE-STUDENT TEACHING PRE-K

Minimum Credits: 2
Maximum Credits: 2
Full-time practicum for teacher certification candidates. Provides opportunities to observe, plan, conduct, and evaluate instruction in the school

setting and receive professional feedback from university supervisors and experienced master teachers.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis

IL 1801 - STDNT TCH & SEM ELEM/MIDL SCHL

Minimum Credits: 1
Maximum Credits: 10
Full-time practicum for teacher certification candidates. Provides opportunities to observe, plan, conduct, and evaluate instruction in the school setting and receive professional feedback from university supervisors and experienced master teachers.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis

IL 1802 - PROFESSIONAL DEVELP WORKSHOP

Minimum Credits: 1
Maximum Credits: 2
Series of workshops and seminars on such topics as: classroom management, computer literacy, creative dramatics, individualized instruction, multicultural education, and teaching learners with special needs. Includes small group discussion of professional problems encountered at cooperating school sites.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis

IL 1850 - PRESCH/PRIM LIFE SKILLS PRAC

Minimum Credits: 2
Maximum Credits: 2
For this practicum, which is part of the case program, students will be placed in either a primary life skills classroom or a preschool special education program and will be mentored by a classroom teacher, co-teacher, or itinerant teacher depending on the placement. Students will be expected to complete specific requirements in these settings to fulfill state competencies and program requirements.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis

IL 1852 - SEM PRESCH/PRIM LIFE SKILLS

Minimum Credits: 1
Maximum Credits: 1
Seminar for preschool special education/primary life skills practicum. This course is the seminar that accompanies the preschool special education/primary life skills practicum.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis

IL 1862 - STUDNT TEACHING - BUSINSS EDUC

Minimum Credits: 10
Maximum Credits: 10
On-site practical experience within assigned schools. Involves all aspects of teaching business education.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

IL 1864 - STUDNT TEACHING SEM - BUS EDUC

Minimum Credits: 2
Maximum Credits: 2
Students are given the opportunity to discuss their student teaching experiences and share any concerns they may have.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

IL 1901 - NATURE OF THE YOUNG CHILDREN

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the nature of the child so as to enable the student to develop an informed philosophical frame work with which to make educational considerations about the role of the teacher. Students will read from a variety of sources to establish a knowledge base with regard to the young child. Practical, guided activities will enable students to develop the basis for subsequent work in theoretical and practical venues with regard to the young child, the development of self-esteem, the role of play in development, the teacher's observational skills and teaching philosophy.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1904 - TCH YNG CHILD INCLUSIVE CLSSRS
Minimum Credits: 5
Maximum Credits: 5
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1906 - COMMUNITY RESOURCES
Minimum Credits: 2
Maximum Credits: 3
This interdisciplinary course focuses on the role of the professional in supporting families of young children with and without disabilities by linking them with formal and in formal community resources. The course explores rationale; family-centered principles; models and practices for supporting families; and considerations in the development of community resources. It surveys available resources through guest speakers, on-site visits, and the development of a resource directory.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

IL 1907 - COLLAB PARTNRSHPS FAML CMMNTYS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

IL 1948 - SPECIAL TOPICS TEACHER DVLP
Minimum Credits: 3
Maximum Credits: 3
A flexible curriculum oriented to special research topics of interest to faculty or to current issues of concern to educators. Focused on areas within programs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

IL 1997 - INDEPENDENT STUDY ELEMNARY ED
Minimum Credits: 1
Maximum Credits: 9
The student registers for this when the student must maintain active registration and needs to extend work on an un completed task or project from a previous term or when pre paring for special examinations.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

IL 1998 - DRCTD STDY TEACHER DEVELOPMENT
Minimum Credits: 1
Maximum Credits: 6
The student proposes and carries out an independent study project under the direction and supervision of an appropriate member of the faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

Jewish Studies

JS 0013 - ELEMENTARY HEBREW 1
Minimum Credits: 5
Maximum Credits: 5
This course introduces students to the fundamentals of the Hebrew language. We study basic vocabulary, grammar and sentence structure, and learn to read and write Hebrew. Emphasis is learning to speak the language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0014 - ELEMENTARY HEBREW 2
Minimum Credits: 5
Maximum Credits: 5
Continuation of the introductory work begun in Hebrew 1. Students further develop their reading, writing and speaking skills with the greatest emphasis being placed on oral communication.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0025 - INTERMEDIATE HEBREW 3
Minimum Credits: 3
Maximum Credits: 3
Students continue to develop the skills acquired in Hebrew 2 with emphasis on speaking and on understanding the spoken language. Readings this term include short stories and articles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0026 - INTERMEDIATE HEBREW 4
Minimum Credits: 3
Maximum Credits: 3
Students continue to develop their Hebrew reading and speaking skills. Sophisticated Hebrew texts are introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0037 - ADVANCED HEBREW COMP & CONV 1
Minimum Credits: 3
Maximum Credits: 3
This course is for advanced level students and uses Hebrew language literature, print and electronic media, film, and TV shows. Emphasis is placed on conversation, modern Hebrew literature, and composition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0045 - HEBREW BIBLE
Minimum Credits: 3
Maximum Credits: 3
An introduction to the religion of Israel through an examination of Hebrew scriptures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0067 - FAMILY AND THE BIBLE
Minimum Credits: 3
Maximum Credits: 3
An examination of kingship, prophecy, cultic sacrifices and community as they were understood by the ancient Israelites.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0090 - MYTH IN THE ANCIENT NEAR EAST
Minimum Credits: 3
Maximum Credits: 3
The myths of the ancient near East are among the earliest written interpretations of the world and human existence. They are also among the most enduring, although they have only been unearthed in the last 200 years. In this course, we read myths from ancient Mesopotamia, Ugarit, and Israel. We study the myths as literary works, representative of the ideas and issues of the original cultural context in which they were shaped. These myths offer insight into the religious mentality of the ancient near east, as well as societal and political issues. We examine themes such as the presentation of the life of the gods, the relationship between the human and divine worlds, the issues of mortality and immortality, existence, fertility, kingship, and ethics. The primary goal of this course is to better understand these myths as they existed and developed in their ancient settings. Of course, because the myths are expressions of human thought, we may find that in studying them we also come to better understand ourselves.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0205 - INTRODUCTION TO JUDAISM
Minimum Credits: 3
Maximum Credits: 3
Major themes of the Jewish tradition from biblical to modern times are explored.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0215 - ETHICS IN THE JEWISH TRADITION
Minimum Credits: 3
Maximum Credits: 3
This course introduces students to Jewish texts drawn from the classical through the contemporary period on a variety of issues ranging from abortion and business practices to suicide and war.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0225 - TOPICS: MEDIEVAL JEWISH HISTRY
Minimum Credits: 3
Maximum Credits: 3
Jewish experiences in the Christian West and the Muslim East are reviewed and compared.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0255 - MODERN JUDAISM
Minimum Credits: 3
Maximum Credits: 3
The growth and development of Jewish religious movements after the enlightenment are assessed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0265 - MODERN JEWISH THINKERS
Minimum Credits: 3
Maximum Credits: 3
We examine the work of significant Jewish thinkers and writers in the 19th and 20th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0283 - US AND THE HOLOCAUST
Minimum Credits: 3
Maximum Credits: 3
With increasing interest in the Holocaust in Europe, this course focuses on the American side of the Atlantic - on issues of anti-Semitism and anti-immigrant sentiment in this country and on America's response to the Holocaust. We will also look at some post-holocaust issues as well.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 0285 - JEWISH AND BLACK HISTORY
Minimum Credits: 3
Maximum Credits: 3
This course will examine aspects of the historical experience which have shaped the consciousness of blacks and Jews today. The relationship between blacks and Jews particularly from the 1960s on will be explored and discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1065 - BIBLICAL HEBREW
Minimum Credits: 5
Maximum Credits: 5
This course introduces students to the grammar, syntax and vocabulary of Biblical Hebrew.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1100 - ISRAEL IN THE BIBLICAL AGE

Minimum Credits: 3
Maximum Credits: 3
This course explores the history and development of the people of Israel in ancient times. What do we know about the Israelites and how do we know it? Students will read both biblical and extra-biblical materials and study the remains of key archaeological sites. They will learn about everyday life in ancient Israel, the role of class and gender, life-cycle events, religious festivals, political institutions, systems of belief, and famous personages in history and lore. The trajectory of the course will begin with the Near Eastern origins of the people, continue through the rise of the Israelite and Judahite monarchies, and end with the post-exilic reestablishment of the Second Temple commonwealth in the Persian period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1110 - SPECIAL TOPICS-ANCIENT

Minimum Credits: 3
Maximum Credits: 3
Special topics in ancient art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1160 - JERUSALEM: HISTORY AND IMAGN

Minimum Credits: 3
Maximum Credits: 3
This course examines the political, religious, and cultural history of Jerusalem, focusing primarily on Jerusalem as a concrete and conceptual phenomenon in the premodern period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

JS 1210 - JEWS & JUDAISM IN ANCNT WORLD

Minimum Credits: 3
Maximum Credits: 3
This course covers the development of Classical Judaism from the Second Temple Period, beginning with the end of the Babylonian Exile in the 6th century BCE, and continues up through the emergence of Rabbinic Judaism, culminating with the redaction of the Babylonian Talmud in the 6th century CE. We cover both the major historical trends as well as the major religious developments. The course also introduces students to the major Jewish texts of both the Second Temple Period and the Rabbinic Period, emphasizing close readings of primary texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1214 - RABBINIC TEXTS AND TRADITIONS

Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to the various genres of rabbinic literature. It also serves to demonstrate the transition from the religion of biblical Israel to rabbinic or classical Judaism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1220 - JEWS & JUDM IN THE MEDEVL WRLD

Minimum Credits: 3
Maximum Credits: 3
An introduction to the facets of medieval and early modern Jewish life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1222 - JEWISH MYSTICISM

Minimum Credits: 3
Maximum Credits: 3
Mystical traditions in Judaism through the early modern period are assessed.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1225 - JEWSH CULTUR IN MEDIEVAL SPAIN

Minimum Credits: 3
Maximum Credits: 3
Medieval Spain was the scene of varied interactions among Jews, Christians, and Muslims. Jews participated vigorously in this culture as they did nowhere else at the time, producing an enduring heritage that is universal in its appeal.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1227 - MEDIEVAL SPAIN

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1228 - EXODUS AND PASSOVER

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

JS 1230 - ASHKENAZI JEWRY

Minimum Credits: 3
Maximum Credits: 3
Jewish communal life and interactions with Christian society in France, Germany, Poland and Russia through the 20th century are considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1232 - MODERN EASTERN EUROPEAN JEWRY

Minimum Credits: 3
Maximum Credits: 3
This upper level undergraduate course surveys the history of the historically most numerous portion of European Jewry from the medieval period to the present, emphasizing the modernization of east-central European Jews as minorities in the context of their host societies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1240 - JEWS AND THE CITY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

JS 1241 - GENDER AND JEWISH HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course will highlight the impact of gender in modern Jewish history, revealing the divergent experiences of Jewish women and Jewish men as they adapted to the modern world. We will take an international approach to this history, tracing the ways in which circumstances in Europe, America, and the Middle East shaped how Jews understood and responded to gender roles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

JS 1250 - JEWS & JUDAISM IN MODERN WORLD

Minimum Credits: 3
Maximum Credits: 3
Here we examine the specific challenges that the modern period posed to existing Jewish life and the nature of the responses made by Judaism to those challenges.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1252 - HOLOCAUST HISTORY & MEMORY

Minimum Credits: 3
Maximum Credits: 3
We take a long-range view of the holocaust as we examine it within the contexts of both European and Jewish history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1253 - INTRO TO HOLOCAUST LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course surveys the central texts of the literature of the holocaust, while introducing students to the main issues and preoccupations of holocaust testimony in literature and film.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1254 - AFTER THE HOLOCAUST

Minimum Credits: 3
Maximum Credits: 3
A survey of the impact of the holocaust on Jewish life in the soviet union, the middle east, and the United States in the period 1945-1985.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1255 - HOLOCAUST E EURPN FILM & LIT

Minimum Credits: 3
Maximum Credits: 3
Conceiving the holocaust as the most important event of the Twentieth Century, this course examines the verbal and visual texts that involve some form of testimony as to events and experiences directly or indirectly related to the Nazi holocaust 1939-47. Rather than allowing the extermination of millions of people to stand as an absence", writers, artists and filmmakers felt compelled to fill the void and the horrible silence with testimony, with voices, images and works."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1256 - MODERN ISRAEL

Minimum Credits: 3
Maximum Credits: 3
We trace the history of modern Israel from the idea of the return in the second half of the 19th century through the state of Israel today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1257 - RUSSIAN JEWRY

Minimum Credits: 3
Maximum Credits: 3
This course examines the experience of Russian Jewry during the 145 year period from its entrance into Russian political life to the end of the empire. We will treat both the internal dynamics within the community as it came to be transformed from a religiously based and clerically dominated leadership to a national-cultural entity that developed a variety of political movements and expressions in order to articulate its new found modern identity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1258 - SOVIET JEWRY

Minimum Credits: 3
Maximum Credits: 3
We focus on the Jewish community in the USSR since the revolution of 1917.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1260 - AMERICAN JEWISH EXPERIENCE
Minimum Credits: 3
Maximum Credits: 3
We analyze the Jewish experience in America since the middle of the 18th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1266 - ISRL: STATE & SOCIETY, 1948-88
Minimum Credits: 3
Maximum Credits: 3
This course focuses on the impact of immigration and its role in the shaping of the state, the interaction between religion and politics (state), and the experiences of the Arab citizens of the Jewish state.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1270 - GERMANY TODAY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1274 - MODERN JEWISH WRITERS
Minimum Credits: 3
Maximum Credits: 3
The creative efforts of Jewish secular and non-secular thinkers in the post-enlightenment era are assessed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1290 - TOPICS IN CINEMA
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

JS 1295 - JEWS AND THE AMERICAN CINEMA
Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to: the prominent roles 0f Jews in the American cinema (as producers, directors and performers); the manner in which issues of Jewish identity (including the negative aspect of ethnic stereotypes) and topics such as anti-Semitism and the holocaust have been treated in the American cinema; and the way in which film genre intersects with issues of Jews in American film (e.g. Comedy and so-called Jewish humor", the appeal to Melo drama in the social problem film, etc.)."
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

JS 1383 - POLITICS OF CNTMPRY MIDDL EAST
Minimum Credits: 3
Maximum Credits: 3
The main emphasis of the course will be on conflict and conflict resolution in the middle east. Conflict has been a constant feature of the region since 1945. This course will be primarily concerned with how and why these conflicts are generated, escalate, become protracted, and are resolved.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1624 - WOMEN IN JUDAISM
Minimum Credits: 3
Maximum Credits: 3
This course explores the image and legal status of women in Judaism, from antiquity to the present.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1640 - JEWS IN THE ISLAMIC WORLD

Minimum Credits: 3
Maximum Credits: 3
A survey of Jewish life in Spain, North Africa and the middle East in medieval and early modern times.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1644 - CHRST MUSLIMS JEWS MIDDLE AGES

Minimum Credits: 3
Maximum Credits: 3
The emergence of Christianity from Judaism and the implications of the relationship between Christianity and Judaism have been of critical importance in the history of Europe and the world and both Christians and Jews continue to grapple with the theological, political, and cultural impacts of that relationship in today's world. This course surveys the relationships between Jews and Christians from the time of Jesus through the modern era, as viewed by Jews, Christians, and sometimes those in neither category. Topics include the Jewish origins of Christianity; rabbinic views of Christianity and church fathers' views of Judaism; the status of Jews and Jewish communities in the Roman empire and in medieval Europe, medieval persecution of Jews; interreligious disputations and polemics; the impact of the reformation and the enlightenment; Jewish-Christian relations in modern 'secular' states; the rise of new forms of anti-Semitism; the holocaust; and post-holocaust dialogue and new theologies of interreligious encounter. We will discuss not only the significance of Jewish-Christian interactions for European and American history but also assess Jewish-Christian relations as a case study in the broader history of religious diversity, pluralism, and conflict.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1645 - JESUS AND JUDAISM

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

JS 1646 - RABBINIC APPRCH-NON-JEWSH WRLD

Minimum Credits: 3
Maximum Credits: 3
This course explores how biblical religion became Judaism. It also introduces students to various genres of classical Jewish texts, and traces the development of ideas from the biblical period to modernity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1648 - GENDER & THE JEWISH TRADITION

Minimum Credits: 3
Maximum Credits: 3
Gender and Jewish tradition treats the theme of gender as it is introduced and discussed in Jewish legal literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1650 - APPROACHES TO ANTISEMITISM

Minimum Credits: 3
Maximum Credits: 3
We survey historical, sociological, psychological, religious and political approaches to expressions of antisemitism as we study scholarly treatment of the phenomenon in the 20th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1675 - READING THE HEBREW BIBLE

Minimum Credits: 3
Maximum Credits: 3
An introduction to the various methods used by scholars studying the Hebrew bible in both medieval and modern times. Methods will include text criticism, source criticism, feminist criticism, and others.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1680 - HIST & MEMRY IN JEWSH TRADTN

Minimum Credits: 3
Maximum Credits: 3
Students will be introduced to the manner in which historians have studied and understood the Jewish experience from antiquity through the modern age. The role of historical study in the formation of Jewish identity will be especially highlighted.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

JS 1762 - THE GUIDE TO THE PERPLEXED

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

JS 1800 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

JS 1900 - INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
Internships for credit with community organizations can be arranged.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

JS 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 4
Jewish Studies Certificate students write their capstone thesis under this section and should register for 3 credits. Permission of the Jewish Studies coordinator is required.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

JS 1902 - DIRECTED STUDY-UNDERGRADUATE

Minimum Credits: 1
Maximum Credits: 4
Allows for courses or tutorials on topics not covered in other courses.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

JS 1903 - DIRECTED RES-UNDERGRADUATE

Minimum Credits: 1
Maximum Credits: 4
Allows students Undergraduates to develop semester-length original research projects under supervision of a faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

JS 1904 - UNDGR RES ASSISTANTSHIP

Minimum Credits: 1
Maximum Credits: 4
Allows students to earn academic credit by assisting faculty members in their research projects.
Academic Career: UGRD

Course Component: Internship
Grade Component: Satisfactory/No Credit

JS 1905 - UNDGR TEACHING ASSISTANT
Minimum Credits: 1
Maximum Credits: 4
To allow students to serve as an undergraduate teaching assistant in Jewish studies courses under the supervision of a faculty member.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

Korean

KOREAN 0001 - FIRST YEAR KOREAN 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

KOREAN 0002 - FIRST YEAR KOREAN 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 0001 or 1001 (MIN GRADE 'C-')

KOREAN 0003 - SECOND YEAR KOREAN 1
Minimum Credits: 4
Maximum Credits: 4
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 0002 or 1002; MIN GRADE: 'C-' FOR LISTED COURSES

KOREAN 0004 - SECOND YEAR KOREAN 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 0003 or 1003; MIN GRADE: 'C-' FOR LISTED COURSES

KOREAN 0005 - THIRD YEAR KOREAN 1
Minimum Credits: 4
Maximum Credits: 4
Students will build on previously learned material and learn increasingly complex grammar patterns and build more sophisticated vocabulary for everyday interactions in all learning skill areas: speaking, listening, reading, and writing. Will read texts that focus on Korean society and history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 0004 or 1004; MIN GRADE: 'C-' FOR LISTED COURSES

KOREAN 0006 - THIRD YEAR KOREAN 2

Minimum Credits: 4
Maximum Credits: 4
Students will build on previously learned material and learn increasingly complex grammar patterns and build more sophisticated vocabulary suitable for everyday interactions, and apply them in all language skill areas (speaking, listening, reading, and writing). By reading texts that focus on Korean society and history, students will learn some representative aspects of Korean culture. Approximately two hours per week to develop aural/oral skills using a communicative method.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 0005 or KOREAN 1005; MIN GRADE: 'C-' FOR LISTED COURSES

KOREAN 0070 - WORLD OF KOREA: PAST & PRESENT

Minimum Credits: 3
Maximum Credits: 3
Intro to Korean society/culture through study of acclaimed film Chunhy-ang, based on famous 18thc Korean literature work, providing complex window to late Korean traditional culture, literature and performing arts. Students will ac quire tools to understand diversity in aspects of many cultures, as well as a changing political system. Topics include: family structure and marriage, gender issues, class system, agricultural life of Korean society, education, relations to other neighboring cultures and various forms of art expression."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

KOREAN 0075 - INTRO TO KOREA THROUGH FILMS

Minimum Credits: 3
Maximum Credits: 3
Introduces Korean cinema to students in broader (and at times narrow) cultural, social, and aesthetic contexts to investigate transnational media production and circulation, globalization, consumer culture, commercialization, and construction of national, ethnic and gender identities. Through this course, students will learn more about specific issues pertaining to Korea and its people, as well as gain familiarity with some prominent film directors of Korea's. They will develop a critical and historical consciousness of Korean visual culture, assessing the worth and content of the films.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

KOREAN 1001 - FIRST YEAR KOREAN 1

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

KOREAN 1002 - FIRST YEAR KOREAN 2

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 0001 or KOREAN 1001

KOREAN 1003 - SECOND YEAR KOREAN 1

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 0002 or KOREAN 1002; MIN GRADE: 'C-' FOR LISTED COURSES

KOREAN 1004 - SECOND YEAR KOREAN 2

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 0003 or KOREAN 1003; MIN GRADE: 'C-' FOR LISTED COURSES

KOREAN 1005 - THIRD YEAR KOREAN 1

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 0004 or KOREAN 1004; MIN GRADE: 'C-' FOR LISTED COURSES

KOREAN 1006 - THIRD YEAR KOREAN 2

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 0005 or KOREAN 1005; MIN GRADE: 'C-' FOR LISTED COURSES

KOREAN 1023 - ASPECTS OF THE KOREAN LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
This course will examine and explore essential topics in Korean linguistics such as the Korean scripts and sounds, genetic affiliation, historical development, word structure, grammatical structure, discourse, honorific and speech styles, and first/second language acquisition. Upon completion of this course, students will i) understand how the Korean language developed, and what kind of relationship the Korean language has with other languages, ii) have an ability to critically analyze basic word, phrasal and sentence structures as well as discourse structures, iii) have a general understanding of how the Korean language works as a communication system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

KOREAN 1050 - FOURTH YEAR KOREAN

Minimum Credits: 3
Maximum Credits: 3
Designed to advance students to greater strengths in reading and writing skills and socio-cultural knowledge of Korean beyond high intermediate level. Students will develop skills in reading and listening to various authentic materials, and enhance speaking and writing skills to discuss issues of contemporary Korean society and culture. The goals of the course also include furthering aural comprehension of contemporary television documentaries, news and drama with decreased reliance on pedagogical aids. This course is student centered and students will develop their knowledge of Korean lexicon (including Chinese characters of Sino-Korean) and grammar through their own readings/writings and class discussions. Students will write short research papers throughout the semester. Class will be conducted in Korean exclusively, and uses a combination of lectures and discussions. Both lectures and discussions are based on assigned readings and discussion topics that will be distributed through bi-weekly schedules.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 0006 or KOREAN 1006 (MIN GRADE 'C-')

KOREAN 1051 - FOURTH YEAR KOREAN 2

Minimum Credits: 3
Maximum Credits: 3
Goals: advance students to greater strengths in reading and writing skills and socio-cultural knowledge of Korean beyond high intermediate level; develop skills in reading and listening to authentic materials; enhance speaking and writing skills to discuss issues of contemporary Korean society and culture; furthering aural comprehension of contemporary television documentaries, news and drama with decreased reliance on pedagogical aids. Course is student centered class and students will develop their knowledge of Korean lexicon (including Chinese characters of Sino-Korean) and grammar. Class will be conducted in Korean exclusively.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: KOREAN 1050 (MIN GRADE 'C-')

KOREAN 1060 - LANGUAGE AND SOCIETY IN KOREA

Minimum Credits: 3
Maximum Credits: 3
Focus on fundamental knowledge of sociolinguistics, language variations, varieties and codes of inherent sociality cultural implements. With substantial differences between eastern and Western cultures, students will study linguistic behavior and social groups, social class, effects of gender, address and reference terms, politeness strategies and style of language form used both in English and Korean in comparative study. Materials arranged to explain and evaluate the interaction of language, society and culture, the process of how people use language to construct social meaning and how those processes influence linguistic structure as well as cross-cultural communication.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

KOREAN 1065 - METAPHOR KOREAN LANG & THOUGHT
Minimum Credits: 3
Maximum Credits: 3
Metaphor in Korean language and thought is an introduction course to the study of meaning, which focuses on the basic findings in the field of conceptual metaphor research. Metaphor is pervasive in everyday life, not just in lg but also in thought and culture. Metaphors also play a role in ethnic and cultural identity. In this course, we will examine how metaphor differences across cultures affect how people in different cultures think and consequently use lg differently. Korean will be the main LG to be studied throughout the course but other LGs such as English, Japanese and Chinese will also be discussed in order to maintain cross-linguistic and cross-cultural comparisons.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

KOREAN 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
Student will undertake a specific research topic regarding language, literature, or culture of Korea. Faculty will approve an independent study agreement and student will make a midterm and final report to instructor.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

Latin

LATIN 0011 - BEGINNING LATIN 1
Minimum Credits: 5
Maximum Credits: 5
This course is the first half of a two-term sequence introducing students to the morphology and syntax of classical Latin. Its purpose is to move students as quickly as possible to the reading of simple Latin prose.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LATIN 0021 - BEGINNING LATIN 2
Minimum Credits: 5
Maximum Credits: 5
This course is the second half of a two-term sequence introducing students to the morphology and syntax of classical Latin. Its purpose is to move students as quickly as possible to the reading of simple Latin prose.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LATIN 0011

LATIN 0030 - MEDIEVAL LATIN AUTHORS 1
Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by medieval Latin authors. The specific authors and works vary from term to term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LATIN 0031 - MEDVL LATN AUTHRS 1 WRIT PRAC
Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students who are taking LATIN 0030 as a writing course
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

LATIN 0210 - INTERMEDIATE LATIN: PROSE
Minimum Credits: 3
Maximum Credits: 3
In this course students consolidate their grasp of Latin grammar and develop their skills of comprehension through close reading of selected prose texts, most usually drawn from Caesar and Cicero.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LATIN 0021 or 1021

LATIN 0220 - INTERMEDIATE LATIN: VERSE

Minimum Credits: 3
Maximum Credits: 3
In this course students are introduced to Latin verse through close reading of selected portions of Virgil's Aeneid.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LATIN 0210

LATIN 1011 - BEGINNING LATIN 1

Minimum Credits: 5
Maximum Credits: 5
This course is the first half of a two-term sequence introducing students to the morphology and syntax of classical Latin. Its purpose is to move students as quickly as possible to the reading of simple Latin prose.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LATIN 1021 - BEGINNING LATIN 2

Minimum Credits: 5
Maximum Credits: 5
This course is the second half of a two-term sequence introducing students to the morphology and syntax of classical Latin. Its purpose is to move students as quickly as possible to the reading of simple Latin prose.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LATIN 1030 - MEDIEVAL LATIN AUTHORS 1

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by medieval Latin authors. The specific authors and works vary from term to term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LATIN 0210 and 0220

LATIN 1032 - MEDIEVAL LATIN AUTHORS 2

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by medieval Latin authors. The specific authors and works vary from term to term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LATIN 0210 or LATIN 0220

LATIN 1300 - LATIN AUTHORS 1

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Roman authors. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LATIN 0210 and 0220

LATIN 1301 - LATIN AUTHORS 1: WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking Latin 1300 as a writing course.
Academic Career: UGRD
Course Component: Credit Laboratory

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LATIN 0210 and 0220

LATIN 1302 - LATIN AUTHORS 2

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Roman authors. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LATIN 0210 and 0220

LATIN 1303 - LATIN AUTHORS 2: WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking Latin 1302 as a writing course.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LATIN 0210 and 0220

LATIN 1400 - ADV READINGS IN LATIN EPIC

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Roman epic poets. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: LATIN 1300 or 1302

LATIN 1402 - ADV READINGS IN LATIN DRAMA

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Roman dramatists. The specific authors and works read vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: LATIN 1300 or 1302

LATIN 1406 - ADV READINGS IN LATIN LYRIC

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Roman lyric poets. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: LATIN 1300 or 1302

LATIN 1410 - LATIN READING: SATIRE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: LATIN 1300 or LATIN 1302

LATIN 1412 - ADV READING IN LATIN ELEGY

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Roman elegiac poets. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD

Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: LATIN 1300 or 1302

LATIN 1416 - ADV READINGS IN LATIN HISTNS

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Roman historians. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: LATIN 1300 or 1302

LATIN 1418 - ADV READINGS IN LATIN ORATORY

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Roman orators. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: LATIN 1300 or 1302

LATIN 1420 - ADV READGS IN LATIN PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Roman philosophers. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: LATIN 1300 or 1302

LATIN 1422 - ADV RDGS LATN EPISTOLOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected works by Roman epistolographers. The specific authors and works vary from term to term; the course may be repeated for credit when the material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

LATIN 1430 - SPECIAL TOPICS IN LATIN LIT

Minimum Credits: 3
Maximum Credits: 3
In this course students read selected Greek texts. The course may be repeated for credit provided the specific material covered is different.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: LATIN 1300 or 1302

LATIN 1700 - LATIN PROSE COMPOSITION

Minimum Credits: 3
Maximum Credits: 3
This course provides students with a thorough review of Latin grammar and practice in the writing of Latin prose.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LATIN 1800 - HONORS COURSE/MAJORS

Minimum Credits: 3
Maximum Credits: 3
In this course undergraduate majors in classics who wish to graduate with honors (and are otherwise qualified) write an honors paper, usually in conjunction with a Latin reading course at the 1300 or 1400 level.
Academic Career: UGRD

Course Component: Thesis Research
Grade Component: Satisfactory/No Credit

LATIN 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 9
In this course a student undertakes independent study in Latin in consultation with a member of the faculty.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

LATIN 1902 - DIRECTED STUDY FOR UNDERGRADS
Minimum Credits: 1
Maximum Credits: 6
In this course a student undertakes directed study in Latin under the close guidance of a member of the faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

LATIN 1903 - DIRECTED RSRCH FOR UNDERGRADS
Minimum Credits: 1
Maximum Credits: 9
In this course a student undertakes directed research in the field of classical civilization under the close guidance of a member of the faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

Leadership

LDRSHP 1100 - THEORIES OF LEADERSHIP
Minimum Credits: 3
Maximum Credits: 3
This course is designed to acquaint students with multiple theories and practices associated with effective leadership. In answering the question, "what is leadership," it examines such theories as situational, participative, transformational, and servant leadership. It also addresses those leadership and administrative skills and practices usually associated with effective community organization and professional management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LDRSHP 1100 or PUBSRV 1390

LDRSHP 1200 - LEADERSHIP SEMINAR
Minimum Credits: 3
Maximum Credits: 3
This course is designed to develop in students an understanding of the conceptual and practical strategies of leadership. Through the use of readings, in-class activities and guest presenters, students are exposed to four factors that play a role in the development or modification of a leader. These include: appreciation of the concept of organizational life; understanding the process of change; comprehending the impact of leadership style, delivery, and strategy; and finally, developing an awareness of individual strengths and weaknesses and how to most effectively match individual style to the leadership process. The course is required of all students pursuing the Undergraduate certificate in leadership. Students should have successfully completed both the emerging leaders program and the theories of leadership course prior to registering.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LDRSHP 1100 or PUBSRV 1390

Learning Skills

UCEP 0820 - LEARNING SKILLS
Minimum Credits: 2
Maximum Credits: 2
This course is designed and taught by UCEP professional staff and develops learning skills and study skills for academic success and personal growth. This course covers social systems management, time management, notetaking, testwiseness, study reading, word power development systems, and library use.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

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Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Legal Studies

LEGLST 0020 - PUBLIC LAW AND MORAL REASONING
Minimum Credits: 3
Maximum Credits: 3
The course is designed to provide the intellectual tools to analyze moral and legal dilemmas which face professionals in their respective fields of work, and the society in which all of us must live. The course will help students to develop the skill of moral reasoning so that they may better identify, analyze, deliberate, and resolve moral dilemmas.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 0080 - INTRODUCTION TO LEGAL STUDIES
Minimum Credits: 3
Maximum Credits: 3
Provides students with an overview of the structure and operation of American law and legal systems. Offers examples of the type of topics treated in depth in substantive legal studies courses. Introduces the student to the nature, functions, limitations, and operations of law as an institution in modern society. Various jurisprudential approaches are examined, and selected problems of law, power, morality and social and economic stratification are studied. Heavy emphasis is placed on the institution. Various empirical studies of the law in action will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1140 - INTRODUCTION TO CRIMINAL LAW
Minimum Credits: 3
Maximum Credits: 3
Acquaints the student with basic principles of criminal law derived from our English common law heritage and from more recent statutory penal code revisions in the American states. Course examines the meaning of crime and of criminal responsibility; criminal complicity and conspiracy; sentencing alternatives; and the decriminalization of some offenses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1141 - INTRO TO CRIMINAL PROCEDURE
Minimum Credits: 3
Maximum Credits: 3
This course examines the procedural effects of criminal law, including constitutional rights, state criminal procedure, and appellate decisions and rules.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1145 - CIVIL LAW
Minimum Credits: 3
Maximum Credits: 3
This course acquaints the student with the substance, under lying rationales and changing character of the most massive area of legal regulation, the civil law. The course distinguishes each substantive civil law area and explores the myriad ways in which civil law is both a cause and a consequence of social change.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1150 - LAWYERS AND LEGAL PROFESSION
Minimum Credits: 3
Maximum Credits: 3
This course offers a multi-disciplinary examination of lawyers and their role in society, with an emphasis on the relationship of lawyers to courts,

judges, clients, and other lawyers. Topics to be covered in the course include: the philosophy of advocacy, the psychological and ethical aspects of practicing law, the role of law schools in the creation of professional identity, societal attitudes towards lawyers and the legal system, the involvement of lawyers in government, politics, and policy making, and evolving concepts of legal practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1152 - LEGAL ISSUES IN PUBLIC SERVICE

Minimum Credits: 3
Maximum Credits: 3
This course examines the impact of law on public administration and manner in which legal implications condition formulation, adoption, and the implementation of programs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

LEGLST 1155 - LAW AND SOCIAL CHANGE

Minimum Credits: 3
Maximum Credits: 3
This course investigates the interrelationships between change in society and change in legal rules. Legal change is studied as an outcome of social change; directed social change as a result of legal change, or social engineering, is also examined; and the mutual ongoing interactions between legal and social change are investigated. Classical and contemporary theories related to these areas are introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1210 - LAW AND POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course examines the relationships between law and values, law and power, law and discretion. The nature of legal reasoning is illustrated and analyzed as it is applied to statutory law, case law, and constitutional law.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1230 - PSYCHOLOGY AND LAW

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to the contributions of psychiatry and psychology to the legal process. The role of the psychology expert in criminal proceedings, the problem of criminal insanity, the process of civil commitment, and the rights of those deemed to be mentally ill, are among topics to be examined. Students will be asked to read and analyze legal cases and scholarly discussions of these and other related issues. Actual observance of relevant courtroom proceedings will be arranged.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1240 - ANTHROPOLOGY OF LAW

Minimum Credits: 3
Maximum Credits: 3
This course examines anthropological analyses of law and law-like phenomena in a number of societies, including the United States. Particular attention is given to the various ways that disputes are resolved in different social and cultural settings, and to the theoretical analyses used to ex plain these differences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1260 - LAW, LITERATURE, AND CINEMA

Minimum Credits: 3
Maximum Credits: 3
This course will introduce the student to literary treatments of basic issues of law and justice. Through an examination of plays, novels, essays, and short stories, the student will be able to see competing conceptions of law, justice, and morality. Legal themes as they appear in literature can then be used to analyze and evaluate selected areas of civil and criminal law.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1261 - LANGUAGE AND THE LAW

Minimum Credits: 3
Maximum Credits: 3
Course will examine the role of language in legal and related bureaucratic settings. It will look first at written legal language analyzing the debate between proponents of "legalese" and supporters of the "plain English" movement. In addition to written legal language, spoken legal language will be studied in depth. The languages of judges, lawyers, and testifying witnesses and defendants will be examined from various linguistic vantage points; attention will be given to semantics, pragmatics, syntax, and the turn taking system at work when witnesses are questioned.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1310 - CONSTITUTIONAL CHOICES

Minimum Credits: 3
Maximum Credits: 3
This is an introductory level political science tele course on constitutional rights and public policy. The heart of the tele course is a series of thirteen televised seminars on controversial constitutional issues like capital punishment, affirmative action, abortion, executive privilege, and national security vs. Freedom of the press. The seminars are dramatic confrontations between a skilled moderator and a distinguished group of professors, journalists, lawyers, judges and politicians.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1315 - SEX, LAW AND MARRIAGE

Minimum Credits: 3
Maximum Credits: 3
Surveys the socio-legal aspects of marriage, marital alternatives, and related modes of sexual expression. Laws in these areas have been changing dramatically, reflecting, if not causing, fundamental shifts in the values and norms surrounding intimate behavior. The following topics are covered: ceremonialized marriage, commonlaw marriage, "open" marriage, "contract" marriage, homosexual and transsexual "marriage", unwed cohabitation, annulment, separation, divorce, artificial insemination, test tube fertilization, abortion, illegitimacy, alimony and property settlements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1318 - SEPARATION, DIVORCE & CUSTODY

Minimum Credits: 3
Maximum Credits: 3
A structural analysis of the causes and consequences of divorce. The process of divorce in its various psychological, legal, economic and social components is examined. The impact of divorce on the spouses, children and relatives is discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1320 - LAW AND ENVIRONMENT

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to the role of law in regulating environmental pollution. Included will be an examination of water pollution, air pollution and noise pollution. Major federal statutes such as the national environmental protection act, and the Clean Air Act will be studied along with judicial and administrative cases and rules governing these areas. Emphasis will be upon the interaction of law, politics, economics and psychology in environment control.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1325 - CONSUMER LAW

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the laws governing their rights as consumers. The evolution of consumer rights is traced from the common law to our present statutes. Students are introduced to state and federal laws, among them: truth in lending act, fair debt collection practices act, fair credit reporting act, equal credit opportunity act, unfair trade practices and consumer protection law and auto mobile lemon law.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1326 - GLOBALIZATION AND LAW

Minimum Credits: 3
Maximum Credits: 3

This course considers the efforts underway to globalize ideas of rule of law and democracy. In the movement to promote rule of law governments, human rights, and market economies, conflicts regarding culture, identity and local politics arise. The course explores the global ideas of democracy and rule of law within the context of local identity, culture and politics of emerging nation-states.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

LEGLST 1327 - INTERNATIONAL LAW

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the nature of international law and how it differs from law within states. Topics covered include the following: treaties, enforcement mechanisms, international courts, human rights issues, the law of war, and international law of the environment, and prospects for the future of international law.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

LEGLST 1330 - LAW AND BUSINESS CORPORATIONS

Minimum Credits: 3
Maximum Credits: 3
Explores basic commercial law applicable to the business environment. Areas covered include the law of contracts, sales, negotiable instruments, property, agency, and forms of business organizations. References will be made to both common-law principles and to federal and state statues, with emphasis on the uniform commercial code.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1340 - INTRODUCTION TO CIVIL RIGHTS

Minimum Credits: 3
Maximum Credits: 3
The individual rights protected by the bill of rights form the basis for this course. Specifically, the right to privacy, sexual equality, educational equality, religious freedom, and issues surrounding freedom of the press will be studied. In addition, the civil rights of specific groups including students, blacks, Indians, poor people, mental patients, members of the armed forces, teachers and public officials will be analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1345 - EMERGING TECOLOGIES & THE LAW

Minimum Credits: 3
Maximum Credits: 3
This course considers the societal, political and legal dimensions of emerging technologies. The course will focus on the treatment of biometrics, identification technologies, cybercrime and the internet within a regulatory framework of constitutional law, federal legislation and international law. Here we explore the interaction between emerging technologies, society and law, with a focus on privacy, anonymity and civil liberties.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1355 - EMERGING ISS LEGL & SOCL POLC

Minimum Credits: 3
Maximum Credits: 3
This course explores several issues with which the law is now wrestling. Topics explored include assisted reproductive technologies, assisted suicide and right to die movements, intellectual property in the internet age, immigration law, environmental and climate change, same-sex marriage, aids law, freedom of expression and advanced communication technologies, international law and universal jurisdiction, and the future of American law. With all of these topics, we will explore how the law struggles to keep pace with advances in science and technology, as well as how the law reacts to a changing society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1410 - INTRODUCTION TO LEGAL RESEARCH

Minimum Credits: 3
Maximum Credits: 3
Deals with the development of law library research skills and some basic research skills in the social sciences. It provides the students with an understanding of the law library and will assist in developing research skills through the use of primary and secondary sources of the law. The student will become familiar with the use of the University of Pittsburgh libraries and the paralegal law library collection.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LEGLST 1430 - TRIAL ADVOCACY 1
Minimum Credits: 3
Maximum Credits: 3
This course examines the mechanics of American civil and criminal litigation in both nonjury and jury trials. Topics include basic case analysis, effective advocacy skills, appropriate professional conduct, trial preparation, direct and cross examination of lay witnesses, and an introduction to the legal concepts of relevance and hearsay within the context of the federal rules of evidence. Students will participate in intensive class discussions and in-class presentations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

LEGLST 1435 - TRIAL ADVOCACY 2
Minimum Credits: 3
Maximum Credits: 3
This course further examines more advanced topics relating to the mechanics of American civil and criminal litigation in both nonjury and jury trials. Topics include the authentication and use of evidentiary exhibits such as documents, real evidence and demonstratives, the direct and cross examination of expert witnesses, character evidence, opening statements, and closing arguments. Students will participate in intensive class discussions and in-class presentations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

LEGLST 1900 - INTERNSHIP
Minimum Credits: 1
Maximum Credits: 6
Course is supervised placement with specific agency or firm in some part of the legal system.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

LEGLST 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
Allows advanced students to pursue topics and research of special interest which are not otherwise available. Course requires construction of plan of study of research on topics selected and approval of instructor who will supervise work.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

Linguistics

ARABIC 0101 - MODERN STNDARD ARABIC 1/EGYPTIAN 1
Minimum Credits: 5
Maximum Credits: 5
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ARABIC 0102 - MODERN STANDARD ARABIC 2/EGYPTIAN 2
Minimum Credits: 5
Maximum Credits: 5
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC
Course Requirements: PREQ: LING 0141 or LING 0151; MIN GRAD 'C'

ARABIC 0103 - MODERN STANDARD ARABIC 3/EGYPTIAN 3
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ARABIC 0104 - MODERN STANDARD ARABIC 4/EGYPTIAN 4
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ARABIC 0105 - MODERN STANDARD ARABIC 5/EGYPTIAN 5
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ARABIC 0106 - MODERN STANDARD ARABIC 6/EGYPTIAN 6
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ARABIC 0121 - MODERN STANDARD ARABIC 1/LEVANTINE 1
Minimum Credits: 5
Maximum Credits: 5
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ARABIC 0122 - MODERN STANDARD ARABIC 2/LEVANTINE 2
Minimum Credits: 5
Maximum Credits: 5
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC
Course Requirements: PREQ: LING 0141 or LING 0151; MIN GRAD 'C'

ARABIC 0123 - MODERN STANDARD ARABIC 3/LEVANTINE 3
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ARABIC 0124 - MOD STNDRD ARABIC4/LEVANTINE 4
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ARABIC 0125 - MODERN STANDARD ARABIC 5/LEVANTINE 5
Minimum Credits: 4
Maximum Credits: 4
Modern standard Arabic 1/Levantine 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ARABIC 0126 - MODERN STANDARD ARABIC 6/LEVANTINE 6
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SCN

ARABIC 0211 - IRAQI ARABIC 1
Minimum Credits: 2
Maximum Credits: 2
The first semester will be devoted to the presentation and practice of the basic sound patterns of the Iraqi dialect, its fundamental sentence patterns, and sufficient vocabulary for basic conversation. Cultural information will accompany language instruction to prepare students for a possible journey abroad.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC
Course Requirements: CREQ: LING 0132; MIN GRADE: 'C'

ARABIC 0212 - IRAQI ARABIC 2
Minimum Credits: 2
Maximum Credits: 2
The second term will introduce more elaborate conversations that include a more advanced level of grammar such as tenses and conjugations. By creating an interesting story line that follows the experience of two Americans in Baghdad. Students will be able to listen to more authentic samples of the dialect and participate in more sophisticated conversations through class activities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC
Course Requirements: PREQ: LING 0711 (MIN GRADE: 'C'); CREQ: LING 0133 (MIN GRADE: 'C')

ARABIC 0213 - IRAQI ARABIC 3
Minimum Credits: 2
Maximum Credits: 2
The third term will engage students more fully in authentic speech by giving them an insider's view of life in Iraq. Students will listen to authentic Egyptian conversations involving everyday problems, entertainment and professional life. This level introduces the colloquialisms of the modern Iraqi dialect.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC
Course Requirements: PREQ: LING 0712 (MIN GRADE: 'C'); CREQ: LING 0134 (MIN GRADE: 'C')

ARABIC 0221 - LEVANTINE ARABIC 1
Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC
Course Requirements: PREQ: LING 0131 (MIN GRADE: 'C'); CREQ: LING 0132 (MIN GRADE: 'C')

ARABIC 0222 - LEVANTINE ARABIC 2
Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC
Course Requirements: PREQ: LING 0132 and LING 0721; CREQ: LING 0133; MIN GRADE 'C' For Listed Courses

ARABIC 0223 - LEVANTINE ARABIC 3
Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ARABIC 1115 - READINGS IN ARABIC
Minimum Credits: 3
Maximum Credits: 3
This course improves the proficiency of students of Arabic at the high intermediate level and above through reading and discussion of authentic Arabic texts. These texts will include both fiction (e.g. Excerpts from novels, short stories, etc.) And non-fiction (e.g. Newspaper articles, essays, political speeches, etc.) And will cover major areas of interest in Arabic writing, be they political, social or literary, and reflect the opinions of major Arabic authors on these issues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

Course Requirements: PREQ: LING 0143 or LING 0153 or ARABIC 0103 or ARABIC 0123 (MIN GRADE 'B'); CREQ: LING 0144 or LING 0154 or ARABIC 0104 or ARABIC 0124 (MIN GRADE 'B'); PROG: Dietrich Sch Arts and Sciences

ARABIC 1615 - ARABIC LIFE AND THOUGHT

Minimum Credits: 3
Maximum Credits: 3
The primary objective of the course is to introduce students to the cultures of the Arab world in order for them to understand the Arab character apart from stereotypes. The course will also examine the wide variety of ethnicities that are summarily defined as Arab. The main foci of the course will be the understanding of the contemporary Arab mind, the experiences that shaped it, and how Arabs convey it.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC

ARABIC 1635 - INTRODUCTION TO MODERN ARABIC LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC
Course Requirements: PREQ: ANY ENGCMP COURSE

ARABIC 1705 - INTRODUCTION TO ARABIC LINGUISTICS

Minimum Credits: 3
Maximum Credits: 3
In the first half of this course, students will learn about the linguistic structure of modern standard Arabic and related dialects with a special focus on the phonology, morphology and syntax. Material in the second half of the course will focus primarily on social issues related to the Arabic language including discourse, dialectology and language variation, diglossia and language contact.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC
Course Requirements: PREQ: LING 1000 or CSD 1020

ARABIC 1909 - SPECIAL TOPICS IN ARABIC

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC
Course Requirements: PREQ: LING 0133 or LING 0143 or LING 0153; PROG: Dietrich Sch Arts and Sciences

LING 0007 - ESL WRITING INTERMEDIATE

Minimum Credits: 3
Maximum Credits: 3
This is an intermediate writing skills course for non-native speakers of English, covering (a) the process and mechanics of writing a research paper (b) composition writing, with a focus on expository writing for college work (c) selected grammar skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0008 - ESL SPEAKING AND LISTENING

Minimum Credits: 3
Maximum Credits: 3
This is an advanced conversation course for non-native speakers of English to improve speaking and listening skills while gaining experience in the organization and oral presentation of material for academic work. Pronunciation exercises are done in class, while fluency and comprehensibility are the objectives of the student led discussions and presentations. The student will also learn how to prepare and present speeches and discussions. Note-taking skills are practiced. Some language lab work is required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

LING 0009 - ESL WRITING ADVANCED

Minimum Credits: 3
Maximum Credits: 3
This course is intended for foreign students who need work on advanced composition skills in English covering (a) the process and mechanics of writing a research paper (b) composition writing, with a focus on expository writing for college work (c) selected grammar skills.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Satisfactory/No Credit

LING 0010 - ESL READING AND VOCABULARY

Minimum Credits: 3
Maximum Credits: 3
This is an advanced reading skills course for non-native speakers of English, emphasizing the type of reading required in University-level course work. The course includes intensive reading of passages from the course text, extensive reading of academic or other material selected by the student or instructor, speed improvement and vocabulary development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

LING 0018 - ESL ORAL TA/TF

Minimum Credits: 3
Maximum Credits: 3
In this course teaching assistants and fellows will a) strengthen their English comprehensibility and listening skill, b) develop effective teaching techniques, and c) gain an understanding of American undergraduate culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

LING 0080 - ASPECTS OF LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
Nothing characterizes human beings better than their ability to use language. One aim of this course is to introduce you to what languages are like, how they are used, and how they change. Another aim is to show you some connections between linguistics and other fields; psychology, anthropology, sociology and computer science. We will discuss how children learn languages, how brain damage can impair the ability speak, how animal communication compares with human language, and how programming languages are used to communicate with computers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0085 - MACHINE AIDS TO TRANSLATION

Minimum Credits: 3
Maximum Credits: 3
This course is designed to give students familiarity with a broad range of technological tools which can be of value in translation, including various word-processing packages, formatting tools, grammar and spelling checkers, file transfer protocols, on-line language services and bulletin boards, and developments in machine translation. Instruction will focus on applications of such resources in professional translation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0090 - LANGUAGE AND COMPUTATION

Minimum Credits: 3
Maximum Credits: 3
An introduction to the science of linguistics and to symbol computation. This course, which has no prerequisites, will develop programming skills in prolog, a programming language used in artificial intelligence, and will introduce students to grammatical structures by developing simple programs for natural language understanding. The course serves as a general introduction to grammar as practiced by linguists, to the problems of artificial intelligence, and to computation in non-numerical domains.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0131 - MODERN STANDARD ARABIC 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0132 - MODERN STANDARD ARABIC 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0131; MIN GRADE: 'C'

LING 0133 - MODERN STANDARD ARABIC 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0132; MIN GRADE: 'C'

LING 0134 - MODERN STANDARD ARABIC 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0133; MIN GRADE: 'C'

LING 0135 - MODERN STANDARD ARABIC 5

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0136 - MODERN STANDARD ARABIC 6

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0141 - MOD STNDRD ARABIC 1/EGYPTIAN 1

Minimum Credits: 5
Maximum Credits: 5
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0142 - MOD STNDRD ARABIC 2/EGYPTIAN 2

Minimum Credits: 5
Maximum Credits: 5
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0141 or LING 0151; MIN GRAD 'C'

LING 0143 - MOD STNDRD ARABIC 3/EGYPTIAN 3

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0144 - MOD STNDRD ARABIC 4/EGYPTIAN 4
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0145 - MOD STNDRD ARABIC 5/EGYPTIAN 5
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0146 - MOD STNDRD ARABIC 6/EGYPTIAN 6
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0151 - MOD STNDRD ARABIC1/LEVANTINE 1
Minimum Credits: 5
Maximum Credits: 5
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0152 - MOD STNDRD ARABIC2/LEVANTINE 2
Minimum Credits: 5
Maximum Credits: 5
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0141 or LING 0151; MIN GRAD 'C'

LING 0153 - MOD STNDRD ARABIC3/LEVANTINE 3
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0154 - MOD STNDRD ARABIC4/LEVANTINE 4
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0155 - MOD STNDRD ARABIC5/LEVANTINE 5
Minimum Credits: 4
Maximum Credits: 4
Modern standard Arabic 1/Levantine 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0156 - MOD STNDRD ARABIC6/LEVANTINE 6
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0181 - DANISH 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0191 - DUTCH 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0192 - DUTCH 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0193 - DUTCH 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0211 - FINNISH 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0221 - IRISH (GAEILGE) 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0222 - IRISH (GAEILGE) 2

Minimum Credits: 4
Maximum Credits: 4

At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0221; MIN GRADE: 'C'

LING 0223 - IRISH (GAEILGE) 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting are cognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0222; MIN GRADE: 'C'

LING 0224 - IRISH (GAEILGE) 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0223; MIN GRADE: 'C'

LING 0231 - GREEK (MODERN) 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0232 - GREEK (MODERN) 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0231; MIN GRADE: 'C'

LING 0233 - GREEK (MODERN) 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting are cognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0232; MIN GRADE: 'C'

LING 0234 - GREEK (MODERN) 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-

specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0233; MIN GRADE: 'C'

LING 0261 - HAUSA 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0281 - HINDI 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0282 - HINDI 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0281; MIN GRADE: 'C'

LING 0283 - HINDI 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0282; MIN GRADE: 'C'

LING 0284 - HINDI 4
Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0283; MIN GRADE: 'C'

LING 0285 - URDU 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0286 - URDU 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: LING 0285; MIN GRADE: 'C'

LING 0287 - URDU 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0286; MIN GRADE: 'C'

LING 0288 - URDU 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with native speakers on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0287; MIN GRADE: 'C'

LING 0289 - INTEN HINDI & CULTL IMMERSION

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0291 - HUNGARIAN 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0292 - HUNGARIAN 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0291; MIN GRADE: 'C'

LING 0293 - HUNGARIAN 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0292; MIN GRADE: 'C'

LING 0294 - HUNGARIAN 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0293; MIN GRADE: 'C'

LING 0311 - ICELANDIC 1

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

LING 0312 - ICELANDIC 2

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

LING 0313 - ICELANDIC 3

Minimum Credits: 4
Maximum Credits: 4
Icelandic 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

LING 0314 - ICELANDIC 4

Minimum Credits: 4
Maximum Credits: 4
Icelandic 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

LING 0321 - INDONESIAN 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0322 - INDONESIAN 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language. To recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations

with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0323 - INDONESIAN 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0324 - INDONESIAN 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0331 - IRISH 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0341 - KOREAN 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0342 - KOREAN 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0343 - KOREAN 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0344 - KOREAN 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0411 - NORWEGIAN 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0412 - NORWEGIAN 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0413 - NORWEGIAN 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0421 - PERSIAN (FARSI) 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0422 - PERSIAN (FARSI) 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0421; MIN GRADE: 'C'

LING 0423 - PERSIAN (FARSI) 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0422 ; MIN GRADE: 'C'

LING 0424 - PERSIAN (FARSI) 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0423; MIN GRADE: 'C'

LING 0431 - PUNJABI 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0441 - QUECHUA 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0442 - QUECHUA 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0441; MIN GRADE: 'C'

LING 0443 - QUECHUA 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0442; MIN GRADE: 'C'

LING 0444 - QUECHUA 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0443; MIN GRADE: 'C'

LING 0446 - INTNSV KICHWA LANG & CULT 1

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0447 - INTNSV KICHWA LANG & CULT 2

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0461 - ROMANIAN 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0462 - ROMANIAN 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0471 - AMERICAN SIGN LANGUAGE 1

Minimum Credits: 4
Maximum Credits: 4
In this course, students are taught American sign language (ASL) vocabulary and grammatical structures. Students will also learn and ASL fingerspelling system, the use of gestural devices and how to appropriately use the signing space in ASL. Further, students will learn about deaf culture in the United States. Out-of-class participation in deaf community events in required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0472 - AMERICAN SIGN LANGUAGE 2

Minimum Credits: 4
Maximum Credits: 4
Students will learn more difficult vocabulary (signs) and how to use them in one-to-one, small group, and large group communication. Students will also be exposed to classifier constructions. This course is a continuation of ASL I (LING 0471) and it utilizes a similar curriculum.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0471; MIN GRADE: 'C'

LING 0473 - AMERICAN SIGN LANGUAGE 3

Minimum Credits: 3
Maximum Credits: 3
This course continues the study of ASL. The students will work on developing intermediate communication skills and will concentrate on production skills. Linguistic and cultural features will be presented in the context of the language learning experiences. This level will also examine and discuss its use and effect on and in the deaf culture.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0472; MIN GRADE: 'C'

LING 0474 - AMERICAN SIGN LANGUAGE 4

Minimum Credits: 3
Maximum Credits: 3
This advanced course of ASL concentrates on developing more precise skills and competencies by using appropriate variations of ASL (regional, racial/ethnic, stylistic and age related) vocabulary. Students will also be given the opportunity to use ASL by volunteering in the deaf community.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0473; MIN GRADE: 'C'

LING 0491 - SLOVENIAN 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0501 - SWAHILI 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patters, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0502 - SWAHILI 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0501 or AFRCNA 0523; MIN GRADE: 'C' FOR LISTED COURSES

LING 0503 - SWAHILI 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0502 or AFRCNA 0524; MIN GRADE: 'C' FOR LISTED COURSES

LING 0504 - SWAHILI 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0503 or AFRCNA 0525; MIN GRADE: 'C' FOR LISTED COURSES

LING 0505 - SWAHILI 5
Minimum Credits: 3
Maximum Credits: 3
Swahili 5
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0504

LING 0506 - SWAHILI 6
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0508 - SWAHILI LANG & CULT IMMERSION
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0511 - SWEDISH 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0512 - SWEDISH 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0511; MIN GRADE: 'C'

LING 0513 - SWEDISH 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0512; MIN GRADE: 'C'

LING 0514 - SWEDISH 4
Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0513; MIN GRADE: 'C'

LING 0515 - SWEDISH 5
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0514 (MIN GRADE 'C')

LING 0516 - SWEDISH 6
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0531 - TAGALOG 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0532 - TAGALOG 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0533 - TAGALOG 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0534 - TAGALOG 4
Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0541 - TAMIL 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0542 - TAMIL 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0543 - TAMIL 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0551 - THAI 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0552 - THAI 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0561 - TURKISH 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0562 - TURKISH 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0561; MIN GRADE: 'C'

LING 0563 - TURKISH 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a

recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0562; MIN GRADE: 'C'

LING 0564 - TURKISH 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0563; MIN GRADE: 'C'

LING 0581 - VIETNAMESE 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0582 - VIETNAMESE 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0581; MIN GRADE: 'C'

LING 0583 - VIETNAMESE 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to readings as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0582; MIN GRADE: 'C'

LING 0584 - VIETNAMESE 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0583; MIN GRADE: 'C'

LING 0591 - WELSH 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0592 - WELSH 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0593 - WELSH 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0594 - WELSH 4
Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0601 - XHOSA 1
Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0602 - XHOSA 2
Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able to engage in simple conversations with native speakers about a limited number of situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0601 or AFRCNA 0601; MIN GRADE: 'C' FOR LISTED COURSES

LING 0603 - XHOSA 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0602 or AFRCNA 0602; MIN GRADE: 'C' FOR LISTED COURSES

LING 0604 - XHOSA 4
Minimum Credits: 3
Maximum Credits: 3

At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0603 or AFRCNA 0603; MIN GRADE: 'C' FOR LISTED COURSES

LING 0611 - YORUBA 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0612 - YORUBA 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0613 - YORUBA 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0614 - YORUBA 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0621 - AYMARA 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary reading and writing skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0622 - AYMARA 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able to engage in simple conversations with native speakers about a limited number of everyday situations and to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0621; MIN GRADE: 'C'

LING 0623 - AYMARA 3
Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and to writing as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0622; MIN GRADE: 'C'

LING 0624 - AYMARA 4
Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0623; MIN GRADE: 'C'

LING 0631 - TOK-PISIN 1
Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0641 - SERBIAN 1
Minimum Credits: 4
Maximum Credits: 4
An introduction to the fundamentals of Serbian pronunciation and grammar. Students receive a complete introduction to the sound and writing system. The balance of the course focuses on basic grammatical concepts, laying a solid foundation for further work in grammar.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0642 - SERBIAN 2
Minimum Credits: 4
Maximum Credits: 4
An introduction to the fundamentals of Serbian pronunciation and grammar. Students receive a complete introduction to the sound and writing system. The balance of the course focuses on basic grammatical concepts, laying a solid foundation for further work in grammar.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0643 - SERBIAN 3
Minimum Credits: 3
Maximum Credits: 3
This four skills language course extends the grammatical coverage to include verbal aspect, numeral expressions and the dative, locative and genitive cases. Emphasis continues to be on developing spoken language competence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0644 - SERBIAN 4
Minimum Credits: 3
Maximum Credits: 3
An introduction to the fundamentals of Serbian pronunciation and grammar. Students receive a complete introduction to the sound and writing

system. The balance of the course focuses on basic grammatical concepts, laying a solid foundation for further work in grammar.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0645 - SERBIAN 5

Minimum Credits: 3
Maximum Credits: 3
The aim of this course is to develop advanced proficiency in Serbian as a foreign language. Communication and literacy skills will be built through interactive oral and written activities which require students to express ideas and perform complex language tasks in culturally appropriate ways. Topics include language used in travel, business, sports, and informal social gatherings. Grammar, vocabulary and reading will be situated in meaningful contexts that link language structure to communicative function.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0646 - SERBIAN 6

Minimum Credits: 3
Maximum Credits: 3
The aim of this course is to consolidate advanced proficiency skills in Serbian as a foreign language. Special emphasis will be given to academic discourse and rhetorical conventions, plus strategies for working with media and texts designed for a native speaker audience. Topics for discussion will include political, historical, and literary issues in the culture of Serbia and the Balkans. Interactive oral and written exercises will require students to formulate well-reasoned arguments and perform complex language tasks in appropriate ways.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0701 - EGYPTIAN ARABIC 1

Minimum Credits: 2
Maximum Credits: 2
The first semester will be devoted to the presentation and practice of the basic sound patterns of the Egyptian dialect, its fundamental sentence patterns, and sufficient vocabulary for basic conversation. Cultural information will accompany language instruction to prepare students for a possible journey abroad.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: LING 0132; MIN GRADE: 'C'

LING 0702 - EGYPTIAN ARABIC 2

Minimum Credits: 2
Maximum Credits: 2
The second term will introduce more elaborate conversations that include a more advanced level of grammar such as tenses and conjugations. By creating an interesting story line that follows the experience of two American tourists in Cairo, students will be able to listen to more authentic samples of the dialect and participate in more sophisticated conversations through class activities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0701 (MIN GRADE: 'C'); CREQ: LING 0133 (MIN GRADE: 'C')

LING 0703 - EGYPTIAN ARABIC 3

Minimum Credits: 2
Maximum Credits: 2
The third term will engage students more fully in authentic speech by giving them an insider's view of life in Egypt. Students will listen to authentic Egyptian conversations involving everyday problems, entertainment and professional life. This level introduces the colloquialisms of the modern Egyptian dialect.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0702 (MIN GRADE: 'C'); CREQ: LING 0134 (MIN GRADE: 'C')

LING 0711 - IRAQI ARABIC 1

Minimum Credits: 2
Maximum Credits: 2
The first semester will be devoted to the presentation and practice of the basic sound patterns of the Iraqi dialect, its fundamental sentence patterns, and sufficient vocabulary for basic conversation. Cultural information will accompany language instruction to prepare students for a possible journey abroad.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: LING 0132; MIN GRADE: 'C'

LING 0712 - IRAQI ARABIC 2

Minimum Credits: 2
Maximum Credits: 2
The second term will introduce more elaborate conversations that include a more advanced level of grammar such as tenses and conjugations. By creating an interesting story line that follows the experience of two Americans in Baghdad. Students will be able to listen to more authentic samples of the dialect and participate in more sophisticated conversations through class activities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0711 (MIN GRADE: 'C'); CREQ: LING 0133 (MIN GRADE: 'C')

LING 0713 - IRAQI ARABIC 3

Minimum Credits: 2
Maximum Credits: 2
The third term will engage students more fully in authentic speech by giving them an insider's view of life in Iraq. Students will listen to authentic Egyptian conversations involving everyday problems, entertainment and professional life. This level introduces the colloquialisms of the modern Iraqi dialect.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0712 (MIN GRADE: 'C'); CREQ: LING 0134 (MIN GRADE: 'C')

LING 0721 - LEVANTINE ARABIC 1

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0131 (MIN GRADE: 'C'); CREQ: LING 0132 (MIN GRADE: 'C')

LING 0722 - LEVANTINE ARABIC 2

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0132 and LING 0721; CREQ: LING 0133; MIN GRADE 'C' For Listed Courses

LING 0723 - LEVANTINE ARABIC 3

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0731 - MOROCCAN ARABIC 1

Minimum Credits: 2
Maximum Credits: 2
The first semester will be devoted to the presentation and practice of the basic sound patterns of the Moroccan dialect, its fundamental sentence patterns, and sufficient vocabulary for basic conversation. Cultural information will accompany language instruction to prepare students for a possible journey abroad.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: LING 0132; MIN GRADE: 'C'

LING 0732 - MOROCCAN ARABIC 2

Minimum Credits: 2
Maximum Credits: 2
The second term will introduce more elaborate conversations that include a more advanced level of grammar such as tenses and conjugations. By creating an interesting story line that follows the experience of two American tourists in rabat, students will be able to listen to more authentic

samples of the dialect and participate in more sophisticated conversations through class activities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0731 (MIN GRADE: 'C'); CREQ: LING 0133 (MIN GRADE: 'C')

LING 0733 - MOROCCAN ARABIC 3

Minimum Credits: 2
Maximum Credits: 2
The third term will engage students more fully in authentic speech by giving them an insider's view of life in morocco. Students will listen to authentic Moroccan conversations involving everyday problems, entertainment and professional life. This level introduces the colloquialisms of the modern Moroccan dialect.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0732 (MIN GRADE: 'C'); CREQ: LING 0134 (MIN GRADE: 'C')

LING 0921 - ASIAN & PACIFIC FOREIGN LANG 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0922 - ASIAN & PACIFIC FOREIGN LANG 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0923 - ASIAN & PACIFIC FOREIGN LANG 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0931 - EUROPEAN FOREIGN LANGUAGES 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0932 - EUROPEAN FOREIGN LANGUAGES 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able a) to engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0931; MIN GRADE: 'C'

LING 0933 - EUROPEAN FOREIGN LANGUAGES 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0932; MIN GRADE: 'C'

LING 0934 - EUROPEAN FOREIGN LANGUAGES 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0933; MIN GRADE: 'C'

LING 0971 - SCOTTISH GAELIC 1

Minimum Credits: 4
Maximum Credits: 4
The greatest part of the first term will be devoted to the presentation and practice of the basic sound patterns of the language, its fundamental sentence patterns, and sufficient vocabulary to illustrate and practice them. An introduction to the writing system will be offered together with the opportunity to acquire elementary writing and reading skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0972 - SCOTTISH GAELIC 2

Minimum Credits: 4
Maximum Credits: 4
At the end of the second term of the first year of study the student should be able to produce all the significant sound patterns of the language, to recognize and use the major grammatical structures within a limited core vocabulary. The student should be able to a) engage in simple conversations with native speakers about a limited number of everyday situations and b) to read and write simple material related to the situations presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0973 - SCOTTISH GAELIC 3

Minimum Credits: 3
Maximum Credits: 3
The first term of the second year will concentrate on the further development of fluency in oral production and the improvement in the student's ability to understand the flow of speech as uttered by a native speaker. Increased attention will be paid to reading as a means of augmenting a recognition vocabulary and writing as a drill and as a means of consolidating and communicating the knowledge gained.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 0974 - SCOTTISH GAELIC 4

Minimum Credits: 3
Maximum Credits: 3
At the end of the second term of the second year the student should be able to converse comfortably with a native speaker on a variety of non-specialized subjects. The student will be offered an opportunity to experience and more fully understand the culture of the people who use the language through readings of various types. More complex writing tasks will be expected at this level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1000 - INTRODUCTION TO LINGUISTICS

Minimum Credits: 3
Maximum Credits: 3
This course is a survey of general linguistics, emphasizing the theory and methodology of the traditional central areas of the field--phonetics, phonology, morphology, and syntax- with special concentration on phonological and syntactic theories and analytical techniques. The remainder of the course will be devoted to phonetics, morphology, historical linguistics, semantics and pragmatics, sociolinguistics, and psycholinguistics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1023 - ASPECTS OF THE KOREAN LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
This course will examine and explore essential topics in Korean linguistics such as the Korean scripts and sounds, genetic affiliation, historical development, word structure, grammatical structure, discourse, honorific and speech styles, and first/second language acquisition. Upon completion of this course, students will i) understand how the Korean language developed, and what kind of relationship the Korean language has with other languages, ii) have an ability to critically analyze basic word, phrasal and sentence structures as well as discourse structures, iii) have a general understanding of how the Korean language works as a communication system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1025 - ASPCTS OF THE CHINESE LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1050 - COMPUTATIONAL METHODS HUMANIT

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1060 - LANGUAGE & SOCIETY IN KOREA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1065 - METAPHOR KOREAN LANG & THOUGHT

Minimum Credits: 3
Maximum Credits: 3
Metaphor in Korean language and thought is an introduction course to the study of meaning, which focuses on the basic findings in the field of conceptual metaphor research. Metaphor is pervasive in everyday life, not just in LG but also in thought and culture. Metaphors also play a role in ethnic and cultural identity. In this course, we will examine how metaphor differences across cultures affect how people in different cultures think and consequently use LG differently. Korean will be the main lgto be studied throughout the course but other LGs such as English, Japanese and Chinese will also be discussed in order to maintain cross-linguistic and cross-cultural comparisons.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1080 - GER SCIENTFC/TECH TRANSLATION

Minimum Credits: 3
Maximum Credits: 3
This course provides training in the various text styles found in scientific and technical literature, including work with linguistic features and idiosyncrasies pertinent to such literature and the acquisition of basic linguistic skills with regard to word formation for new concepts and new terms. Areas of concentration for the course therefore include concept specifications, terminology issues and lexicography.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1081 - FR PROFESSIONAL TRANSLATION 1

Minimum Credits: 3
Maximum Credits: 3
The course is intended for those translators in training who want to gain experience in translating the types of material professional translators handle under "on the job" situations. Emphasis is on practical translation skills. Introducing basic principles, pertinent technical terminology, and idiomatic expressions as they occur in original commercial, legal, scientific, and technical texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1082 - GER PROFESSIONAL TRANSLATION 1

Minimum Credits: 3
Maximum Credits: 3
This course is designed to train translators to gain experience in translating the type of material professional translators handle under actual "on the job" situations.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

LING 1084 - LEGAL FRENCH

Minimum Credits: 3
Maximum Credits: 3
This is a course for students who desire experience in translating legal documents from French to the equivalent English forms. The course emphasizes both theoretical knowledge of basic legal principles and terminology and the acquisition of advanced skills in the translation of legal texts. Documents for translation--drawn from business, corporate and commercial fields--include power of attorney, leases, insurance policies, legislation, contracts, by-laws, articles of incorporation, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1085 - MEDICAL FRENCH

Minimum Credits: 3
Maximum Credits: 3
The course is intended for translators in training who de sire experience in translating the types of medical documents professional translators handle on the job. The documents chosen for translation are from scientific publications, actual medical reports, journals, etc. The course emphasizes the acquisition of practical translation skills, and introduces medical principles and terminology as well as terms of art as they are used in medical texts. Guides to resources and dictionaries will also be provided.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1086 - FR PROFESSIONAL TRANSLATION 2

Minimum Credits: 3
Maximum Credits: 3
This course continues development of skills begun in professional translation 1. As in professional translation 1, emphasis is on practical translation skills, basic principles, pertinent technical terminology, and idiomatic expressions as they occur in original commercial, legal, scientific and technical texts of a progressively greater degree of complexity and difficulty.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1087 - GER PROFESSIONAL TRANSLATION 2

Minimum Credits: 3
Maximum Credits: 3
This course is designed to train translators to gain experience in translating the type of material professional translators handle under actual "on the job" situations.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

LING 1089 - SPAN PROFESSNAL TRANSLATION 2

Minimum Credits: 3
Maximum Credits: 3
The course is intended for those translators in training who want to gain experience in translating the types of material professional translators handle under "on the job" situations. Emphasis is on practical translation skills, introducing basic principles, pertinent technical terminology, and idiomatic expressions as they occur in original commercial and technical texts.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1090 - PROF TRANSLATION INTRNSHIP-GER

Minimum Credits: 3
Maximum Credits: 3
This course provides on the job training for translators.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

LING 1091 - PROF TRANSLTN INTRNSHIP-SPAN

Minimum Credits: 1
Maximum Credits: 6
This course is intended to provide on-the-job training for translators in training on a one-to-one basis in an office situation.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

LING 1092 - PROF TRANSLATION INTERNSHIP-FR

Minimum Credits: 3
Maximum Credits: 3
This course is intended to provide on-the-job training for translators in training on a one-to-one basis in an office situation.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

LING 1093 - PROF TRANSLTN INTRNSHIP-ITAL

Minimum Credits: 3
Maximum Credits: 3
Practical, "on-the-job" translation training with multinational companies. International environment, on-hand reference material and actual office procedures for translators.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

LING 1142 - TECHNQS AND PROCDRS TCHNG ESL

Minimum Credits: 3
Maximum Credits: 3
This course is designed to train students to teach English to speakers of other languages. The course is on practical classroom procedures and techniques, rather than on the theoretical aspects of language teaching methodology. The course is taught by staff of the English language institute and includes lectures as well as practical classroom experience. The language learning and teaching experience of course participants is drawn on for comparative purposes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1181 - GERMAN LEGAL TRANSLATION

Minimum Credits: 3
Maximum Credits: 3
A course in the professional translation certificate program, this course provides concentrated practice in translating legal documents from German to English. Emphasis is on an overview of the German legal system, basic legal principles and terminology, and the acquisition of advanced skills in the translation of German legal texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1182 - LEGAL SPANISH

Minimum Credits: 3
Maximum Credits: 3
This is a course for students who desire experience in translating legal documents from Spanish to the equivalent English forms. The course emphasizes both the theoretical knowledge of basic legal principles and terminology and the acquisition of advanced skills in the translation of legal texts. Documents for translation--drawn from business, corporate and commercial fields--include power of attorney, leases, insurance policies, legislation, contracts, by-laws, articles of incorporation, etc.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1183 - MEDICAL SPANISH

Minimum Credits: 3
Maximum Credits: 3
This course is intended for translators in training who desire experience in translating the types of medical documents professional translators handle "on-the-job". Course emphasizes acquisition of practical translation skills, and introduces basic medical principles and terminology, as they are used in medical texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1184 - SPAN PROFESSNAL TRANSLATION 1

Minimum Credits: 3
Maximum Credits: 3
The course is intended for those translators in training who want to gain experience in translating the types of material professional translators handle under "on the job" situations. Emphasis is on practical translation skills, introducing basic principles, pertinent technical terminology, and idiomatic expressions as they occur in original commercial and technical texts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1235 - LANGUAGE, GENDER AND SOCIETY

Minimum Credits: 3
Maximum Credits: 3
The primary objective of this course is to sensitize students to the impressions given through language and the degree to which these are sex-linked. The course addresses a number of questions relevant to gender-specific language variation, including these: does language influence the way we view our gender roles, or do our gender roles condition our language? What do gender differences in languages have to do with the maintenance of social boundaries?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1240 - LANGUAGE AND THE LAW

Minimum Credits: 3
Maximum Credits: 3
This course explores some of the ways in which linguistic science can shed light on the use and misuse of language in the legal system. After an introduction to the origins and special characteristics of written English legal language ("legalese"), we will study the layman's (non-) understanding of technical legal language; the language of persuasion (e.g. Exploitation of such linguistic features of ambiguity, implicit "rules of conversation" and socially stigmatized dialect features); and arguments for and against the participation of linguists as expert witnesses in the courtroom.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1250 - HISTORY OF LANGUAGE IN AMERICA

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

LING 1253 - PIDGIN AND CREOLE LANGUAGES

Minimum Credits: 3
Maximum Credits: 3
This course surveys the new languages that have sprung up in various parts of the world and under various historical circumstances when people who speak different languages come into contact with each other. These contact languages are called pidgins as long as they are spoken only as second languages, and creoles if they become the main language of a speech community. This course focuses on the major structural, social, and historical features of pidgins and creoles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1263 - CROSS-CULTURAL COMMUNICATION

Minimum Credits: 3
Maximum Credits: 3

This course is designed for those planning to work or live in a situation which serves as an interface between two or more cultural groups, and also for those who are interested in matters of language and culture. The curriculum deals with aspects of culture as they interact with language, and specific topics (e.g. Dialects; language in situations of cultural contact; and the implications of cross cultural communication differences for education policy).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1267 - ASPECTS OF SOCIOLINGUISTICS

Minimum Credits: 3
Maximum Credits: 3
Aims at providing insights into how social relationships influence language, and how language can play a role in shaping social relationships, both in the individual and societal level. Some of the issues we will look at are; attitudes towards languages, dialects and society; social differentiations of language; black English; multilingualism; bilingual education and language planning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1269 - LINGUISTICS VARIATION & CHANGE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1330 - INTRO TO COMPUTATIONAL LING

Minimum Credits: 3
Maximum Credits: 3
In both linguistics and computer science, we need to study languages and their grammar from a mathematical point of view. This course is an introduction to the mathematical theory of language and its applications. The first half will deal mainly with elements of the theory of automata and its relation to grammars. The second half will survey ways in which this theory can be applied to English grammar and to the design of programming languages. We will concentrate on syntax, but will also pay some attention to theories of meaning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1000

LING 1440 - LANG AND PREHIST IN MESOAMERC

Minimum Credits: 3
Maximum Credits: 3
Mesoamerica is well-known linguistically, & its linguistic prehistory is rather well understood. Archeological research has achieved knowledge in great detail for many key areas. Ethno historical sources in native languages abound. The integration of linguistic archeology & ethno historical knowledge can yield a detailed picture of the area's culture history. We will survey the ethnolinguistic history of Mesoamerica from 5000 to 1500 AD. Attention will be given to the ethnic association of archeological cultures & the cultural/ecological interpretation of the reconstructed words.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1441 - FIELD METHODS IN LINGUISTICS

Minimum Credits: 3
Maximum Credits: 4
This course is meant to simulate the experience of linguistic field work, and raise awareness about the effectiveness of specific interview techniques for acquiring linguistic data. The course will give instruction and experience in eliciting data from a speaker of non (indo) European language. Students will undertake the investigation of the phonology, some aspect of grammar, and the ethno semantic study of a taxonomically structured semantic field such as plants or animals. Students will make detailed elicitation plans in advance of their administration.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: LING 1578 and LING 1773 and LING 1777; LVL: Sr

LING 1442 - MAYAN LANGUAGES AND CULTURES

Minimum Credits: 3
Maximum Credits: 3
The 30 Mayan languages of southern Mexico, Guatemala, & Belize are among the best documented languages of Mesoamerica; they are ergative, & have both passives & anti passives. The results of comparative study of Mayan languages surpass those for any other Mesoamerican family. Some Mayans had pre-Columbian writing, & this writing system is currently being deciphered. Mayan society has been well studied by ethnographers, &

ethno historical sources are numerous & valuable. Besides these topics, ethnographically meaningful texts in two Mayan languages will be studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1443 - AMERICAN INDIAN LANGUAGES

Minimum Credits: 3
Maximum Credits: 3
Of over 1000 different languages spoken by Native Americans in 1492, about 600 survive, most spoken by small numbers, although many populous Amer-Indian ethnic groups are found in Mesoamerica & the Andes. This course will survey the language families of the new world, & study the grammar & ethno graphic texts of two languages. The results of historical & comparative research on Amer-Indian languages will be studied, particularly as they relate to the culture history of their region. Also to be studied are pre-Columbian writing & literature & efforts at cultural maintenance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1444 - GYPSY LANGUAGE AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
Romani is spoken by more than 10,000,000 gypsies living in Europe and the Americas. They left their homeland in India over 2000 years ago, entering Europe around 1200 ad. Their unfriendly reception has made them shy and hard to know. Misunderstandings and misinformation on gypsies are abundant. This course will focus on reliable ethnographic descriptions from Europe and North America, and the language and folklore of one or more branches of the Romanization. The history of the gypsies as discernible in their language and written records will also be studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1447 - LANGUAGE, CULTURE AND SOCIETY

Minimum Credits: 3
Maximum Credits: 3
Certain cultural concerns are well-labeled linguistically: kinship, plant-names, diseases, colors, etc. The study of how such semantic fields are labeled and organized is ethnosemantics. Much of the way language is used depends on the context of speaking. Different ways of talking to different people is the subject matter of sociolinguistics. Some thoughts that we habitually think seem illogical on reflection, but it seems as if our language predisposes us to think this way. Such phenomena are addressed by the sapir-whorf hypothesis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

LING 1448 - AZTEC LANGUAGE AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
The Aztecs spoke Nahua, as did the Toltec's before them. One million present-day Nahuas still speak the language & practice an Amer-Indian culture. The Nahua language is the best documented of all native American languages, from the 16thc to the present. The ethno historical sources in Nahua & on late pre-Columbian culture are unsurpassed in scope. All the writings in Nahua make up a small library. In this course we will study the grammar of Nahua, read ethnographic texts from the 20th & 16th centuries and trace the culture history of the Nahua-speaking peoples within Mesoamerica.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1450 - STRUCTURE OF AN AMERINDAN LANG

Minimum Credits: 3
Maximum Credits: 3
This is a seminar for the investigation of anthropological linguistic topics of interest to the professor and students. Topics covered might include ethnobotany, ethnozoology, ethno medicine, ethno psychology, kinship terminology, diffusion of artifacts/cultigens and their names, and many others. Methodology will vary with topic.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1466 - TOPICS IN ANTHROPOLOGICAL LING

Minimum Credits: 3
Maximum Credits: 3
This is a seminar for the investigation of anthropological linguistic topics of interest to the professor and students. Topics covered might include ethnobotany, ethnozoology, ethno medicine, ethno psychology, kinship terminology, diffusion of artifacts/cultigens and their names, and many

others. Methodology will vary with topic.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1520 - INTRO TO ARABIC LINGUISTICS

Minimum Credits: 3
Maximum Credits: 3
In the first half of this course, students will learn about the linguistic structure of modern standard Arabic and related dialects with a special focus on the phonology, morphology and syntax. Material in the second half of the course will focus primarily on social issues related to the Arabic language including discourse, dialectology and language variation, diglossia and language contact.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1000 or CSD 1020

LING 1522 - ARABIC LIFE AND THOUGHT

Minimum Credits: 3
Maximum Credits: 3
The primary objective of the course is to introduce students to the cultures of the Arab world in order for them to understand the Arab character apart from stereotypes. The course will also examine the wide variety of ethnicities that are summarily defined as Arab. The main foci of the course will be the understanding of the contemporary Arab mind, the experiences that shaped it, and how Arabs convey it.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1523 - INTRO TO MODERN ARABIC LITERTR

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ANY ENGCMP COURSE

LING 1524 - READINGS IN ARABIC

Minimum Credits: 3
Maximum Credits: 3
This course improves the proficiency of students of Arabic at the high intermediate level and above through reading and discussion of authentic Arabic texts. These texts will include both fiction (e.g. Excerpts from novels, short stories, etc.) And non-fiction (e.g. Newspaper articles, essays, political speeches, etc.) And will cover major areas of interest in Arabic writing, be they political, social or literary, and reflect the opinions of major Arabic authors on these issues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0133 or LING 0143 or LING 0153 (MIN GRADE 'C'); CREQ: LING 0134 or LING 0144 or LING 0154; PROG: Dietrich Sch Arts and Sciences

LING 1527 - SPECIAL TOPICS IN ARABIC

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0133 or LING 0143 or LING 0153; PROG: Dietrich Sch Arts and Sciences

LING 1578 - PHONETICS AND PHONEMICS

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to the production, recognition, and transcription of speech sounds in various languages of the world, and to the patterning of these sounds in phonological systems. Emphasis is on articulatory phonetics, though there is also some discussion of acoustic and experimental phonetics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1000 or CSD 1020; MIN GRAD 'B'

LING 1579 - PHONOLOGY
Minimum Credits: 3
Maximum Credits: 3
This course introduces the principles of phonological analysis and theory. After a brief survey of the roots of modern phonology in Prague school and American descriptivist ('classical phonemic') theories, the main focus of the course will be on generative phonology. Both in and out of class, students will be expected to solve phonological problems and construct theoretical arguments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1578 or CSD 1026

LING 1580 - LANGUAGE AND THE MIND
Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the study of language as a cognitive science, focusing on the mental representations of the sounds of speech. Throughout the course we will emphasize the scientific methods used by researchers to investigate questions about the sounds of language. Because this course is multidisciplinary in nature, drawing primarily from the fields of linguistics and psychology, students will be introduced to the different methods, techniques, and technologies used by researchers in both fields.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1000 or PSY 0010 or CSD 1020

LING 1670 - THEORY OF LOGIC & COMPUTATION
Minimum Credits: 3
Maximum Credits: 3
An advanced introduction to a symbolic logic and the theory of computation. The course will develop the theory of propositional and quantificational logic, including auto mated theorem proving techniques. There will be a brief introduction to the theory of computability and complexity, with applications to logic-related problems. There will be several lectures on applications of logic in computer science especially in artificial intelligence. Students will be exposed to several computer programs illustrating points that are made in class.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1682 - INTRODCTN TO SEMANTIC THEORY
Minimum Credits: 3
Maximum Credits: 3
A survey course designed to introduce students who have been exposed to linguistics and logic to contemporary work in the theory of meaning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1000 or CSD 1020

LING 1720 - STRUCTURE OF SIGN LANGUAGES
Minimum Credits: 3
Maximum Credits: 3
This course will focus on the linguistic structure of sign languages, drawing examples principally, though not exclusively, from American sign language (ASL). It will also highlight similarities and differences between sign languages and spoken languages. In addition to structural features, the course will cover mechanisms unique to visual/spatial languages, the use of the face and body for grammatical signals, language variation, and acquisition of sign languages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1000 or CSD 1020

LING 1721 - SOCIOLINGUISTICS OF SIGN LANG
Minimum Credits: 3
Maximum Credits: 3
There are various sociolinguistic topics that one must consider with respect to signed languages of the deaf. Regarding language contact, ambient languages-either signed or spoken-influence a signed language. Less than 10% of deaf people are exposed to signed language from birth, which results in unique phenomena. Additionally, signed languages exhibit variation based on a myriad of social and geographical factors. These topics, in addition to language planning and language policy, will be addressed in this course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1000 or CSD 1020

LING 1722 - DEAF CULTURE

Minimum Credits: 3
Maximum Credits: 3
Many deaf people in the U.S. Are united by a language (ASL) that differs from English and a culture with characteristics that differ from those of the larger hearing society. This culture is known as deaf culture, and students in this course will be introduced to various facets of American deaf culture through readings, videos, and discussions. Students will also explore other deaf cultures throughout the world. Among the course foci are: issues of accessibility, perspectives of deaf versus hearing individuals, and various examples of deaf literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0472; CREQ: LING 0473; PLAN: American Sign Language (ASL-CS1); LEVEL: Junior or Senior

LING 1723 - ANALYSES OF ASL LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This course is designed for students to explore and analyze American sign language and American deaf culture through ASL literature. Studying ASL literature is a way to examine the linguistic complexity of ASL as well as explore the deaf community's values and traditions as a minority group and a group to which visual depiction of ideas is highly valued. This course is conducted in ASL.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: LING 0474 and LING 1722; PLAN: American Sign Language

LING 1724 - THE DEAF AND SOCIETY

Minimum Credits: 3
Maximum Credits: 3
The culture of deaf Americans is distinct from that of mainstream American society. The primary focus of this course is to expose students to the culture of the deaf in the United States and around the world. In addition to teaching students how to interact with the deaf in a culturally appropriate way, the course will help them understand deaf culture as part of human diversity. Among the course foci are: issues of accessibility, perspectives of deaf versus hearing individuals, and various examples of deaf literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1725 - STRUCTURE OF ASL AND ENGLISH

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 0473 (MIN GRADE 'B') and (LING 1000 or CSD 1020); CREQ: LING 0474 (MIN GRADE: 'B'); PLAN: American Sign Language

LING 1726 - INTRO TO ASL-ENGLISH INTRPTG

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1727 - TOPICS SIGN LANGUAGE STUDIES

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 474 and LING 1722; PLAN: American Sign Language

LING 1738 - LINGUISTIC STRUCTRS OF ENGLSH

Minimum Credits: 3
Maximum Credits: 3
This course is a "nuts and bolts" description of the syntactic structures of English. Students will be provided with a grounding in the pedagogical grammar of English from a foreign language perspective. The class is designed specifically for teachers of English as a second/foreign language. It will also be useful for teachers in American schools who have ell students. Lecture format with class discussion.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1000

LING 1773 - MORPHOLOGY

Minimum Credits: 3
Maximum Credits: 3
Morphology, the study of words, is interrelated with the syntax, the phonology, the lexicon, and semantics. The purpose of this course is to develop operational competence, through problem solving and discussion, in the major aspects of morphological theory. Theoretical issues to be addressed will include lexical phonology, prosodic morphology, morphology and logical form, morphology and valence alternations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1000 or CSD 1020; MIN GRAD 'B'

LING 1777 - SYNTACTIC THEORY

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction, stressing understanding of theoretical concepts, to the transformational generative approach to English sentence structure. This approach uses formal rules to produce sentences, and to explain how they are composed of phrases. The first part of the course concentrates on mechanical manipulation of systems of rules, aiming to acquaint the student with how the rules work. The second part concentrates on how syntacticians use evidence about a language to support or disconfirm their theories.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1000 or CSD 1020; MIN GRAD 'B'

LING 1860 - INTRO TO HISTORCAL LINGUISTICS

Minimum Credits: 3
Maximum Credits: 3
A survey of the principles and methods of historical linguistics; practice in the basic techniques of historical linguistic research. The major topics to be studied are the analysis of sound change, analogic change, contact-induced language change, the relationship between variation (region al and social) and language change, the comparative method, and internal reconstruction.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1578 and LING 1773

LING 1900 - LINGUISTICS CNSLTNG/INSHP

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 9
This course provides an opportunity for students to formally pursue work on an individual basis.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

LING 1903 - DIRECTED RESEARCH

Minimum Credits: 1
Maximum Credits: 3
This course provides a hands-on opportunity for students to learn about linguistic research. By working with faculty and graduate students on approved projects, students can gain exposure to various aspects of research processes, such as data collection, data entry, linguistic analysis, and poster presentations. Students complete literature reviews, collect and/or analyze data, and write a research report.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Satisfactory/No Credit

LING 1930 - APPLICATIONS OF LINGUISTICS

Minimum Credits: 3
Maximum Credits: 3

This course is a capstone course for undergraduate majors in linguistics. It should therefore be taken after nearly all other major requirements have been fulfilled. The topics to be covered are the crucial role a knowledge of linguistics plays in language teaching, the law (both interpretation of documents, courtroom discourse, forensic linguistics, and interpreting), communication disorders, archaeology, computational linguistics, and anthropology. Students will develop a portfolio of short papers, some of which are based on their own field research.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: LING 1000 or CSD 1020; LVL: Sr

LING 1950 - INTRODUCTION TO LINGUISTICS
Minimum Credits: 3
Maximum Credits: 3
This course is a survey of general linguistics, emphasizing the theory and methodology of the traditional central areas of the field--phonetics, phonology, morphology, and syntax- with special concentration on phonological and syntactic theories and analytical techniques. The remainder of the course will be devoted to phonetics, morphology, historical linguistics, semantics and pragmatics, sociolinguistics, and psycholinguistics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1951 - LANGUAGES OF THE WORLD
Minimum Credits: 3
Maximum Credits: 3
This course is a survey of language classification, language structures, and language contact. It concentrates on two main questions: first, how do languages resemble, and differ from, each other in sounds, forms, and syntax? And second, what are some linguistic and sociopolitical results of situations in which two or more languages come into contact? The context for these investigations will be a study of selected language families, both in class and in individual student projects (including some elicitation of data from native speakers of various languages).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

LING 1952 - LANGUAGES OF EUROPE
Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to familiarize students with some of the ethnic, linguistic, geographic, and historical complexity of Europe from a somewhat oblique angle; through a course dealing with the languages of Europe in their structure and social dimensions, and providing ample expo sure to the historical background as well as frequent hands on experience with maps.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSYED 1005 - TEACHING GLOBALLY AND LOCALLY IN A DIVERSE WORLD
Minimum Credits: 3
Maximum Credits: 3
Students will be able to apply this knowledge specifically to their teaching practice as they begin their field experiences. We will critically engage in understanding the complex factors that impact education in the United States today, with an emphasis on Urban Education. A review of past teaching policies and practices will support a better understanding of the American schooling system in the 21st Century. In the Teaching Globally and Locally in a Diverse World class pre-service teachers will: (a) discuss strategies for teaching all children in a responsive, equitable manner , (b) learn to analyze the effects that marginalization has on children, (c) investigate the impact that race, culture, and socioeconomic status have on a child's education, and (d) review school reform and policy practices that have created various types of schools available to students in the United States. Knowing that the landscape of education is changing in the United States we will discuss the globalization of schooling in our society, along with the need for a higher technological understanding to prepare children for success in today's world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Materials Science and Engr

MSE 0030 - INTRODUCTION TO MATERIALS
Minimum Credits: 3
Maximum Credits: 3
An introduction to the basic concepts of materials science and engineering. The concepts of atomic, crystal, micro-and macro-structure, their control and effects on chemical, electrical, magnetic, and mechanical properties. Comprehensive discussion of binary phase diagrams, applications of the phase rule, the origin and nature of micro-structure.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 0031 - INTRO TO MATERIALS LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Principles and techniques of optical metallography; specimen preparation, etching, principles of optical microscopy photography, and other specialized techniques.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: ENGR 0022 or MET 1162; PROG: School of Engineering

MSE 0040 - INTRO TO MATERIALS PROCESSING

Minimum Credits: 3
Maximum Credits: 3
The initial, general, section deals with the sources of ores and fuels together with their recovery as raw materials. Concepts of thermodynamic equilibrium are applied to the thermal treatment of raw materials. Equal weight is given to the production and processing of ceramics, metals and polymers, each section covering refining, product formation, and control of properties.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: ENGR 0022 or MET 1162; PROG: School of Engineering

MSE 0048 - ENERGETICS 1

Minimum Credits: 3
Maximum Credits: 3
The basic concepts of thermodynamics, work, and energy will be introduced. The first law will be presented and applied to problems involving ideal gases, non ideal gases, and heat effects. Entropy and the second law will be introduced to cycles. Free energy will be introduced and the general thermodynamic properties of fluids and solids will be developed. The third law will be discussed briefly. The final section will involve the application of the previously-developed concepts to; 1. Phase equilibria in one-component systems; 2. Chemical equilibrium, and 3. Flow processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (ENGR 0022 and MATH 0250) and (MET 1162 or MATH 1035); PROG: School of Engineering

MSE 1052 - HEAT AND MASS TRANSPORT

Minimum Credits: 3
Maximum Credits: 3
Fundamental description and analysis of heat conduction and diffusion, heat transfer by radiation and convection. Analysis of fluid flow in closed systems using momentum balances and energy balance. Illustration of the application of transport principles in materials science and engineering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (MATH 0250 or 1035) and MSE 0048; PROG: Swanson School of Engineering

MSE 1054 - MATERIALS SCIENCE 1

Minimum Credits: 3
Maximum Credits: 3
Crystallography of materials; bravais lattices, crystal systems, and crystal structures. Diffraction methods; x-ray, electron, and neutron scattering; atomic scattering factor; structure factor; powder techniques; laue method; reciprocal lattice; electron diffraction; amorphous materials; thermodynamics of crystals and crystal defects; polymorphism; order-disorder phenomena.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: ENGR 0022 or MET 1162; PROG: School of Engineering

MSE 1055 - MATERIALS SCIENCE 1 LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Experimental techniques in x-ray and electron diffraction. Laboratory exercises in crystal structure analysis. Stereographic projection, phase identification, etc. Selected problems to elucidate principles discussed in MSE 1054.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: CREQ: MSE 1054 or MEMS 1054; PROG: School of Engineering

MSE 1056 - ENERGETICS 2
Minimum Credits: 3
Maximum Credits: 3
Thermodynamics of solutions with applications to materials systems; heterogeneous phase equilibria; relations between free energy and phase diagrams, electrochemistry; rate processes; thermodynamics of surfaces.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: MSE 0048; PROG: School of Engineering

MSE 1060 - MATERLS PROCESSING PRINCIPLES
Minimum Credits: 3
Maximum Credits: 3
Application of thermodynamic, transport, materials science and engineering, and economic principles for the analysis and design of processes for the extraction, refining, and fabrication of polymers, ceramics, metals, and composites. Processing principles and their application will be illustrated through case studies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1062 - COMPUTER APPLICATNS MATLS SCI
Minimum Credits: 2
Maximum Credits: 2
Introduction to numerical methods and computer applications in materials science topics including: analytic techniques (numeric solutions of analytical expressions, curve fitting, and numerical precision), atomistic and stochastic models (monte-carlo and molecular dynamics), finite difference/element techniques (formulation, stability, transport calculations), autocad introduction and practical use, image analysis (introduction to digital image processing, materials characterization and analysis). Students will gain a working conceptual knowledge of each of these areas, with hands-on examples and discussion of the limitations of each. This introduction and overview will enable students to confidently initiate and critically assess new modeling and computational projects in workplace or in graduate research. The course assumes a working knowledge of Matlab.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (MSE 1052 or MEMS 1052) and (MSE 1054 or MEMS 1054) and (MSE 1056 or MEMS 1056); PROG: School of Engineering

MSE 1064 - MATERIALS SCIENCE 2
Minimum Credits: 3
Maximum Credits: 3
Phase equilibria; binary and ternary system; phase rule; thermodynamics and phase diagrams; diffusion in materials; phase transformations; nucleation and growth kinetics; precipitation reactions; solidification; glass-forming systems; phase separation; displacive or martensitic transformations; microstructural development in metallic and non-metallic systems; electron theory of solids; zone theory; electrical and magnetic properties of materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: MSE 1056 or MEMS 1056; PROG: School of Engineering

MSE 1067 - MATERIALS PROCESSING LABRATORY
Minimum Credits: 1
Maximum Credits: 1
A practical laboratory experience in chemical or physical processes by which materials are produced. Emphasis is on taking data, analyzing results, keeping laboratory notebooks, and writing reports.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (MSE 1052 or MEMS 1052) and (MSE 1054 or MEMS 1054) and (MSE 1056 or MEMS 1056); PROG: School of Engineering

MSE 1070 - MECHANICAL BEHAVIOR OF MATRL 1
Minimum Credits: 3
Maximum Credits: 3
Theory of elasticity, elastic stress and strain distributions, elements of plasticity theory, yield criteria, fracture of metals, mechanical behavior of ceramics, ductile and brittle behavior, fatigue, creep and stress rupture, brittle failure and impact properties.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (ENGR 0022 or MET 1162) and [ENGR 0141 or ENGR 0145 or (ET 0053 and 0054)]; PROG: School of Engineering

MSE 1071 - MECHANICAL BEHAVR 1 LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Laboratory exercise and demonstrations designed to elucidate and extend principles discussed in lecture.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (MSE 1070 or MEMS 1070) and CREQ: (MSE 1080 or MEMS 1180); PROG: School of Engineering

MSE 1079 - SENIOR ENGINEERING DESIGN 1

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PREQ: LVL: Sr; PROG: School of Engineering

MSE 1080 - MECHANICAL BEHAVR OF MATRLS 2

Minimum Credits: 3
Maximum Credits: 3
Introduction to deformation processing. Influence of friction and deformation zone geometry on forming pressure and fracture. Analysis of workability by use of forming limit diagrams. Mechanics of forging, rolling, sheet forming, powder metallurgy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: MSE 1070 or MEMS 1070; PROG: School of Engineering

MSE 1081 - MECHANICAL BEHAVR 2 LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Experimental studies of heterogeneous deformation. Measurement of friction in forming processes. Workability evaluation and analysis. Mechanics and microstructural variations of hot deformation.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1085 - DEPARTMENTAL SEMINAR

Minimum Credits: 0
Maximum Credits: 0
The engineering undergraduate seminar acquaints the student with aspects of engineering not normally encountered in the classes. Such topics as the relation of engineering to current social problems, engineering as a profession, job interviews, etc., Are discussed. The format of the seminars usually involves an invited speaker or film.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1089 - SENIOR ENGINEERING DESIGN 2

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PREQ: MSE 1079 or MEMS 1079; PROG: School of Engineering

MSE 1163 - CERAMIC MATERIALS

Minimum Credits: 3
Maximum Credits: 3
The first major course in the field of ceramic materials, crystalline ceramics, structure; processing and thermal treatments; glasses and glazes; phase equilibria and ternary diagrams; properties of ceramic materials, mechanical, thermal, optical, electrical, and magnetic; refractories and thermal

shock.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (MSE 1054 or MEMS 1054) and (MSE 1064 or MEMS 1064); PROG: School of Engineering

MSE 1168 - ELECTROMGNTC PROPS MATERIALS

Minimum Credits: 3
Maximum Credits: 3
Review of basic principles-quautium theory, band and zone theory. Applications to transport properties; electrical and thermal. Semiconductors and semiconductor devices. Magnetic materials-hard and soft. Dielectric and optical properties.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: ENGR 0022 or MET 1162; PROG: School of Engineering

MSE 1174 - CERAMIC PROCESSING

Minimum Credits: 3
Maximum Credits: 3
Raw materials, powder, preparation, characterization of powders; forming processes; powder pressing, slipcasting, plastic forming; drying and firing, sintering and vitrification; special processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1175 - CERAMICS LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Experiments illustrating basic principles in ceramic behavior and processing.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1184 - APPLICATIONS OF CERAMICS

Minimum Credits: 3
Maximum Credits: 3
An advanced course designed to tie together the basic principles of structure, properties and processing. Illustrates how structure, properties and processing interact and affect the final application.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1202 - MAGNTC PROPERTIES OF MATERIALS

Minimum Credits: 3
Maximum Credits: 3
Magnetic properties of matter; ferro-, ferri, and anti-ferromagnetism; diamagnetic and paramagnetic substances; magnetostatics; the fundamental quantities in the description magnetic behavior; measurement of magnetic quantities; hysteresis; magnetic domains; magnetic anisotropy; magnetostriction; permeability; coercivity; and hard and soft magnetic materials for engineering applications; thin film and fine-particle behavior.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1266 - PROCESS METALLURGY 1

Minimum Credits: 3
Maximum Credits: 3
Engineering analysis and design of processes for heating, melting, casting, and solidification of metals; degassing; zone-refining and crystallization purification; electrolysis; electroplating and electrochemical purification; and hydrometallurgical techniques.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1272 - PHYSICAL METALLURGY 1

Minimum Credits: 2
Maximum Credits: 2
Dislocations and slip phenomena, grain boundaries, strengthening mechanisms. The nature of the cold-worked state. Annealing; recovery, recrystallization, grain growth; textures; precipitation from solid solution; age hardening.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (MSE 1054 or MEMS 1054); CREQ: (MSE 1064 or MEMS 1064); PROG: School of Engineering

MSE 1273 - PHYSICAL METLLURGY 1 LABRATORY

Minimum Credits: 1
Maximum Credits: 1
Laboratory and demonstrations offered to exemplify and elucidate principles discussed in MSE 1272.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: CREQ: MSE 1272; PROG: Swanson School of Engineering

MSE 1276 - PROCESS METALLURGY 2

Minimum Credits: 3
Maximum Credits: 3
The physical chemistry of liquid metal refining reactions is studied and applied to both ferrous and non-ferrous metal refining processes. Emphasis is placed on modern developments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1282 - PHYSICAL METALLURGY 2

Minimum Credits: 3
Maximum Credits: 3
Heat treatment of steels; alloy steels; tool steels; cast irons; stainless steels. Metals and alloys for high-temperature service; superalloys; titanium alloys. Oxidations and corrosion.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1284 - PHYSICAL METALLURGY ENGR ALLYS

Minimum Credits: 3
Maximum Credits: 3
Property requirements of engineering alloys are discussed: strength, toughness, formability, weldability, fatigue resistance, corrosion/oxidation resistance. Review is made of pertinent phase diagrams, transformations, and microstructures in the fe-fe3c and other alloy systems. Composition, processing, microstructure and properties of important structural steels, sheet steels, stainless steels, tool steels, aluminum alloys, titanium alloys, as well as nickel-based and copper-based alloys will be presented. Case studies, design problems and selection criteria are discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1362 - POLYMERIC MATERIALS

Minimum Credits: 3
Maximum Credits: 3
Microstructure of chainlike molecules, molecular weight averages, distributions and methods for determination; glass formation and the crystalline state; polymer chain conformation; thermodynamics and kinetic theory of rubber-like behavior; temperature and structure dependence of viscous flow and other rate processes; introduction to viscoelastic behavior.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1378 - POLYMERIZATION ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
Historical development of the synthetic polymer industry; economic and chemical development; feedstocks; molecular architecture, introductory

concepts, and definitions; polymerization reactions; step growth and chain reactions; mechanisms and kinetics; homopolymer, copolymer; block and graft copolymerization; commercial processes; reactors (cstr and tubular); new polymers; high-temperature polymers; property-chemical structure correlations; thermal, stability, degradation, uses, and application of polymers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1386 - INTRO TO POLYMER PROCESSING

Minimum Credits: 3
Maximum Credits: 3
Scope of polymer processing; thermoplastics and thermosets; basic transport phenomena; equations of motion; energy; viscous dissipation; non-Newtonian fluids, poiseuille and couette flows; lubrication approximation; plasticating extrusion; calendering. Injection moulding; fiber spinning; film blowing; distributive and dispersive mixing; mixers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1388 - APPLIED POLYMER PRINCIPLES

Minimum Credits: 3
Maximum Credits: 3
Polyethylene sheet/film production; polymerization, molecular characterization, melt processing properties, role of stabilizers/antitoxicants, extrusion and pelletization, die swell, crystallization, stretching, molecular and physical properties of the product, quality control. Polyurethane foam processing; step polymerization, flexible and rigid systems, integral skin focus, foam processing, correlation between processing and foam morphology, flammability, quality control.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1468 - ANALYSIS & CHRCTRZN NANO-SCALE

Minimum Credits: 3
Maximum Credits: 3
This course offers a survey of micro-analytical, microscopy and diffraction methods that are widely used for the analysis of composition, chemistry, structure, scale and morphology of advanced materials. It introduces the most basic concepts required to understand experimental data obtained with these modern techniques. The main objectives of the course are to enable students to interpret and evaluate relevant data sets presented in the research literature and to identify experimental tools to solve a given Nano-research characterization problem. Some prerequisite basic knowledge of the structure of solid matter (e.g. Crystals and amorphous materials), diffraction methods (e.g. X-ray diffraction) and processing-property-structure relationships in materials is expected.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

MSE 1469 - MATRLS SCI OF NANOSTRUCTURES

Minimum Credits: 3
Maximum Credits: 3
Reviews the theories and phenomena associated with solid structures that lie in the nano- or Meso- scale regime from 1 to 1000 nm. Engineered structures of these dimensions have unique properties due to their site including surface and interface dominated energy considerations governing shape and phase formation, optical interactions due to confinement effects, unique electronic/quantum effects due to confinement. The course will survey issues associated with creation, analysis and theoretical modeling of these structures with a kinetics-thermodynamics perspective.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

MSE 1477 - THIN FILM PROCESSES & CHRCTRZN

Minimum Credits: 3
Maximum Credits: 3
This course will be an overview of the major thin film processing methods and the primary techniques to characterize thin film surfaces and interfaces. Topics to be included: vacuum science and technology, thin-film deposition techniques, such as pvd, mbe, cvd and the fundamental surface processes of epitaxial growth. The analytical techniques will be presented, e.g., Electron microscopy, aes, xps, afm and stm.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1478 - NANOPARTICLES: SCI & TECHNLGY

Minimum Credits: 3
Maximum Credits: 3
This interdisciplinary course introduces students to the science and technology of nanoparticles. Synthesis of nanoparticles will be discussed. Applications of nanoparticles for advanced electronic magnetic, biomedical, catalysis and other areas will be presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1483 - COLLOIDS AND SURFACES

Minimum Credits: 3
Maximum Credits: 3
Concepts from physical chemistry and transport phenomena are extended to study surface and colloidal phenomena, and related applications to materials processing and separations technology. Topics include: surface tension, adsorption, electrostatic double layer, dominant forces on the colloidal lengthscale, colloid stability, electrokinetic phenomena, and suspension rheology surface probes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1485 - DEGRADATION OF MATERIALS

Minimum Credits: 3
Maximum Credits: 3
In this course the important environments encountered by engineering materials are examined and then the types of reaction which occur between these engineering environments and materials are described. The basic requirements which must be satisfied in order to have resistance to environmental induced attack are defined for metals, alloys, ceramics and polymers. The use of coatings as a means of protecting materials from degradation is described and illustrations are presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1800 - UNDERGRADUATE SPECIAL PROJECT

Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

MSE 1991 - PHYSICAL METALLURGY FOR ENGNR

Minimum Credits: 3
Maximum Credits: 3
The course is intended to develop the principles of alloy selection. The effect of thermomechanical treatment on alloy structure and properties is reviewed and expanded. The properties and methods of fabrication of aluminum, copper, steel, cast iron, other alloys, and composites are covered. The relationship between design requirement and materials properties is illustrated by examples.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

MSE 1995 - PROCESS METALLURGY FOR ENGINRS

Minimum Credits: 3
Maximum Credits: 3
A survey course of metals processing operations including extraction and refining of metals, melting and casting in primary fabrication operations. Not for MSE majors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

Mathematics

MATH 0010 - COLLEGE ALGEBRA PART 1
Minimum Credits: 2
Maximum Credits: 2
First of a two course sequence which covers the topics of linear equations and inequalities and their graphs, quadratic equations and their graphs, and systems of equations and their graphs. This course is intended for students who need to learn elementary algebra over an extended period of time.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 0020 - COLLEGE ALGEBRA PART 2
Minimum Credits: 2
Maximum Credits: 2
Second of two courses (0010-0020) which covers polynomials, rational functions and exponential and logarithmic growth. This course is intended for students who need to learn algebra over an extended period of time.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0010

MATH 0025 - APPLIED COLLEGE ALGEBRA
Minimum Credits: 3
Maximum Credits: 3
This course is designed for non-math majors or non-science majors. This course will parallel the topics in MATH 0031, but will stress real life data, problem solving and the use of technology to aid in mathematical understanding.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 0031 - ALGEBRA
Minimum Credits: 3
Maximum Credits: 3
The course covers basic algebra skills. Linear, polynomial, rational, exponential, and logarithmic functions are included. Systems of linear equations are also covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 0032 - TRIGONOMETRY AND FUNCTIONS
Minimum Credits: 2
Maximum Credits: 2
This course is designed to enable students, who have mastered algebra, to learn trigonometry. Besides trigonometry, material of graphing and polynomials is included.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0031 (MIN GRADE 'C') or MATH PLACEMENT SCORE (61 or GREATER)

MATH 0100 - PREP FOR BUSINESS CALCULUS
Minimum Credits: 3
Maximum Credits: 3
This course will increase and reinforce the student's algebra skills by emphasizing the manipulation of formulas, the graphing of functions and the extensive use of problem solving. Topics include: an algebra review, functions and their graphs, systems of linear equations and inequalities, linear programming, interests and annuities, probability, data description, limits and continuity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 0120 - BUSINESS CALCULUS
Minimum Credits: 4
Maximum Credits: 4
This course introduces the basic concepts of limits, continuity, differentiation, integration, maximization and minimization. Applications to the social sciences, especially business and economics, are stressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0020 or MATH 0031 (MIN GRADE 'C') or MATH PLACEMENT SCORE (61 or GREATER)

MATH 0125 - CALCULUS FOR BUSINESS 1

Minimum Credits: 2
Maximum Credits: 2
This is the first half of a two course sequence (0125-0126). It will cover concepts such as limits, continuity, differentiation and integration. Maximization and minimization of functions will also be covered, with emphasis placed on applications in the social sciences, especially business and economics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0020 or MATH 0031 (MIN GRADE 'C') or MATH PLACEMENT SCORE (61 or GREATER)

MATH 0126 - CALCULUS FOR BUSINESS 2

Minimum Credits: 2
Maximum Credits: 2
This is the second half of the two sequence course (0125 0126). It provides an introduction to calculus for students in business, economics and other social sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0125

MATH 0200 - PREP FOR SCIENTIFIC CALCULUS

Minimum Credits: 3
Maximum Credits: 3
A variety of topics are studied: functions, rational functions, logarithmic and exponential functions, graphs, asymptotes, inverse, conic sections, translation and rotation of axes, trigonometric identities and equations, and possibly vectors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0020 or MATH 0031 (MIN GRADE 'C') or MATH PLACEMENT SCORE (61 or GREATER)

MATH 0220 - ANALYTC GEOMETRY & CALCULUS 1

Minimum Credits: 4
Maximum Credits: 4
This is the first of a sequence of three basic calculus courses. It covers the derivative and integral of functions of one variable and their applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0032 (MIN GRADE 'C') or MATH 0200 (MIN GRADE 'C') or MATH PLACEMENT SCORE (76 or GREATER)

MATH 0230 - ANALYTC GEOMETRY & CALCULUS 2

Minimum Credits: 4
Maximum Credits: 4
This is the second of a sequence of three basic calculus courses. It covers the calculus of transcendental functions, techniques of integration, series of numbers and functions, polar coordinates, and conic sections.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0220; MIN GRADE: 'C'

MATH 0235 - HONORS 1 - VARIABLE CALCULUS

Minimum Credits: 4
Maximum Credits: 4
An enriched version of MATH 0220/MATH 0230. Course will cover same topics but in greater depth and with more challenging problems, computer experimentation and applications using maple. This course is intended for honors students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 0240 - ANALYTC GEOMETRY & CALCULUS 3

Minimum Credits: 4
Maximum Credits: 4
This is the third of a sequence of three basic calculus courses. It covers vectors and surfaces in space and the calculus of functions of several variables including partial derivatives and multiple integrals, stokes theorem, and first order differential equations.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0230 or MATH 0235; MIN GRADE: 'C'

MATH 0245 - HONORS 1- MULTIVARIABLE CALCUL

Minimum Credits: 4
Maximum Credits: 4
An enriched version of MATH 0240. Course will cover same topics but in greater depth and with more challenging problems and applications. This course is intended for honors students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 0250 - MATRIX THEORY & DIFFT EQUATNS

Minimum Credits: 4
Maximum Credits: 4
The topics include matrix algebra, vector spaces, linear transformations, linear differential equations with constant coefficients, and systems of first order linear differential equations. Matrix techniques are used extensively in the differential equations part of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0230 (MIN GRADE 'C')

MATH 0280 - INTRO TO MATRICES & LINEAR ALG

Minimum Credits: 3
Maximum Credits: 3
The principal topics which this course will cover include vectors, matrices, determinants, linear transformations, eigenvalues and eigenvectors, and selected applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0220 or MATH 0235 (Min Grade 'C')

MATH 0290 - DIFFERENTIAL EQUATIONS

Minimum Credits: 3
Maximum Credits: 3
This course presents an introduction to the theory of differential equations from an applied perspective. Topics include linear and nonlinear ordinary differential equations, Laplace transform, and introduction to partial differential equations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0230 or MATH 0235; MIN GRADE: 'C'

MATH 0400 - FINITE MATHEMATICS

Minimum Credits: 3
Maximum Credits: 3
The course covers the basic concepts of set theory, logic, combinatorics, Boolean algebra, and graph theory with an orientation towards applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0020 or MATH 0031 (MIN GRADE 'C') or MATH PLACEMENT SCORE (61 or GREATER)

MATH 0410 - INTRO THEORETICAL MATHEMATICS

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the theoretical treatment of sets, functions, relations, sequences, and limits. Classwork and homework will concentrate on the writing and understanding of proofs of theorems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 0412 - LAB IN MATH PROOF TECHNIQUES

Minimum Credits: 1
Maximum Credits: 1
The recitation activity is enhanced by software that drills students in definitions and the formatting of proofs.

Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

MATH 0413 - INTRO THEORETICAL MATHEMATICS

Minimum Credits: 4
Maximum Credits: 4
This course is an introduction to the theoretical treatment of sets, functions, relations, numbers, sequences, and limits. Classwork and homework concentrate reading and writing of proofs of theorems centered on these topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0230 or MATH 0235

MATH 0415 - TOPICS IN THEORETIC MATH

Minimum Credits: 4
Maximum Credits: 4
An enriched version of MATH 0220 and MATH 0230. Course will cover same material but in greater depth with more challenging problems, computer experimentation and applications using Mathematica. This course is intended for honors students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 0420 - INTRO THEORY 1-VARIABLE CALCUL

Minimum Credits: 3
Maximum Credits: 3
The course provides a careful treatment of the theoretical concepts of limit, continuity, derivative and integral, including the fundamental theorem of calculus.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0413 or MATH 0450

MATH 0430 - INTRO ABSTRCT ALGBRAIC SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to abstract algebraic concepts, rings, integral domains, fields, integers, rational, real and complex numbers, and polynomials. Many examples will be presented during class and in the homework. The students are expected to enhance their proof writing techniques.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0413 or MATH 0450 or MATH 1185

MATH 0450 - INTRODUCTION TO ANALYSIS

Minimum Credits: 4
Maximum Credits: 4
This course is intended as a first course in mathematical analysis for highly motivated students. Topics will include sets and functions, number systems, topology of Euclidean spaces, limits, continuity, and the main theorems of elementary calculus.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 0460 - INTRODUCTION TO CRYPTOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course covers the mathematical principles underlying the encryption technologies that secure the world wide web and other networked information systems. Mathematical topics include divisibility, primes, factorization, and modular arithmetic modular inversion using the Euclidean algorithm, the Varphis-function, and Euler's theorem. All of these topics will be used in implementation and breaking of encryption schemes, varying in complexity from simple shift ciphers to the RSA algorithm.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MATH 0470 - ACTUARIAL MATHEMATICS 1

Minimum Credits: 3
Maximum Credits: 3
This course will cover the material listed in the syllabus for mathematics of finance of the society of actuaries. Specifically it will present the relevant topics in the theory of interest (interest and discount rates, cash flows, annuities, amortization and sinking funds, bonds) and investment (stocks, capital asset pricing model, arbitrage pricing theory, portfolios, options). The material will be presented in the traditional academic format of lectures and help sessions along with optional sessions directed specifically at preparing students for the SOA exam.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: MATH 0230 or MATH 0235

MATH 0510 - DISCRETE MATH IN NATURE

Minimum Credits: 3
Maximum Credits: 3
This course introduces concepts now at the forefront of modern mathematics to students with only a background in high school mathematics and some mathematical ability. Current research topics such as cellular automata, chaos, and fractal geometry are treated through a sequence of simple examples. All of the examples involve discrete systems that can be used to model natural phenomena. The main tool in the analysis of difference equations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1010 - PUTNAM SEMINAR

Minimum Credits: 2
Maximum Credits: 2
The aim of this course is to develop the capacity to solve mathematical problems involving a substantial element of ingenuity and perseverance. Training will involve the study of problems from previous Putnam competitions, for which this course can be regarded as a useful preparation. An attempt will be made to look for unifying mathematical ideas. General strategies for solving problems will also be discussed.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

MATH 1020 - APPLD ELEMENTARY NUMBER THEORY

Minimum Credits: 3
Maximum Credits: 3
This course will reveal the key role played by number theory in the development of mathematics. Some applications of number theory will be covered in the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0430

MATH 1025 - INTRO TO MATHMTL CRYPTOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
The course covers the theoretical underpinnings of cryptosystems and the analysis of their limitations and vulnerabilities. Special emphasis will be placed on public key cryptosystems, including elliptic curve based systems. Real world applications such as browser security and bitcoin will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1050 - COMBINATORIAL MATHEMATICS

Minimum Credits: 3
Maximum Credits: 3
Topics covered include the binomial theorem, inclusion exclusion principle, recurrence relations, generating functions, and coloring problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0413 or MATH 0450 or MATH 1185

MATH 1070 - NUMERICAL MATHEMATICAL ANLYSIS

Minimum Credits: 3
Maximum Credits: 3
This course, with MATH 1080 forms a two term introduction to numerical analysis at the advanced undergraduate level and includes interpolation, numerical differentiation and integration, solution of non-linear equations, numerical solution of systems or ordinary differential equations, and

additional topics as time permits. Emphasis is on understanding the algorithms rather than on detailed coding, although some programming will be required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0240 or MATH 0245

MATH 1075 - TOPICS IN NUMERICAL ANALYSIS

Minimum Credits: 1
Maximum Credits: 1
This course provides honors recognition to students who wish to digress with the professor to study extra topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1080 - NUMERICAL MATH: LINEAR ALGEBRA

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to numerical linear algebra which addresses numerical methods for solving linear algebraic systems and matrix Eigen problems and applications to partial differential equations. Although the course will stress a computational viewpoint, analysis of the convergences and stability of the algorithms will be investigated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (MATH 0240 or MATH 0245) and (MATH 0250 or MATH 0280 or MATH 1180 or MATH 1185)

MATH 1100 - LINEAR PROGRAMMING

Minimum Credits: 3
Maximum Credits: 3
Topics covered will include linear programming problems, the simplex method, quality, revised simplex method, and the transportation problem.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0280 or MATH 1180 or MATH 1185

MATH 1101 - AN INTRODUCTION OPTIMIZATION

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the techniques of optimization. Applications will be emphasized, but some theory will be addressed and proofs will be discussed. As well, students will be taught how to use available software to answer questions. Course topics will include linear programming, integer programming, nonlinear programming, convex and affine sets, convex and concave functions, unconstrained optimization, and combinatorial optimization (i.e. Network flow problems).
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0240 and (MATH 0280 or MATH 1180 or MATH 1185)

MATH 1103 - MATHMTL PROB BUS/INDUST/GVRNT

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1110 - INDUSTRIAL MATHEMATICS

Minimum Credits: 3
Maximum Credits: 3
This course is concerned with the approximate numerical solution of problems which arise in an industrial environment. Topics covered include physical interpretation of a mathematical model, use of library software, preparation of software, analysis of results, and reporting on findings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 1180 and MATH 1185

MATH 1121 - ACTUARIAL MATHEMATICS 2

Minimum Credits: 3
Maximum Credits: 3
This course will cover the material listed in the syllabus for exam m (3) (mathematics of life contingencies and financial economics) of the society of actuaries. Specifically it will present the relevant topics in life insurance and life annuities, including multiple decrement models as well as the black and Scholes pricing of derivative securities and risk analysis. The material will be presented in the traditional academic format of lectures and help sessions along with optional sessions directed specifically at preparing students for the SOA exam.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0470 or 1120

MATH 1122 - ACTUARIAL MATHEMATICS 3

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0230 or MATH 0235) and (MATH 0470 or 1120) and STAT 1151

MATH 1123 - ACTUARIAL MATHEMATICS 4

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1180 - LINEAR ALGEBRA 1

Minimum Credits: 3
Maximum Credits: 3
This course stresses the theoretical and rigorous development of linear algebra. Major topics include the theory of vector spaces, linear transformations, matrices, characteristic polynomials, bases and canonical forms. Other topics may be covered as time permits.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: MATH 0413 or MATH 0450

MATH 1185 - HONORS LINEAR ALGEBRA

Minimum Credits: 3
Maximum Credits: 3
An introduction to computational and theoretical aspects of linear algebra. Syllabus includes Gaussian elimination, matrix algebra, triangular factorization, vector spaces, linear independence, basis, dimension, orthogonality, inner product, gram-Schmidt, singular value decomposition, determinants, eigenvalues, matrix exponentials, unitary matrices, similarity, positive definiteness, minimum principles, finite elements, norm and condition number, computation of Eigen values, iterative solutions of linear systems, linear inequalities, simplex method.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1230 - THE BIG IDEAS OF MATHEMATICS

Minimum Credits: 3
Maximum Credits: 3
The "big ideas" course is intended to provide a capstone type experience for math majors. It will integrate the student's current math knowledge into a coherent whole via the adoption of a historical perspective. It is particularly aimed at math majors with an interest in math education or the history, philosophy and psychology of mathematics. Students opting for the optional internship, MATH 1231, will explore how the historical development of math relates to the math in the secondary school. The capstone experience will culminate with a research project and presentation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0430

MATH 1231 - MATH EDUCATION INTERNSHIP 1

Minimum Credits: 1
Maximum Credits: 1
This internship has two components 1) a classroom experience mentoring a high school student who is developing a research project and 2) a seminar discussing the "big ideas" of mathematics in MATH 1230 and how math is developed in the elementary and secondary school curriculum. Interns will spend one hour every two weeks mentoring a high school student at an area high school.
Academic Career: UGRD

Course Component: Internship
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: MATH 1230

MATH 1240 - LINEAR ALGEBRA 2

Minimum Credits: 3
Maximum Credits: 3
This second course in linear algebra features an abstract development of the subject. Abstract vector spaces, linear transformations, and matrix representations will be studied. Some applications and generalizations will also be investigated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1250 - ABSTRACT ALGEBRA

Minimum Credits: 3
Maximum Credits: 3
In this course the basic algebraic systems, groups and rings are studied in some detail. Topics include: subgroups, permutation groups, homomorphism's, subrings, ideals and quotient rings. The emphasis is on theory with examples.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0430

MATH 1255 - TOPICS IN ABSTRACT ALGEBRA

Minimum Credits: 1
Maximum Credits: 1
This course provides honors recognition to students who wish to digress with the professor to study extra topics not covered in MATH 1250, abstract algebra.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1270 - ORDINARY DIFFERENTL EQUATNS 1

Minimum Credits: 3
Maximum Credits: 3
This course covers methods of solving ordinary differential equations which are frequently encountered in applications. General methods will be taught for single n-th order equations, and systems of first order nonlinear equations. This will include phase plane methods and stability analysis. Computer experimentation will be used to illustrate the behavior of solutions of various equations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0280 or MATH 1180 or MATH 1185

MATH 1275 - HNRS ORDINARY DIFFT EQUATNS 1

Minimum Credits: 3
Maximum Credits: 3
This course provides a more thorough mathematical treatment of the theory than is possible in the non-honors course (MATH 1270), and also covers some more recent applications. In addition to basic material on exact solutions, mathematical proofs will be given of the existence and uniqueness theorems, leading to a better understanding of such important topics as phase plane behavior and stability theory. In addition, more topics will be covered, including a more extensive discussion of series solutions and special functions than is possible in MATH 1270. Finally, a course project, usually done in pairs, on a topic to be chosen by the students with guidance and approval from the instructor, will be a key feature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [MATH 0450 or MATH 1530 (or MATH 0420 with MIN GRAD 'A')] and MATH 1180 or MATH 1185

MATH 1280 - ORDINARY DIFFERNTL EQUATIONS 2

Minimum Credits: 3
Maximum Credits: 3
This is a course in stability and qualitative methods for analyzing ordinary differential equations which arise in realistic models. Phase plane techniques, perturbation methods, and bifurcation theory are studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 1270 OR MATH 1275

MATH 1290 - TOPICS IN GEOMETRY

Minimum Credits: 3
Maximum Credits: 3
A course intended to give a "modern" view of geometry. Possible approaches include (1) the connection of geometries to abstract algebraic systems and (2) the deductive, synthetic development of Euclidean and non-Euclidean geometry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0240 and (MATH 0413 or MATH 0450)

MATH 1310 - GRAPH THEORY

Minimum Credits: 3
Maximum Credits: 3
The concept of a graph and the study of its theoretical properties and applications form the core of this course. Topics include paths, circuits, trees, planar graphs, coloring problems, digraphs, matching theory, and network flows.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0413 or MATH 0450

MATH 1330 - PROJECTIVE GEOMETRY

Minimum Credits: 3
Maximum Credits: 3
Topics for this course are the algebraic, axiomatic, and/or synthetic development of projective geometry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1350 - INTRO TO DIFFERENTIAL GEOMETRY

Minimum Credits: 3
Maximum Credits: 3
Possible topics are the basic ideas of topology, description of curves in space, definition and local study of smooth surfaces in Euclidean space (fundamental forms, geodesics, and curvature), global properties of surfaces, gauss-bonnet formula and applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0240 or MATH 0280 or MATH 1180 or MATH 1185

MATH 1360 - MODELING IN APPLIED MATH 1

Minimum Credits: 3
Maximum Credits: 3
This course introduces some of the fundamental approaches of applied mathematics. The emphasis is on the model-building process and on developing an understanding of some of the unifying themes of applied mathematics such as equilibria, stability, conservation laws, etc. The material is presented in the form of case studies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0290 or MATH 1270 or MATH 1275

MATH 1365 - TOPICS IN MATHEMATCL MODELLING

Minimum Credits: 1
Maximum Credits: 1
This course provides honors recognition to students who wish to digress with the professor to study extra topics not covered in MATH 1360, mathematical modelling.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

MATH 1370 - INTRO TO CMPTL NEUROSCIENCE

Minimum Credits: 3
Maximum Credits: 3
This course presents contemporary mathematical theories of neuroscience, including single neurons and neuronal networks. Attention will be given to the dynamics and the function of neural activity.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0240 or MATH 0450 or MATH 0245

MATH 1380 - MATH BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course will provide a broad introduction to mathematical methods typically applied to problems in biology. Models using calculus, ordinary differential equations, partial differential equations, discrete dynamical systems, stochastic dynamics, or a cellular automata framework will be presented and principal methods for their analysis will be described. Computational methods will also be covered, including computing platforms such as XPPAUT. Throughout the course, students will have extensive opportunities to practice the development and analysis of mathematical biology models.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0240 or MATH 1180 or MATH 1185) and (MATH 0290 or MATH 1270 or MATH 1275)

MATH 1410 - INTRO FNDTNS OF MATHEMATICS

Minimum Credits: 3
Maximum Credits: 3
This course introduces the logical foundations of mathematics; it covers the propositional and predicate calculi, formal number theory, set theory, and beginning model theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0413 or MATH 0450

MATH 1420 - FOUNDATIONS OF MATHEMATICS 2

Minimum Credits: 3
Maximum Credits: 3
Course is devoted to model theory and mathematical applications. Items to be covered are: completeness and compact ness theorems, and the Lowenheim-Skolem-Tarski theorems, ultra-products and ultra-limits, independence results, standard and nonstandard models, Categoricity in power, universal algebra, and Galois connections.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1470 - PARTIAL DIFFERNTL EQUATIONS 1

Minimum Credits: 3
Maximum Credits: 3
This is the first term of a two-term sequence in elementary PDE's. The objectives of the course are to provide students with the techniques necessary for the formulation and solution of problems involving PDE's and to prepare for further study in PDE's. The three main types of second order linear PDE's - parabolic, elliptic, and hyperbolic are studied. In addition the tools necessary for the solution of PDE's such as Fourier series and Laplace transforms are introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0240 and {[(MATH 0280 or MATH 1180 or MATH 1185) and (MATH 0290 or MATH 1270)] or MATH 0250}

MATH 1480 - PARTL DIFFERENTIAL EQUATIONS 2

Minimum Credits: 3
Maximum Credits: 3
This is the second term of a two term sequence in PDES. Topics include Fourier transform, maximum principles, and existence, uniqueness and regularity of solutions to PDES.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1510 - PROBABILITY

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the mathematical theory of probability. Major topics include random variables, expecation, characteristic functions, conditional probability, and an introduction to Martingales and Markov Chains.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0420

MATH 1530 - ADVANCED CALCULUS 1

Minimum Credits: 3
Maximum Credits: 3
This course contains a rigorous development of the calculus of functions of a single variable, including compactness on the real line, continuity, differentiability, integration, and the uniform convergence of sequences and series of functions. Other topics may be included, such as the notion of limits and continuity in metric spaces.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ:MATH 0420 or MATH 0450

MATH 1540 - ADVANCED CALCULUS 2

Minimum Credits: 3
Maximum Credits: 3
This course, a continuation of MATH 1530, covers the theory of limits, differentiation, and integration of functions of several variables.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 1530

MATH 1550 - VECTOR ANLYSIS & APPLICATIONS

Minimum Credits: 3
Maximum Credits: 3
Topics covered include: vector algebra, vector differentiation and integration, divergence, gradient, curl, the theorems of green, gauss and stokes, and curvilinear coordinate systems. There will be an emphasis upon problem solving and applications in electromagnetic theory and fluid flow.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0240 and (MATH 0250 or MATH 0280 or MATH 1180 or MATH 1185)

MATH 1560 - COMPLEX VARIABLES & APPLICATNS

Minimum Credits: 3
Maximum Credits: 3
This course covers the following topics: elementary operations with complex numbers, derivatives, integrals, Cauchy's theorem and consequences such as the integral formula, power series, residue theorem, applications to real integrals and series.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [MATH 0240 or MATH 0245 (MIN GRADE 'B') for both] or MATH 1550

MATH 1570 - FOURIER ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
The course is a rigorous introduction to Fourier series and integrals with applications to heat flow, wave motion, physics, and number theory. It is intended for students with a basic knowledge of real analysis including uniform convergence of sequences and series of functions. No knowledge of the Lebasque integral is assumed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (MATH 0420 or MATH 0450) AND (MATH 0280 or MATH 1180 or MATH 1185)

MATH 1651 - COMPUTER METHODS LABORATORY

Minimum Credits: 1
Maximum Credits: 1
This course will introduce students to the use of the computers in our undergraduate computing laboratory and to the numerical methods, symbolic algebra, and computer graphics which are helpful in the study of our upper level subjects in applied mathematics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1700 - INTRODUCTION TO TOPOLOGY

Minimum Credits: 3
Maximum Credits: 3

The topology of r1, as well as that of general metric spaces, will be studied. Basic notions will be applied to obtain the fundamental existence theorem for first order ordinary differential equations. The course will be run on a theorem proving and problem solving basis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0420 or MATH 0450

MATH 1800 - ADVANCED TOPICS IN MATHEMATICS
Minimum Credits: 3
Maximum Credits: 3
This course covers the mathematics content of the second ex am of the society of actuaries. Topics include interest theory, annuities, amortization, sinking funds, bonds, stocks, Markowitz portfolio theory, capital asset pricing model, efficient markets, option pricing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 1122

MATH 1801 - ADVANCED TOPICS IN MATHEMATICS
Minimum Credits: 3
Maximum Credits: 3
This is a topics course at the advanced undergraduate level. The topic will change each time the course is offered, and will generally reflect current interests of the faculty or a recent trend in mathematics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MATH 1900 - INTERNSHIP
Minimum Credits: 1
Maximum Credits: 3
Under faculty supervision the student participates in a mathematics related experience, project, or job.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

MATH 1902 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 3
Under the direction of a faculty member, a student studies a mutually agreed upon topic in mathematics.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

MATH 6000 - COLLG PREPARATORY MATHEMATICS
Minimum Credits: 1
Maximum Credits: 1
This course is intended to impart basic skills in arithmetic needed for college algebra. Topics include the arithmetic of integers and fractions, laws of exponents, and word problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Mechanical Engineering

ME 0022 - KINEMATICS OF MACHINERY
Minimum Credits: 3
Maximum Credits: 3
Fundamental theory of motion as applied to basic mechanisms. Analytical, computer, and graphical methods for determining displacements, velocities, and accelerations. Gears and gear trains are studied, and cams and linkages are synthesized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0240 or 0201 or 0241) and (ENGR 0131 or ENGR 0135 or ET 0051) and (ME 0024 or MEMS 0024 or ET 0035); PROG: School of Engineering

ME 0024 - INTRO TO MECHANCL ENGRG DESGN

Minimum Credits: 3
Maximum Credits: 3
Provides knowledge of design graphics and manufacturing processes by conventional and computer-aided methods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0011 or ENGR 0711 or ET 0011; PROG: School of Engineering

ME 0031 - ELECTRICAL CIRCUITS

Minimum Credits: 3
Maximum Credits: 3
The study of linear circuit networks including constitutive equations for circuit elements, Ohm's and Kirchhoff's laws, mesh and node equations Thevenin/Norton equivalents, max power transfer, transient and ac analyses and operational amplifiers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (PHYS 0175 or PHYS 0476 or PHYS 0202 or PHYS 0152); CREQ: (MATH 0290 or MATH 0202 or MATH 1271 or MATH 1035); PROG: School of Engineering

ME 0051 - INTRO THERMO-FLUIDS ENGINRING

Minimum Credits: 3
Maximum Credits: 3
Synthesis of the basic concepts from thermodynamics and fluids, including: properties of pure substances, first law analysis, and introduction to the second law; fluid statics, kinematics, stress, and viscosity; and control volume analysis of the conservation equations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (PHYS 0175 or PHYS 0476 or 0202 or 0152) and (CHEM 0960 or CHEM 0760 or CHEM 0710 or 0111 or CHEM 0110 or 0101); CREQ: MATH 0290 or 1271 or 0202 or 0135; PROG: School of Engineering

ME 1014 - DYNAMIC SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
Modeling and analysis of physical systems. Time and frequency domain analyses. Transient and steady-state system response to various excitations. Transfer function and state space model representations. Laplace and Fourier transforms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0290 or 1271 or 1035 or 0202) and (PHYS 0175 or PHYS 0476 or 0202 or 0152) and [ME 0031 or MEMS 0031 or ECE 0031 or (EET 0010 and 0110)]; PROG: Swanson School of Engineering

ME 1015 - KINETICS

Minimum Credits: 3
Maximum Credits: 3
Dynamics of rigid bodies including energy methods. Conservation of momentum problems of varying forces. And constraints relationship of motions to different reference frames and Euler's equations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ME 0022; PROG: Swanson School of Engineering

ME 1020 - MECHANICAL VIBRATIONS

Minimum Credits: 3
Maximum Credits: 3
Review of free and forced vibrations of single degree of freedom systems with and without damping multi degree of freedom systems vibration isolation nonlinear vibrations language's equations and vibrations of continuous systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ME 1014 or MEMS 1014; PROG: Swanson School of Engineering

ME 1028 - MECHANICAL DESIGN 1

Minimum Credits: 3
Maximum Credits: 3
Stress and deflection analysis. Survey of mechanical design criteria. Selection and applications of working stresses for ductile and brittle materials; static, fatigue, and impact loading and combination of stresses.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0141 or ENGR 0145 or (ET 0053 and 0054); PROG: Swanson School of Engineering

ME 1029 - MECHANICAL DESIGN 2

Minimum Credits: 3
Maximum Credits: 3
Includes analysis and design of various machine elements including shafts, bearings, gears, belts and chains, brakes and clutches, screws and springs. Emphasis is placed on design aspects and students demonstrate this in a term design project.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ME 0024 or MEMS 0024 or ET 0035) and (ME 1028 or MEMS 1028); PROG: Swanson School of Engineering

ME 1032 - AUTOMOTIVE FABRICATION

Minimum Credits: 3
Maximum Credits: 3
Metal cutting, welding, machining, cost analysis, cad, meeting specifications, report writing and oral presentations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ME 1033 - FRAC MECHC FOR PRODC DSGN/MFG

Minimum Credits: 3
Maximum Credits: 3
Failure of manufactured products in service, implications for design. Energy release rates, toughness, evaluation of experimental tests. Fracture mechanisms in different material systems. Damage tolerance. Fracture control. Design studies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ENGR 0022 or MET 1162) and (ME 1028 or MEMS 1028); PROG: Swanson School of Engineering

ME 1037 - MANUFCTRNG QUALITY ASSESSMNT

Minimum Credits: 3
Maximum Credits: 3
State-of-the-art methods for assessment of product quality prior to shipment, using both on- and off-line measurement techniques. Engineering aspects of the quality measurement process, system design strategies, and economic impact of quality measurement alternatives on manufacturing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ME 1038 - DESIGN FOR MFG AND PERFORMANCE

Minimum Credits: 3
Maximum Credits: 3
Manufacturing design process (independent of the final item that is being designed), design strategies, economic aspects of design/manufacturing alternatives, design synthesis; considerations in the minimization of total cost (development costs, production costs and life-cycle costs), methods of meeting goals (optimal design techniques, axiomatic design), and coupling of the design process, manufacturing process, and material properties.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ME 1041 - MECHANICAL MEASUREMENT 1

Minimum Credits: 3
Maximum Credits: 3
Fundamentals of mechanical measurement including steady state measurement but stressing dynamic signal inputs, detector-transducer elements, signal conditioning, and readout systems. Standards, instrument calibration, data treatment, error analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: [ENGR 0145 or ENGR 0141 or (ET 0053 and ET 0054)] and [ME 0031 or MEMS 0031 or ECE 0031 or (EET 0010 and EET 0110)]; CREQ: ME 1014 or MEMS 1014; PROG: School of Engineering

ME 1042 - MECHANICAL MEASUREMENTS 2

Minimum Credits: 3
Maximum Credits: 3
Theory, instrumentation, experimentation, and data analysis applied to mechanical systems, one of which requires written communications in the form of a technical report.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ME 1041 or MEMS 1041; PROG: Swanson School of Engineering

ME 1043 - MECHANICAL MEASUREMENTS 3

Minimum Credits: 3
Maximum Credits: 3
A major project involving literature research, planning, design, fabrication, experimentation, analysis, and technical report writing, is performed by a small team of students under the guidance of a faculty director and culminates in an oral presentation at a technical symposium.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ME 1045 - AUTOMATIC CONTROLS

Minimum Credits: 3
Maximum Credits: 3
Pneumatic control systems, classical control theory, modeling of mechanical system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ME 1014 or MEMS 1014); PROG: Swanson School of Engineering

ME 1047 - FINITE ELEMENT ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Fem applied to solid mechanics, fluid mechanics, and heat transfer.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ME 1028 or MEMS 1028) or (ME 1052 or MEMS 1052) and (ME 1072 or MEMS 1072); PROG: School of Engineering

ME 1049 - MECHATRONICS

Minimum Credits: 3
Maximum Credits: 3
Advanced microprocessor interfacing problems, digital control theory, a/d conversion, motors, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ME 1014 or MEMS 1014); PROG: Swanson School of Engineering

ME 1051 - APPLIED THERMODYNAMICS

Minimum Credits: 3
Maximum Credits: 3
Thermodynamic processes, energy and entropy changes in real and ideal gases, vapors, and liquids, and mixtures of those fluids. Basic thermodynamic cycles (vapor and gas power, refrigeration, and compressors). Introduction to chemical thermodynamics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ME 0051 or MEMS 0051 or (MET 1154 and MET 1110); PROG: School of Engineering

ME 1052 - HEAT TRANSFER

Minimum Credits: 3
Maximum Credits: 3
One- and two-dimensional steady and unsteady state conduction, empirical and practical relations for forced and natural convection. Principle of radiation using "radiation network" method. Heat exchangers and special topics.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: ME 0051 or MEMS 0051 or (MET 1110 or 1154); PROG: School of Engineering

ME 1055 - COMPUTR ANAL TRANSPRT PHENOMNA

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to implementation of some of the numerical/computational methods for solving problems in transport phenomena. Fluids described by linear and non-linear ordinary differential equations (initial and boundary value problems), and partial differential equations (elliptic, parabolic and hyperbolic) will be considered by means of various examples from fluid dynamics, heat and mass transfer and combustion. Numerical discretization techniques based on finite difference methods (FDM) will be the subject of main discussions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: [ENGR 0012 or ENGR 0712 or ENGR 0715 or ENGR 0718 or (ET 0023 and 0030)] and [(ME 0051 or MEMS 0051 or (MET 1110 and 1154)]; PROG: School of Engineering

ME 1057 - MICRO/NANO MANUFACTURING

Minimum Credits: 3
Maximum Credits: 3
This course explores knowledge of the different micro/Nano manufacturing options, familiarity with all material choices, and an understanding of a variety of applications. The goal of this course promotes students to gain an understanding of various micro/Nano fabrication techniques, to learn major applications and principles of micro/Nano system, and to develop their ability to design and fabricate new micro/Nano systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ME 1060 - NUMERCL METHD IN ENGRNG ANALYS

Minimum Credits: 3
Maximum Credits: 3
Introduction to numerical techniques for the solution of linear and nonlinear equations, numerical integration and differentiation, interpolation, ordinary and partial differential equations, and eigenvalue problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ME 1062 - ORTHOPAEDIC ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
This is an advanced course that applies mechanics of materials, material failure theories and rigid body dynamics to orthopedic device design, tissue mechanical modeling and surgical procedure evaluation. The course is meant to provide an introductory background to engineering aspects of orthopedic medicine and biomechanics for students preparing for medical school, positions in the medical device industry or graduate studies in this field.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: [ENGR 0141 or ENGR 0145 or (ET 0053 and ET 0054)] and (ME 1015 or MEMS 1015 or ET 0052); PROG: School of Engineering

ME 1064 - BIOMECH ORGANS, TIS & CELLS

Minimum Credits: 3
Maximum Credits: 3
This course will provide the first year bioengineering graduate students with introductory materials for general biomechanics. The student will be exposed to various interdisciplinary fields in biomechanics. The topics include orthopedic biomechanics, biomechanics of human movement, vascular biomechanics, cardio-pulmonary biomechanics, and biomechanics of biomaterials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

ME 1065 - THERMAL SYSTEMS ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
Design and analysis and optimization of thermal systems. Systems analysis applied to power conversion systems, air conditioning or refrigeration systems, and propulsion systems. Economics, equation fitting, and system simulation precede optimization. Optimization techniques include calculus

and search methods as well as dynamic, geometric, and linear programming.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ME 1052 or MEMS 1052) and (ME 1072 or MEMS 1072); ; PROG: Swanson School of Engineering

ME 1072 - APPLIED FLUID DYNAMICS

Minimum Credits: 3
Maximum Credits: 3
Viscous flow in ducts, fluid meters; boundary layer flows and fluid drag; inviscid incompressible flow; one dimensional compressible flow; isentropic flow through nozzles, normal shock and frictional effects; turbomachinery theory and performance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ME 0051 or MEMS 0051) or (MET 1110 and MET 1154); PROG: School of Engineering

ME 1085 - DEPARTMENTAL SEMINAR

Minimum Credits: 0
Maximum Credits: 0
Seminars are designed to acquaint the student with aspects of engineering not normally encountered in classes and include a wide range of topics such as the significance of engineering as a profession and the relation of engineering to current social problems.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

ME 1097 - SPECIAL PROJECTS

Minimum Credits: 1
Maximum Credits: 4
Investigation and research embodying testing, original design, or research on an approved subject; or, a special problem or reading course of individual study guided by an approved departmental faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

ME 1098 - SPECIAL PROJECTS 2

Minimum Credits: 3
Maximum Credits: 3
Investigation and research embodying testing, original design, or research on an approved subject; or a special problem or reading course of individual study guided by an approved departmental faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

MEMS 0022 - KINEMATICS OF MACHINERY

Minimum Credits: 3
Maximum Credits: 3
Fundamental theory of motion as applied to basic mechanisms. Analytical, computer, and graphical methods for determining displacements, velocities, and accelerations. Gears and gear trains are studied and cams and linkages are synthesized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MATH 0240 and ENGR 0135; PROG: School of Engineering

MEMS 0024 - INTRO MECHANICAL ENGR DESIGN

Minimum Credits: 3
Maximum Credits: 3
Fundamentals of the design process, basic techniques of graphic communication, and an introduction to the most common mechanical components and manufacturing processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0011 or ENGR 0015 or ENGR 0711 or ET 0011; PROG: School of Engineering

MEMS 0031 - ELECTRICAL CIRCUITS

Minimum Credits: 3
Maximum Credits: 3
Fundamental laws, principles, and analysis techniques for dc and ac linear circuits whose elements consist of passive and active components used in modern engineering practice, including the determination of steady-state and transient responses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (PHYS 0175 or PHYS 0476 or 0152 or 0202); CREQ: (MATH 0290 or 1271 or 1035 or 0202); PROG: School of Engineering

MEMS 0040 - MATERIALS AND MANUFACTURING

Minimum Credits: 3
Maximum Credits: 3
Manufacturing and processing of ceramics, semiconductors, metals, and polymers covering refining, product formation, and control of properties.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0022 or MET 1162; PROG: School of Engineering

MEMS 0051 - INTRODUCTION TO THERMODYNAMICS

Minimum Credits: 3
Maximum Credits: 3
Basic concepts and interlinking relationships of thermodynamics, fluid mechanics and heat transfer; fluid statics; system and control volumes; thermodynamic properties; work and heat; first law of thermodynamics for control mass and control volume; integral forms of conservation of mass and momentum.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (PHYS 0150 or PHYS 0174 or 0201 or PHYS 0475) and (CHEM 0101 or CHEM 0110 or 0111 or CHEM 0410 or CHEM 0710 or CHEM 0760 or CHEM 0960); PROG: School of Engineering

MEMS 0071 - INTRO TO FLUID MECHANICS

Minimum Credits: 3
Maximum Credits: 3
Fundamentals of fluid mechanics, with emphasis on inviscid and linearly viscous, incompressible fluids. Basic physical phenomena of fluid mechanics. Fluid kinematics. Governing equations (both integral and local forms). Exact solutions. Internal flows. Dimensional analysis and modeling.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (PHYS 0152 or PHYS 0175 or 0202 or PHYS 0476) and (CHEM 0102 or 0112 or CHEM 0120 or CHEM 0720 or CHEM 0770 or CHEM 0970); CREQ: MATH 0290; PLAN: Mechanical Engineering (BSE) PROG: Swanson School of Engineering

MEMS 1010 - EXPERIMENTAL METHODS IN MSE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0022 or MET 1162; PROG: School of Engineering

MEMS 1011 - STRUCTURE AND PROPERTIES LAB

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PREQ: MEMS 1010; PROG: School of Engineering

MEMS 1014 - DYNAMIC SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
Modeling and analysis of physical systems. Time- and frequency-domain analyses; transient and steady state system response to various excitations; transfer function and state space model representations; Laplace and Fourier transforms.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: [(ENGR 0012 or ENGR 0016) or (ET 0023 and 0030)] and (MEMS 0031 or ME 0031 or ECE 0031 or EET 0110) and (MATH 0280 or 0206 or MATH 1180 or 1181 or 1035); PROG: School of Engineering

MEMS 1015 - RIGID-BODY DYNAMICS

Minimum Credits: 3
Maximum Credits: 3
Dynamics of particles, systems of particles, and rigid bodies including energy and momentum methods, problems of varying forces and constraints, and relationship of motion to different reference frames.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MATH 0240 or 0241 or 0201) and (ENGR 0135 or ENGR 0131 or ET 0051); PROG: School of Engineering

MEMS 1020 - MECHANICAL VIBRATIONS

Minimum Credits: 3
Maximum Credits: 3
Review of free and forced vibrations of single-degree-of-freedom systems with and without damping, multi-degree of freedom systems, vibration isolation, nonlinear vibrations, LaGrange's equations, and vibration of continuous systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ME 1014 or MEMS 1014 or BIOENG 1255; PROG: School of Engineering

MEMS 1028 - MECHANICAL DESIGN I

Minimum Credits: 3
Maximum Credits: 3
Stress and deflection analysis; survey of mechanical design criteria; selection and applications of working stresses for ductile and brittle materials; static, fatigue, and impact loading and combination of stresses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0141 or ENGR 0145 or ET 0053 or BIOENG 1630; PROG: Undergraduate School of Engineering

MEMS 1029 - MECHANICAL DESIGN II

Minimum Credits: 3
Maximum Credits: 3
Analysis and design of machine elements, components, and mechanical systems. Machine elements include shafts, keys, bearings, gears, belts, chains, springs, screws, and motors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ME 0024 or MEMS 0024 or ET 0035) and (ME 1028 or MEMS 1028); PROG: School of Engineering

MEMS 1030 - MATERIAL SELECTION

Minimum Credits: 3
Maximum Credits: 3
Methodology for materials selection in mechanical design processes. Includes: (i) design process and consideration, (ii) criteria for materials and their shape selection, and (iii) design case study. Mechanical components have mass; they carry loads; they conduct heat and electricity; they are exposed to wear and to corrosive environments; they are made of one or more materials; they have shape; and they must be manufactured. This course provides knowledge on how these activities are related.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ENGR 0022 or MET 1162) and (ME 1028 or MEMS 1028); PROG: School of Engineering

MEMS 1032 - AUTOMOTIVE DSGN & FABRICATION

Minimum Credits: 3
Maximum Credits: 3
Covers the basics of automotive fabrication. Students working as one team have the opportunity to experience hands-on application of both classical and modern manufacturing techniques while adhering to a very strict externally imposed deadline. The team effort culminates in the production of a high-performance automobile.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

MEMS 1033 - FRACTURE MECHANICS
Minimum Credits: 3
Maximum Credits: 3
An introduction to the principles of fracture mechanics; the essential concepts underlying appropriate materials selection including the effects of shape selection for maximum performance; and the strengths and weaknesses inherent in the choice of, say, metals versus ceramics versus polymers, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ENGR 0022 or MET 1162) and (ME 1028 or MEMS 1028); PROG: School of Engineering

MEMS 1041 - MECHANICAL MEASUREMENTS 1
Minimum Credits: 3
Maximum Credits: 3
Fundamentals of mechanical measurements including steady-state and dynamic signals, detector-transducer elements, signal conditioning and readout systems, standards, instrument calibration, statistical treatment of data, error analysis, and technical report writing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ENGR 0141 or ENGR 0145 or ET 0053 or BIOENG 1630) and (ME 0031 or MEMS 0031 or ECE 0031 or EET 0110 or BIOENG 1310); CREQ: ME 1014 or MEMS 1014 or BIOENG 1255; PROG: School of Engineering

MEMS 1042 - MECHANICAL MEASUREMENTS 2
Minimum Credits: 3
Maximum Credits: 3
Builds on the foundation of mechanical measurements provided in MEMS 1041 to provide students with the ability to properly design and perform an experiment on a complex mechanical system in order to determine specific characteristics or performance of that system. Specific material includes extended knowledge of statistics and error analysis, computer-based data acquisition, and technical communications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ME 1041 or MEMS 1041); PROG: School of Engineering

MEMS 1043 - SENIOR DESIGN PROJECT
Minimum Credits: 3
Maximum Credits: 3
A major project involving literature search, planning, design, fabrication, experimentation, analysis, technical report, poster presentation, and presentation at a technical symposium is performed by a small team of students under the direction of a faculty advisor and corporate advisor on a project presented by the corporate advisor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: LVL: Sr; PROG: School of Engineering

MEMS 1045 - AUTOMATIC CONTROLS
Minimum Credits: 3
Maximum Credits: 3
Modeling of mechanical systems and classical feedback control theory for single-input-single-output systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ME 1014 or MEMS 1014 or BIOENG 1255); PROG: School of Engineering

MEMS 1047 - FINITE ELEMENT ANALYSIS
Minimum Credits: 3
Maximum Credits: 3
The finite element method applied in solid mechanics, fluid mechanics, and heat transfer.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MEMS 1028; PROG: School of Engineering

MEMS 1048 - ANAL CHRCTRZN AT NANO-SCALE
Minimum Credits: 3
Maximum Credits: 3

This course offers a survey of micro-analytical, microscopy and diffraction methods that are widely used for the analysis of composition, chemistry, structure, scale and morphology of advanced materials. It introduces the most basic concepts required to understand experimental data obtained with these modern techniques. The main objectives of the course are to enable students to interpret and evaluate relevant data sets presented in the research literature and to identify experimental tools to solve a given Nano-research characterization problem. Some prerequisite basic knowledge of the structure of solid matter (e.g. crystals and amorphous materials), diffraction methods (e.g. X-ray diffraction) and processing-property-structure relationships in materials is expected.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

MEMS 1049 - MECHATRONICS

Minimum Credits: 3
Maximum Credits: 3
An introduction to mechatronics, or the interfacing of mechanical and electrical systems. Focus is on embedded controllers (Motorola 68hc11 and pic 16f84) and their programming, power and interfacing electronics, actuators, sensors, and integration of these components to create a complete functional mechatronic system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ME 1014 or MEMS 1014); PROG: School of Engineering

MEMS 1051 - APPLIED THERMODYNAMICS

Minimum Credits: 3
Maximum Credits: 3
Thermodynamic processes involving energy and entropy changes in real and ideal gases, vapors, and liquids, and mixtures of those fluids. Basic thermodynamic cycles (vapor and gas power, refrigeration, and heat pumps). Discussion of thermodynamic relations for simple compressible substances and introduction to psychometrics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ME 0051 or MEMS 0051 or MET 1110 or BIOENG 1210; PROG: School of Engineering

MEMS 1052 - HEAT AND MASS TRANSFER

Minimum Credits: 3
Maximum Credits: 3
One- and two-dimensional steady and unsteady heat conduction; internal and external forced convection; free convection; engineering principle of radiation; heat exchangers and special topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ME 0051 or MEMS 0051 or BIOENG 1210 or MET 1110; PROG: School of Engineering

MEMS 1053 - STRUCT OF CRYSTALS & DIFFRCTN

Minimum Credits: 3
Maximum Credits: 3
Crystallography of materials; bravais lattices, crystal systems, and crystal structures. Diffraction methods; x-ray, electron, and neutron scattering; atomic scattering factor; structure factor; powder techniques; laue method; reciprocal lattice; electron diffraction; amorphous materials; thermodynamics of crystals and crystal defects; polymorphism; order-disorder phenomena.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (ENGR 0022 or MET 1162); LVL: Jr or Sr; PROG: Swanson School of Engineering

MEMS 1054 - MATERIALS SCIENCE I

Minimum Credits: 3
Maximum Credits: 3
Crystallography of materials; bravais lattices, crystal systems, and crystal structures. Diffraction methods; x-ray, electron, and neutron scattering; atomic scattering factor; structure factor; powder techniques; Laue method; reciprocal lattice; electron diffraction; amorphous materials; thermodynamics of crystals and crystal defects; polymorphism; order-disorder phenomena.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0022 or MET 1162; PROG: School of Engineering

MEMS 1055 - CMPTR ANAL TRANSPORT PHENOMENA

Minimum Credits: 3
Maximum Credits: 3
An introduction to some of the numerical/computational methods for solving problems in transport phenomena.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: [ENGR 0012 or ENGR 0712 or ENGR 0715 or ENGR 0718 or (ET 0023 and 0030)] and (ME 0051 or MEMS 0051 or MET 1110 or BIOENG 1210); PROG: School of Engineering

MEMS 1056 - ENERGETICS

Minimum Credits: 3
Maximum Credits: 3
Thermodynamics of solutions with applications to materials systems; heterogeneous phase equilibria; relations between free energy and phase diagrams; electrochemistry; rate processes; thermodynamics of surfaces.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ENGR 0022 or MET 1162) and (ME 0051 or MEMS 0051 or MET 1110 or BIOENG 1210); PROG: School of Engineering

MEMS 1057 - MICRO/NANO MANUFACTURING

Minimum Credits: 3
Maximum Credits: 3
Explores different micro/nano manufacturing options, material choices, and a variety of applications. The goal is to gain an understanding of various micro/nano fabrication techniques, learn major applications and principles of micro/nano systems, and develop an ability to design and fabricate new micro/nano systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

MEMS 1058 - ELECTROMAGNETIC PROPS MATRLS

Minimum Credits: 3
Maximum Credits: 3
Review of basic principles: quantum theory, band and zone theory. Transport, electrical, and thermal properties; semiconductors and semiconductor devices; magnetic materials, hard and soft; dielectric and optical properties.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ENGR 0022 or MET 1162; PROG: School of Engineering

MEMS 1059 - PHASE EQUILIBRIA IN MATERIALS`

Minimum Credits: 3
Maximum Credits: 3
Thermodynamics of solutions with applications to materials systems; heterogeneous phase equilibria; relations between free energy and phase diagrams, electrochemistry; rate processes; thermodynamics of surfaces.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (ENGR 0022 or MET 1162) and (ME 0051 or MEMS 0051 or MET 1110 or BIOENG 1210); LVL: Jr or Sr; PROG: Swanson School of Engineering

MEMS 1060 - NUMERICAL METHODS ENGR ANAL

Minimum Credits: 3
Maximum Credits: 3
Introduction to numerical techniques for the solution of linear and nonlinear equations, numerical integration and differentiation, interpolation, ordinary and partial differential equations, and eigenvalue problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

MEMS 1062 - ORTHOPEDIC ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
An advanced course that applies mechanics of materials, material failure theories, and rigid-body dynamics to orthopedic device design, tissue

mechanical modeling, and surgical procedure evaluation. Meant to provide an introductory background to engineering aspects of orthopedic medicine and biomechanics for students preparing for medical school, positions in the medical device industry, or graduate studies in this field.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

MEMS 1063 - PHASE TRANSFRMTN AND EVOLUTION

Minimum Credits: 3
Maximum Credits: 3
Phase equilibria; binary and ternary system; phase rule; thermodynamics and phase diagrams; diffusion in materials; phase transformations; nucleation and growth kinetics; precipitation reactions; solidification; glass-forming systems; phase separation; displacive or martensitic transformations; microstructural development in metallic and non-metallic systems; electron theory of solids; zone theory; electrical and magnetic properties of materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: MEMS 1053 and MEMS 1059; LVL: Jr or Sr; PROG: Swanson School of Engineering (UENGR)

MEMS 1064 - MATERIALS SCIENCE II

Minimum Credits: 3
Maximum Credits: 3
Phase equilibria; binary and ternary system; phase rule; thermodynamics and phase diagrams; diffusion in materials; phase transformations; nucleation and growth kinetics; precipitation reactions; solidification; glass-forming systems; phase separation; displacive or martensitic transformations; microstructural development in metallic and non-metallic systems; electron theory of solids; zone theory; electrical and magnetic properties of materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MSE 1054 or MEMS 1054) and (MSE 1056 or MEMS 1056); PROG: School of Engineering

MEMS 1065 - THERMAL SYSTEMS DESIGN

Minimum Credits: 3
Maximum Credits: 3
Design, analysis, and optimization of thermal systems. Systems analysis applied to heat exchanger, power conversion, air conditioning, refrigeration, and heat recovery systems. Economics, equation fitting, and thermal property evaluation is integrated into the simulation and optimization of thermal system designs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MEMS 1051 and MEMS 1052 and MEMS 0071; PROG: School of Engineering

MEMS 1070 - MECHL BEHAVIOR OF MATERIALS

Minimum Credits: 3
Maximum Credits: 3
Theory of elasticity, stress, strain, constitutive equations, isotropic and anisotropic elasticity, wave propagation in brittle solids, time dependent deformation, viscoelasticity, vibrations, damping, anelasticity, creep, design of creep resistant microstructures, deformation of polymers, physics of fracture, fracture mechanisms, brittle fracture, ductile fracture, design of fracture-resistant microstructures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: (ENGR 0022 or MET 1162) and (ENGR 0022 or ENGR 0145 or ET 0053); PROG:

MEMS 1071 - APPLIED FLUID MECHANICS

Minimum Credits: 3
Maximum Credits: 3
Basic principles of computational fluid dynamics (CFD). Hands-on experience using a commercial CFD package. Students will us this tool to solve a design problem. External flows with particular emphasis on aerodynamics. Fluid machinery. Experimental fluid mechanics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MEMS 0071 or MEMS 1072; PROG: Swanson School of Engineering

MEMS 1072 - APPLIED FLUID DYNAMICS

Minimum Credits: 3
Maximum Credits: 3

Kinematics of fluids; navier-stokes equations; flow of incompressible, inviscid fluids; dimensional analysis and similarity; internal flows in pipes; boundary layer theory; and external flow past bodies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: ME 0051 or MEMS 0051 or BIOENG 1210 or MET 1110; PROG: School of Engineering

MEMS 1079 - SR MATERIALS RESEARCH PROJECT

Minimum Credits: 3
Maximum Credits: 3
A major project involving literature search, planning, experimentation, analysis, an oral presentation, and a final technical report. The project is either sponsored by the department or a local company and is conducted by an individual or a small team of students with a faculty adviser.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

MEMS 1082 - ELCTRMECHL SENSORS & ACTUATORS

Minimum Credits: 3
Maximum Credits: 3
The objective of this course is to provide a thorough understanding of the various mechanisms that can be exploited in the design of electromechanically sensors and actuators. These transduction mechanisms include: 1) transduction based on changes; in the energy stored in the electric field, 2) in the energy stored in the magnetic field, 3) piezoelectricity and pyroelectricity, 4) linear inductive transduction mechanisms, and 5) resistive transduction mechanisms. Will discuss various transduction materials, sensors and actuators from a wide range of applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

MEMS 1085 - DEPARTMENTAL SEMINAR

Minimum Credits: 0
Maximum Credits: 0
Seminars are designed to acquaint the student with aspects of engineering not normally encountered in classes and include a wide range of topics such as the significance of engineering as a profession and the relation of engineering to current social problems.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: PROG: Swanson School of Engineering

MEMS 1097 - SPECIAL PROJECTS

Minimum Credits: 1
Maximum Credits: 3
Investigation and research embodying testing, original design, or research on an approved subject; or an individual course of study guided by an approved departmental faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

MEMS 1098 - SPECIAL PROJECTS II

Minimum Credits: 1
Maximum Credits: 3
Investigation and research embodying testing, original design, or research on an approved subject; or an individual course of study guided by an approved departmental faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

MEMS 1101 - FERROUS PHYSICAL METALLURGY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (ENGR 0022 or MET 1162) and (ME 0051 or MEMS 0051 or BIOENG 1210 or MET 1110) and MEMS 1010; PROG: Undergraduate Engineering

MEMS 1102 - PRIN APPLCS STEEL ALLOY DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course will present the students with a discussion of the properties that are required of engineering alloys for a given commercial application. The alloy design, thermomechanical processing and required package of mechanical properties for plate, strip, bar, rod, wire and tubular products will be reviewed. These include: strenth, toughness, formability, weldability, fatigue resistance and corrosion/oxidation resistance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MEMS 1101; PROG: Swanson School of Engineering

MEMS 1103 - PRIN APPLCS STEEL PROCNG DSGN

Minimum Credits: 3
Maximum Credits: 3
This course will present case studies of actual components used in commercial applications in the automotive, construction, oil and gas, and nuclear industries. This course will guide the student from the alloy selection, microstructural processing, and mechanical properties to the final fabrication steps.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MEMS 1102; PROG: Swanson School of Engineering

MEMS 1111 - MATLS ENERGY GENRT & STORAGE

Minimum Credits: 3
Maximum Credits: 3
The objective of this course is to provide an overview of the important renewable energy resources and the modern technologies to harness and store them. After taking MEMS 1111, students are expected to develop a solid scientific and technological understanding of new alternative energy technologies. This course will give an overview on harnessing renewable energy resources and storing collected energy. In each topic, issues relevant to basic principles and technological barriers limiting the use of non-fossil energy will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

MEMS 1162 - CMP APPLCS IN MATLS SCI ENGR

Minimum Credits: 3
Maximum Credits: 3
Applications of computer programming, computer software, and databases for materials science and engineering. Students will first apply computing and statistics fundamentals to solve materials science and engineering problems. Review recently developed software packages such as those of diffraction, thermodynamics, electronic materials, etc. The students will also learn about the techniques for using computerized databases for obtaining information on engineered materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (MSE 1052 or MEMS 1052) and (MSE 1054 or MEMS 1054) and (MSE 1056 or MEMS 1056); PROG: School of Engineering

MEMS 1163 - CERAMIC MATERIALS

Minimum Credits: 3
Maximum Credits: 3
Structure of ceramics and glasses. Microstructures and their development. Properties, processing, and applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: ENGR 0020 or IE 1070; PLAN: Industrial Engineering

MEMS 1172 - PHYSICAL METALLURGY

Minimum Credits: 3
Maximum Credits: 3
Concepts introduced in materials science i, energetics and materials processing are used to provide an understanding of the development of structure in metals and alloys, and the dependence of properties on structure. Specific topics include dislocations and slip phenomena; twinning; the nature of the cold-worked state; annealing-recovery, recrystallization, and grain growth; textures; grain boundaries and other interfaces; and strengthening mechanisms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MSE 1054 or MEMS 1054; CREQ: MSE 1064 or MEMS 1064; PROG: School of Engineering

MEMS 1174 - CERAMIC PROCESSING
Minimum Credits: 3
Maximum Credits: 3
Raw materials, powder, preparation, characterization of powders; forming processes: powder pressing, slipcasting, plastic forming; drying and firing, sintering, and vitrification; special processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MSE 1163 or MEMS 1163; PROG: School of Engineering

MEMS 1180 - ADV MECHL BEHAVIOR OF MATLS
Minimum Credits: 3
Maximum Credits: 3
Fracture mechanics, design of tough microstructures, fatigue behavior, s-n curves, role of surface condition, statistical approach, strain-life curves, high cycle fatigue, low cycle fatigue, design of fatigue resistant microstructures, creep of materials, processing and properties of composite materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MSE 1070 or MEMS 1070; PROG: School of Engineering

MEMS 1477 - THIN FILM PROCESSES
Minimum Credits: 3
Maximum Credits: 3
This course will be an overview of the major thin film processing methods and the primary techniques to characterize thin film surfaces and interfaces. Topics to be included: vacuum science and technology, thin-film deposition techniques, such as pvd, mbe, cvd and the fundamental surface processes of epitaxial growth. The analytical techniques will be presented, e.g. electron microscopy, AES, XPS, AFM and STM.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: Swanson School of Engineering

Medieval & Renaissance Studies

MRST 0070 - MEDIEVAL ARTISTIC PATRONAGE
Minimum Credits: 3
Maximum Credits: 3
This is a survey of medieval art focusing on the major ecclesiastical and secular patrons of the period. The works of art and architecture are studied in relation to contemporary writings - chronicles, inventories, descriptions that provide documentary evidence for their creation and appreciation. Specific patrons include Justinian, Charlemagne, the Cluniac order, Henry the lion, Jean de Berry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MRST 1001 - MEDIEVAL WORLD
Minimum Credits: 3
Maximum Credits: 3
Subject: cultural, intellectual, and political activity in the European middle ages. The course concentrates on a few significant aspects of the medieval world, taking them as centers from which to explore interrelated phenomena; a court, a cathedral, the crusades, the divine comedy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MRST 1002 - INTRO TO THE RENAISSANCE
Minimum Credits: 3
Maximum Credits: 3
The idea of the Renaissance is central to Western culture. Many of our values and tastes devolve from--or consciously react against--patterns that were established or reinterpreted five hundred years ago. The student who explores the renaissance, therefore, gains hold of one of the keys of Western civilization. He or she also acquires practice in critical reading, discussion, and the written expression of ideas.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MRST 1010 - MAN & COSMOS IN RENAISSANCE
Minimum Credits: 3
Maximum Credits: 3

An exploration of the intellectual and scientific activity of the European Renaissance and its influence in shaping modern man and the discoveries of modern science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MRST 1011 - MEDIEVL NARRATV EPIC & ROMANCE

Minimum Credits: 3
Maximum Credits: 3
The course spans several centuries and takes up works com posed in Iceland, England, France, Germany, and Spain. The epics and Romances composed about Beowulf, Charlemagne, Arthurtristan and Isolde, first transmitted orally and then in writing, were expressions of their time but have outlived it. This course investigates not only what the epic and Romance genres are and how they differ, but also how they came into being, what concerns and inspiration they embodied, and how they survived the specific cultures in which they were created and became part of world literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MRST 1019 - THE MIDDLE AGES: A LIVNG LEGCY

Minimum Credits: 4
Maximum Credits: 4
The course has a double objective. It examines some outstanding achievements and achievers of the European middle ages, particularly in the arts and sciences, ideas and institutions. It also scrutinizes connections between this period and our own, to demonstrate how firmly 20th-century American culture is rooted in pre-modern Western and Eastern Europe. Foci are the University, the liberal arts, Romanesque and gothic architecture, the rise of cities and the middle class, Greek and Roman Christianity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MRST 1022 - MEDIEVAL LATIN

Minimum Credits: 3
Maximum Credits: 3
This course is a comprehensive, intensive introduction to the grammatical forms and syntax of medieval Latin. Medieval Latin means primarily the ecclesiastical Latin used roughly from the time of Jerome (c.340-420) And Ambrose (340-397), through the lifetime of Dante Alighieri (1265 1321). Selected readings serve to introduce the student to general topics of interest in medieval culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MRST 1052 - ARTHURIAN LEGEND & CULT CHANGE

Minimum Credits: 3
Maximum Credits: 3
The subject is the chief myth of the British isles, and one of the dominant ones on the continent, for many centuries; the story of Arthur's victories, his unifying and civilizing influence, his defeat and his disappearance. The aim of the course is to examine the circumstances that gave rise to this story, to account for its powerful attraction over some 1500 years, to note its evolution in a changing social and political ambiance, and to attempt to grasp how it was shaped and re-shaped by new modes of thought and feeling.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MRST 1076 - PALAEOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the history of hand writing in the West from antiquity through the sixteenth century and a practical introduction to reading the scripts of the period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MRST 1200 - SPECIAL TOPICS-MEDIEVAL

Minimum Credits: 3
Maximum Credits: 3
Special topics in medieval art history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Mgmt Information Systems

BUSMIS 1614 - SPECIAL TOPICS IN BIS
Minimum Credits: 3
Maximum Credits: 3
A variety of management information systems topics are addressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting(BSB),Finance(BSB),General Management(BSB),Global Management(BSBA),Marketing(BSB), Business Information Systems(BSB), Human Resources Management,Human Resources Management(BSB),Supply Chain Management(BSB) and undeclared CBA Majors

Microbiology

ORBIOL 0031 - MICROBIOLOGY 1
Minimum Credits: 4
Maximum Credits: 4
This is an introductory course in microbiology designed for nursing students with no previous microbiology background. Three major areas included are the microorganisms, the immune mechanisms of the host, and the interaction of the host and the microorganisms in the disease process and in homeostasis. This course includes a laboratory series which is coordinated with the lecture content. Major emphasis is placed on infectious diseases and infection control at the nursing level.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

ORBIOL 0032 - MICROBIOLOGY 1 LABORATORY
Minimum Credits: 0
Maximum Credits: 0
Content is devoted to the development of student's basic laboratory skills, application of microbiological methods and will emphasize performance, scientific investigation, and safety.
Academic Career: UGRD
Course Component: Practicum
Grade Component: No Grade Required
Course Requirements: School of Nursing students only.

ORBIOL 0033 - MICROBIOLOGY 1 LABORATORY
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

ORBIOL 1020 - PRINCIPLES OF MICROBIOLOGY
Minimum Credits: 4
Maximum Credits: 4
An introductory course in microbiology for dental hygiene students with no previous background in microbiology. Major areas included are microorganisms, immune mechanisms of the host and the interaction of the host and the microorganisms in disease and homeostasis. Major emphasis is placed on diseases with oral manifestations and infection control in dental medicine. The laboratory component is devoted to microbiological methods, infection control and oral ecology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

ORBIOL 1025 - INTRODUCTION TO MICROBIOLOGY
Minimum Credits: 3
Maximum Credits: 3
An overview of medical microbiology introduces the student to medically important bacteria, fungi, viruses, parasites and to immunity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Military Science & Tact

MILS 0011 - INTRO TO MILITARY LEADERSHIP

Minimum Credits: 1
Maximum Credits: 1
MILS 0011 is offered during the fall term. This freshman course is an introduction to army ROTC. Course instruction includes survival techniques, first aid, wear of the military uniform and organization, role and branches of the U.S. Army.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MILS 0012 - ADAPTIVE LEADERSHIP

Minimum Credits: 1
Maximum Credits: 1
MILS 0012 is offered during the spring term. This freshman course is an introduction to army ROTC. Course instruction includes leadership and management, drill and ceremonies, land navigation, basic, pistol/rifle marksmanship and organization and role of the U.S. Army reserve and national guard units.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MILS 0021 - LEADERSHP DYNAMCS & APPLICATNS

Minimum Credits: 1
Maximum Credits: 1
MILS 0021 is offered during the fall term. This sophomore course is an introduction to army ROTC. Course instruction includes the total army concept, army rank and structure, leadership and management, land navigation and drill and ceremonies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MILS 0022 - ARMY TEAM DEVELOPMENT

Minimum Credits: 1
Maximum Credits: 1
MILS 0022 is offered during the spring term. This sophomore course is an introduction to army ROTC. Course instruction includes group communication, decision making and problem solving techniques, military history, leadership and management and land navigation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MILS 1031 - BASC LEADER PLN & COMBAT OPRTN

Minimum Credits: 1
Maximum Credits: 1
MILS 1031 is offered during the fall term. This junior course prepares the Army ROTC student for commissioning into the U.S. Army as a second lieutenant. Course instruction is coupled with practical exercises in tactical and technical military subjects with particular emphasis on leadership development, problem solving and decision making.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MILS 1032 - APPLIED LEADERSHIP

Minimum Credits: 1
Maximum Credits: 1
MILS 1032 is offered during the spring term. This junior course prepares the Army ROTC student for commissioning into the U.S. Army as a second lieutenant. Course instruction is coupled with practical exercises in tactical and technical military subjects with particular emphasis on leadership development, problem solving and decision making.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MILS 1041 - PROGRESV LDRS THRY & APPLICATN

Minimum Credits: 1
Maximum Credits: 1
MILS 1041 is offered during the fall term. This senior course continues to prepare the Army ROTC student for commissioning into the U.S. Army as a second lieutenant. Course instruction emphasizes leadership, army operations and procedures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MILS 1042 - COMPANY GRADE LEADERSHIP

Minimum Credits: 1
Maximum Credits: 1
MILS 1042 is offered during the spring term. This senior course continues to prepare the Army ROTC student for commissioning into the U.S. Army as a second lieutenant. Course instruction emphasizes military justice and professional ethics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MILS 1052 - LEADERSHIP LAB
Minimum Credits: 0
Maximum Credits: 0
All four levels of military science students are required to attend this practicum, which emphasizes the skills acquired in the classroom to complete the learning process. The labs will take place once per month or a minimum of three times per semester. Skills will include basic rappelling, basic rifle marksmanship and orienteering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

MILS 1509 - LEADERSHIP LAB
Minimum Credits: 0
Maximum Credits: 0
All four levels of military science students are required to attend this practicum, which emphasizes the skills acquired in the classroom to complete the learning process. The labs will take place once per month or a minimum of three times per semester. Skills will include basic rappelling, basic rifle marksmanship and orienteering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

Music

MUSIC 0100 - FUNDAMENTALS OF WESTERN MUSIC
Minimum Credits: 3
Maximum Credits: 3
A prerequisite for the music major curriculum, this course trains the student to recognize intervals, modes, and harmonic motion, and provides the critical keyboard skills needed to comprehend the roles of melody and harmony in European-American music. The course will emphasize keyboard-based training as a preparation for further study in music.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 0115 - THE ALEXANDER TECHNIQUE
Minimum Credits: 1
Maximum Credits: 1
An elective, this course teaches musicians, actors, and other kinetic performers how posture and body awareness impact their health. Students will learn how to take conscious control of their movements during activities so their performances will be fluid, natural, poised and expressive to their fullest potential. The course will improve the quality of performance, daily routines, and study habit positions, and prevent repetitive movement through conscious release of the muscles in the upper body.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 0121 - BASC MUSICIANSHIP: CLASS PIANO
Minimum Credits: 3
Maximum Credits: 3
This course in basic musicianship provides non-music majors with keyboard skills while introducing them to basics of music theory. Course content includes scales, intervals, chords, and simple analysis. The course prepares students to transpose and sight read. Students will also be expected to take melodic dictation. Electronic pianos are used in class and are available for daily practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0122 - BASC MUSICIANSHIP: CLSS GUITAR
Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide non-music majors with an introduction to the techniques of classical, folk, rock, and jazz guitar. While the emphasis is on playing skills, the course also introduces many aspects of music theory and notation.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0123 - BASC MUSICIANSHIP: CLASS VOICE

Minimum Credits: 3
Maximum Credits: 3
This course is designed for non-voice majors who want to develop their singing and sight-reading skills. It provides an introduction to posture, breathing, tone production, diction, and interpretation, while introducing students to the elements of music theory and notation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0211 - INTRO TO WESTERN ART MUSIC

Minimum Credits: 3
Maximum Credits: 3
This class will examine the history, culture, and practice of '"classical"' music. We will explore the technical workings of music and learn what to listen for in a wide variety of musical styles. We will also discuss the values and meanings of music in different social and political contexts. No prior knowledge of music is necessary and there is no requirement to read music to succeed in the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0222 - HISTRY OF WESTERN MUSC TO 1750

Minimum Credits: 3
Maximum Credits: 3
A study of selected master works or Western art music in a historical context from Gregorian chant through Johann Sebastian Bach. Emphasis is on musical understanding through critical listening, score study, and lectures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0415

MUSIC 0224 - HISTRY OF WEST MUSC SINCE 1750

Minimum Credits: 3
Maximum Credits: 3
This course traces the history of musical style from the late eighteenth century to the present, through a close study of representative works, in the context of leading artistic and intellectual trends.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0415

MUSIC 0232 - HISTORY OF OPERA

Minimum Credits: 3
Maximum Credits: 3
The course introduces students to the history and literature of opera, from its precursors in late Renaissance Italy to the present day. Emphasis is on changing styles, genre, and performance practice, as well as on developing listening skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0234 - HISTORY OF THE SYMPHONY

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the development of the symphony from its origins to the present. Students study individual symphonic compositions from both historical and analytical viewpoints. Topics covered include changes in instrumentation, harmony, formal design, as well as the changing place of the genre in concert life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0242 - MAJOR COMPOSER

Minimum Credits: 3
Maximum Credits: 3
This course examines the life and works of a major figure in Western art music. The content of the course changes, but it emphasizes music in its

historical and cultural contexts, as well as individual genres and styles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0252 - CLASSICAL FORMS AND STYLE

Minimum Credits: 3
Maximum Credits: 3
The focus of the course changes. Topics might include baroque ornamentation, orchestral performance traditions of the 17th and 18th centuries, or performance practices in Renaissance music.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0311 - INTRODUCTION TO WORLD MUSIC

Minimum Credits: 3
Maximum Credits: 3
This introductory course deals with a great variety of traditional musical genres from selected cultures around the world. It aims to familiarize students with music sound and music structure of different people, to help them appreciate music in its cultural context, and to give them a broad worldview of music both as a human activity with social functions and as an artistic expression. Generous use will be made of audio-visual aids and live performances in the presentation of materials.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0354 - CHINESE PERFORMANCE LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Students will read Chinese opera scripts, texts of narrative songs, and texts of folksongs. All readings will be in English translations, except for advanced or native-speaker students who may read them in Chinese. Students will then view performances of some works. Through visits of invited performers, students will learn some basic performance techniques themselves. By reading, hearing, and viewing these works, students will gain a unique perspective on Chinese culture and society at both the elite and popular levels.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0411 - THEORY 1

Minimum Credits: 3
Maximum Credits: 3
This course introduces the principles and practice of diatonic harmony and voice leading, through a study of works by leading composers of the 18th and 19th centuries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0100 or Music Theory Score equal/greater 27

MUSIC 0412 - MUSICIANSHIP 1

Minimum Credits: 1
Maximum Credits: 1
This course provides a disciplined environment in which to develop sightsinging skills and overall musicianship. Activities include sightsinging (moveable do sol feggio), melodic dictation, rhythmic dictation, and coordination exercises.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 0415 - THEORY 2

Minimum Credits: 3
Maximum Credits: 3
This course introduces the principles and practice of diatonic harmony and voice leading, through a study of works by leading composers of the 18th and 19th centuries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0411

MUSIC 0416 - MUSICIANSHIP 2

Minimum Credits: 1
Maximum Credits: 1
This course provides a disciplined environment in which to develop sightsinging skills and overall musicianship. Activities include sightsinging (moveable do sol feggio), melodic dictation, rhythmic dictation, and coordination exercises.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0412

MUSIC 0417 - THEORY 3

Minimum Credits: 3
Maximum Credits: 3
This course introduces the principles and practice of chromatic harmony and voice leading, through a study of works by leading composers of the 18th and 19th centuries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0415

MUSIC 0418 - MUSICIANSHIP 3

Minimum Credits: 1
Maximum Credits: 1
This course provides a disciplined environment in which to develop sight singing skills and overall musicianship. Activities include sight singing (moveable do sol feggio), melodic dictation, rhythmic dictation, and coordination exercises.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0416

MUSIC 0419 - THEORY 4

Minimum Credits: 3
Maximum Credits: 3
The emphasis of this course will be the analysis of contemporary music from around the world. A member of the composition/theory faculty will teach the course. In addition, ethnomusicology faculty will lead class sessions on a variety of conceptual approaches to music-making and the organization of sound throughout the world. This approach to music theory aims to benefit from the knowledge and experience of the broader music faculty. The first half of the semester will focus on developing the analytic techniques necessary for a careful investigation of a particular musical component (melody, rhythm, harmony, form, and so on). In the second half of the semester, students will focus on close analyses of particular pieces of music, with attention to the cultural context and aesthetic values that define individual works.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0417

MUSIC 0420 - MUSICIANSHIP 4

Minimum Credits: 1
Maximum Credits: 1
This course provides a disciplined environment in which to develop sight singing skills and overall musicianship. Activities include sight singing (moveable do sol feggio), melodic dictation, rhythmic dictation, and coordination exercises.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0418

MUSIC 0510 - VOICE-JAZZ

Minimum Credits: 1
Maximum Credits: 1
This course is designed to teach jazz vocal style and improvisation in an individualized setting. Students will learn the basics of jazz voice production through technical exercises at the keyboard. Jazz terminology will be introduced and students will internalize jazz rhythms and articulations. The course provides for active listening with an emphasis on sight singing and ear training. Students will explore scale pattern and modes as elements of improvisation. They will express such technique through call-and-response and the embellishment of standard jazz tunes.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0510

MUSIC 0511 - VOICE

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in vocal techniques and literature. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0511

MUSIC 0512 - PIANO

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the piano. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0512

MUSIC 0513 - ORGAN

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the organ. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0513

MUSIC 0514 - HARPSICHORD

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the harpsichord. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

MUSIC 0515 - VIOLIN

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the violin. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

MUSIC 0516 - VIOLA

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the viola. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

MUSIC 0517 - VIOLONCELLO

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the violoncello. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0517

MUSIC 0518 - DOUBLE BASS / BASS GUITAR

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the double bass. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0518

MUSIC 0519 - FLUTE

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the flute. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0519

MUSIC 0520 - OBOE

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the oboe. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0520

MUSIC 0521 - CLARINET

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the clarinet. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0521

MUSIC 0522 - SAXOPHONE

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the saxophone. Students receive instruction in both jazz and classical techniques. One hour private lesson per week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0522

MUSIC 0523 - FRENCH HORN

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the French horn. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0523

MUSIC 0524 - TRUMPET

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the trumpet. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies

Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0524

MUSIC 0525 - BASSOON

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the bassoon. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0525

MUSIC 0526 - TROMBONE

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the trombone. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0526

MUSIC 0527 - PERCUSSION

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of percussion. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0527

MUSIC 0528 - JAZZ-STUDIO SET DRUMMING

Minimum Credits: 1
Maximum Credits: 1
Course will consist of the following styles of music technique for students to become qualified professionals in the entertainment industry. The music styles for the course will be: jazz, pop, big band, and recording session technique. These styles will also be enhanced with training in ear development, sight reading, and improvisational class demonstrations.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0528

MUSIC 0529 - GUITAR

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the guitar. Students receive a one hour private lesson each week. May be repeated for additional credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

MUSIC 0530 - JAZZ GUITAR

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of the jazz guitar. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 0530

MUSIC 0533 - JAZZ PIANO

Minimum Credits: 1
Maximum Credits: 1

This course is designed to teach jazz piano and improvisation in an individualized setting. Students will learn the basics of jazz piano through technical exercises at the keyboard. Students will explore scale pattern and modes as elements of improvisation.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0533

MUSIC 0540 - NON-WESTERN INSTRUMENTS

Minimum Credits: 1
Maximum Credits: 1
This course provides instruction in the techniques and literature of non-Western instruments. Students receive a one hour private lesson each week. May be repeated for credit.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

MUSIC 0550 - OTHER INSTRUMENTS

Minimum Credits: 1
Maximum Credits: 1
Carpathian music ensemble introduces students to Hungarian, Slovak, Romanian, polish, Ukrainian, gypsy, and Jewish musical traditions. Through weekly rehearsals, students learn musical styles, improvisation techniques, and performance practices with regard to diverse yet mutually interconnected music genres.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

MUSIC 0611 - COLLEGIATE CHORALE

Minimum Credits: 1
Maximum Credits: 1
Open to students, faculty, staff, and community. The study and performance of traditional and contemporary choral works.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

MUSIC 0612 - HEINZ CHAPEL CHOIR

Minimum Credits: 1
Maximum Credits: 1
An acapella choir singing a wide range of choral music. Regular performances on campus and on annual tour.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0612

MUSIC 0613 - UNIVERSITY GLEE CLUB

Minimum Credits: 1
Maximum Credits: 1
An ensemble of men's voices that performs on campus and on tour. Repertoire ranges from traditional glee club numbers, through broadway hits, to works from the classical literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0613

MUSIC 0614 - WOMEN'S CHORALE

Minimum Credits: 1
Maximum Credits: 1
Performs treble choral music from the 16th century to today. Members receive instruction in vocal technique and sight singing skills. Emphasis is given to diction and stage presence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0614

MUSIC 0615 - CARPATHIAN MUSIC ENSEMBLE

Minimum Credits: 1
Maximum Credits: 1

The ensemble introduces students to Hungarian, Slovak, Romanian, Polish, Ukrainian, Gypsy, and Jewish musical traditions. Through weekly rehearsals, students learn musical styles, improvisation techniques, and performance practices with regard to diverse yet mutually interconnected music genres.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

MUSIC 0620 - UNIVERSITY ORCHESTRA

Minimum Credits: 1
Maximum Credits: 1
Open to students, faculty, staff, and community musicians. The orchestra performs a wide variety of works from the standard repertoire, along with contemporary compositions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0620

MUSIC 0630 - MARCHING BAND

Minimum Credits: 1
Maximum Credits: 1
The band performs at athletic events and in concert. Membership is by audition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0630

MUSIC 0631 - CONCERT BAND

Minimum Credits: 1
Maximum Credits: 1
The concert band prepares and performs music from the band repertoire. Membership is by audition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0631

MUSIC 0640 - JAZZ ENSEMBLE

Minimum Credits: 1
Maximum Credits: 1
Big band jazz performances and rehearsal techniques. Performances include festivals, concerts, and tours.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0640

MUSIC 0650 - COLLEGIUM MUSICUM

Minimum Credits: 1
Maximum Credits: 1
The collegium musicum is an ensemble of instruments and voices that explores a wide variety of repertoires using early instruments and authentic performance practices.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

MUSIC 0660 - AFRICAN DRUMMING ENSEMBLE

Minimum Credits: 1
Maximum Credits: 1
The ensemble focuses on the drumming techniques of selected African society, the ensemble performs in collaboration with the Afro-American dance class and the Oakland dance school, and various local schools.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0670 - GUITAR ENSEMBLE

Minimum Credits: 1
Maximum Credits: 1
The guitar ensemble studies and performs music from the Renaissance to the present. Open to music majors and non-music majors by audition. The

ability to read music is essential.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

MUSIC 0671 - PERCUSSION ENSEMBLE

Minimum Credits: 1
Maximum Credits: 1
The ensemble studies and performs percussion literature. Open to music majors and non-music majors by audition. The ability to read music is essential. Required for music majors whose primary instrument is percussion.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

MUSIC 0672 - CHAMBER MUSIC

Minimum Credits: 1
Maximum Credits: 1
Students may elect chamber music to study any approved repertoire involving more than one instrument or voice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0680 - CHINESE MUSIC ENSEMBLE

Minimum Credits: 1
Maximum Credits: 1
To learn and develop Chinese music through performance of traditional repertory of Chinese instrumental music. Ensemble will present occasional concerts and lecture demonstrations to Pittsburgh and university community.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

MUSIC 0690 - UNIVERSITY GAMELAN

Minimum Credits: 1
Maximum Credits: 1
A gamelan is a set of mostly percussive instruments featuring tuned bronze gongs, bronze-keyed instruments, and drums. In the beginning ensemble, students will learn how to perform simple compositions on several instruments as well as the basic organizing principles of javanese traditional music. The advanced ensemble is made up of students invited to join after at least one semester of beginning gamelan. Students in the advanced group will learn more complex instruments and pieces. The ensemble will also perform publically at least once every year.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0711 - HISTORY OF JAZZ

Minimum Credits: 3
Maximum Credits: 3
The course focuses on the chronological development of jazz from its beginnings on the plantation to its present state as a world concert music. Various styles such as ragtime, blues, gospel, spirituals, rhythm and blues, rock, soul, etc., Are examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0820 - MUSC, LANG & MEANING IN FRANCE

Minimum Credits: 3
Maximum Credits: 3
This course looks at French concert music through questions about the changing meaning and purpose of works of art in postwar French culture. Drawing on composers and thinkers ranging from Messiaen to Derrida, we will look at the way individuals and the state responded to the politics and technologies that shaped France's musical language over the past sixty years.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 0822 - SP TOPCS IN RENASNC MUSIC

Minimum Credits: 3
Maximum Credits: 3
This class explores music of the 15th and 16th centuries, emphasizing changing approaches to composition, expression, and aesthetics. In reading writings on music by some of the age's greatest thinkers, we will question Renaissance views concerning the many powers ascribed to music:

religious, social, communicative, and even medicinal. Furthermore, we will frequently come face-to-face with medieval and Renaissance manuscripts, considering their role in both the creation and consumption of music. Assignments will address the basic problems raised by the study of early music, including questions of style and structure, debates about performance practice, the relationship between music and text, and issues of cultural history. The ability to read music is not required; we will rely on recordings and manuscript facsimiles instead of modern scores.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

MUSIC 0824 - SP TOPICS COURSE IN ROCK MUSIC

Minimum Credits: 3
Maximum Credits: 3
The social, cultural, and stylistic history of rock and roll music. The class begins with important precedents such as blackface minstrelsy, jazz, and blues. In addition to addressing styles actually sold under the rock marketing label, we will cover genres and styles that were influenced by rock and roll but sold under different labels, such as soul, funk, salsa, disco, and hip-hop. Attention will also be given to global varieties of rock and roll.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 0844 - THE MUSIC OF THE BEATLES

Minimum Credits: 3
Maximum Credits: 3
This course combines a study of the cultural context in which The Beatles worked with a consideration of how the music was created and evolved over time. Topics include the band's formative influences, relationships to contemporary artists, and evolution from live performing band to studio recording artists. Broader contextual themes include the rise of "teenage culture", Beatlemania as a phenomenon most closely associated with young female fans, and the band's relationship to the "youth counterculture".
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 0896 - MUSIC AND FILM

Minimum Credits: 3
Maximum Credits: 3
This introductory course, designed for non-majors with no previous background in music or film studies, examines music within the context of film, instructing students how to listen and think critically about the music and its relationship to the moving image and narrative.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 1222 - MEDIEVAL AND EARLY RENAISSANCE

Minimum Credits: 3
Maximum Credits: 3
The course will cover Western European music starting with the transition in eighth and ninth centuries from an oral to a written tradition, and extending through the mid-fifteenth century polyphonic composers such as Dufay and Ockeghem. The interaction during the early middle ages between Western traditions and those of the middle East will be investigated, along with the place of music in the European culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1224 - LATER RENAISSANCE AND BAROQUE

Minimum Credits: 3
Maximum Credits: 3
Starting with the new attitudes towards word-tone relationships that can be seen in the music of Josquin, and with the rise of idiomatic instrumental music, the course will trace those trends, among others through the music of such composers as Josquin, Willaert, Rore, Lassus, Monteverdi, Corelli, Vivaldi, Handel, and J.S. Bach.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1226 - CLASSICAL AND EARLY ROMANTIC

Minimum Credits: 3
Maximum Credits: 3
The course will begin a few decades before 1750, tracing the new stylistic trends that grew up in Italy and France during Bach's lifetime, and will continue through Mozart, Haydn, and Beethoven to the composers of the early nineteenth century who still composed within the classical aesthetic, e.g. Schubert, Schumann, and Mendelssohn.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1228 - LATE ROMNTIC & ERLY 20TH CNTUR

Minimum Credits: 3
Maximum Credits: 3
This course will begin with the more revolutionary nineteenth-century composers who worked in Paris--Chopin, Berlioz, Liszt--and trace the breakdown of tonality and the emergence of new styles and structural principles in the late nineteenth and twentieth centuries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1230 - MUSIC SINCE 1945

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to Western art music created since 1945.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1242 - MAJOR COMPOSER

Minimum Credits: 3
Maximum Credits: 3
This course examines the life and works of a major figure in Western art music. The content of the course changes, but it emphasizes music in its historical and cultural contexts, as well as individual genres and styles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0411 and MUSIC 0415

MUSIC 1252 - HISTORY OF PERFORMANCE STYLES

Minimum Credits: 3
Maximum Credits: 3
The focus of this course changes. Topics might include baroque ornamentation, orchestral performance traditions of the 17th and 18th centuries, or performance practices in Renaissance music.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1262 - CRITL LISTNG MUSIC CRITICISM

Minimum Credits: 3
Maximum Credits: 3
This course applies journalistic music criticism to develop critical listening skills crucial to learning about and performing classical and other music. In writing assignments and in class discussion, students will critique concerts and recordings, then defend their opinions with factual evidence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1270 - MUSIC, CULTURE & TECHNOLOGY

Minimum Credits: 3
Maximum Credits: 3
Students will engage with major social, historical, and cultural issues affecting music technology in the West from the phonograph in the 19th century to the iPhone in the 21st.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 1272 - SP TPCS CRSE OPRA CULT FEELING

Minimum Credits: 3
Maximum Credits: 3
Opera as a genre emerged at a junction between the pre-modern and modern notions of self, and has since remained a vital site for the exploration of the limits of self-perception and self-expression. Focusing on the ways the changing notions of feeling informed operatic articulations of personhood, gender, class and ethnicity, this course will explore some representative operas from the early 17th through the late 20th centuries. Bringing into play a variety of primary and secondary sources, we will tackle at least one new opera, and one new approach, each week.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1280 - MUSIC, ARTS, AND CONFLICT

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

MUSIC 1310 - GLOBAL AND POPULAR MUSIC

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to theories and research methodologies in global and popular music, including but not limited to musical and textual transcription, fieldwork and methods for relating social behavior to musical behavior.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 1320 - MUSIC IN NORTH AMERICA

Minimum Credits: 3
Maximum Credits: 3
The course will focus on the major genres crucial to the understanding of music in American life, both written and unwritten as well as popular, vernacular and classical. Special attention will be given to the results of acculturation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1324 - EUROPEAN AND AMERCN FOLK MUSIC

Minimum Credits: 3
Maximum Credits: 3
This course surveys the folk music traditions of Europe and America.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1326 - AFRICAN-AMERICAN MUSIC IN U.S.

Minimum Credits: 3
Maximum Credits: 3
This course is designed to familiarize the student with various phases of African-American music existing in North America; blues, gospel-spirituals, work songs, children's games songs, and classical compositions of ragtime composers Scott Jobin, J.P. Johnson, etc. Students will conduct field projects centered around "street recordings, locations, interviews of local and visiting artists, etc." A detailed study of great Pittsburgh performers present and past will constitute a major portion of this course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1327 - GLOBAL HIP HOP

Minimum Credits: 3
Maximum Credits: 3
This seminar analyzes how diverse groups of musicians and listeners use hip-hop to express local and transnational claims of belonging through the appropriation of musical genres identified with the West and with African Americans in particular. A closer reading of global hip-hop practices offers insights into the genre's artistic goals and its social profile in a variety of contexts. Through analyses of locally distinct musical expressions, marketing trends within national and global music industries, and state-sponsored policies relating to hip-hop, this course sheds light on hip-hop's role in constituting cultural and political identities among diverse groups of people in the U.S. And abroad.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 1332 - MUSIC IN LATIN AMERICA

Minimum Credits: 3
Maximum Credits: 3
Mexico, Venezuela, Columbia, Panama, and Peru will be the major countries represented in this general survey of the music of Latin America. The course will be taught in a lecture-discussion format with extensive use made of recordings, slides, and films. Some actual performance of drumming traditions will be included.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1340 - MUSIC IN AFRICA

Minimum Credits: 3
Maximum Credits: 3
This course examines the historical social and cultural background of music in Africa with particular reference to music in community life, performing groups, the training of musicians, instrument structures in African music, and the interrelations of music and dance. (Slides, films, and recordings will be used to illustrate lectures.)
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1352 - MUSIC IN SOUTHEAST ASIA

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the musical cultures of southeast Asia; historical, social and cultural background of music, music theory, instruments, and selected musical genres from different countries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1354 - MUSIC IN EAST ASIA

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the musical cultures of East Asia; historical, social and cultural background of music, music theory, instruments, and selected musical genres from different countries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1356 - MUSIC IN THE MIDDL EAST & INDA

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the musical cultures of the middle East and India; historical, social and cultural background of music, music theory, instruments, and selected musical genres from different countries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1358 - MUSIC IN SOUTH ASIA

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the musical cultures of South Asia; historical, social and cultural background of music, music theory, instruments, and selected musical genres from different countries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1360 - GYPSY MUSIC

Minimum Credits: 3
Maximum Credits: 3
Gypsy music has emerged as one of the most popular world music genres in the last two decades. The genre's success on the world stage is closely connected with the Romani (gypsy) minority rights movement, which has strengthened on local, national, and international levels due to increased education opportunities for roam, and more positive representation in the media. The present proliferation and popularization of a great variety of musical styles marketed as 'gypsy' points to the fact that Romani musical expressions draw their musical characteristics from Romani and non-Romani elements. Styles are differentiated according to time, place, and cultural influences with regard to ornamentation, language choice, vocal timbres, and choice of instruments. This course analyzes the musical varieties within genres marketed as 'gypsy' and offers broader political, economic, and historical perspectives on a variety of factors rooted in race, ethnicity, gender, and class relations that have contributed to contemporary understandings of 'gypsy' music
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1362 - ROMANI MUSC CULT & HUMN RIGHTS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 1364 - MUSIC OF INDIA:THEORY PRACTICE

Minimum Credits: 3
Maximum Credits: 3
History and performance will educate students on several important aspects of Indian music and create an opportunity for them to perform Indian music in an ensemble. The performance repertoire will cover Indian classical, semi-classical and popular music, mainly from North Indian traditions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1394 - INTERCULTURAL MUSIC

Minimum Credits: 3
Maximum Credits: 3
Interculturalism has been described as the process of identifying with or sharing the heritage of other cultures, with a view to broadening one's cultural horizon or one's capacity to understand and appreciate differences in modes of expression. This course will be concerned with issues related to (a) the sharing of similar music resources by different cultures of the world and (b) global migrations of music idioms and how they develop local identities that are not necessarily consistent with their original identities. Students taking the course will gain an understanding of how concepts familiar to them are interpreted by others around the world and how concepts coming from other cultures impact their own. The contents of the course will include readings and audio-visual materials. Methods used in the course will comprise (a) lectures illustrated with audio-visual materials (b) reading assignments (c) listening assignments. The interactive system of lecturing will be used and students will be encouraged to participate actively in class discussion.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1396 - MUSIC IN SOCIETY

Minimum Credits: 3
Maximum Credits: 3
"Music in society" is a multi-perspective humanities study of musical activity in the United States. It draws on techniques and perspectives of historical studies, ethnology, music business, and professional concerns to develop a cultural and historical understanding of music in American life. The course focuses on the types of organizations and environments in which music occurs, and the function of the music in the lives of the participants.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1398 - WOMEN & MUSIC CROS-CULTL PERSP

Minimum Credits: 3
Maximum Credits: 3
This course is concerned with music of, by, and about women from a cross-cultural perspective. Topics include, but are not limited to, traditional and ritual music, music as empowerment, sexual aesthetics, women as composers and per formers, and feminist music criticism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 1415 - THEORY 5

Minimum Credits: 2
Maximum Credits: 2
Extension and elaboration of the concepts and methods of theory iii and iv, with emphasis on works of greater length, and complexity and on students' individual compositional and performing interests.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1416 - THEORY 6

Minimum Credits: 2
Maximum Credits: 2
Extension and elaboration of the concepts and methods of theory v, with emphasis on works of greater length and complexity and on students' individual compositional and performing interests.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1421 - COMPOSITION 1

Minimum Credits: 3
Maximum Credits: 3
An introduction to the craft of musical composition, students receive individual instruction in composition, and usually create works using materials from the "common practice" period studied in MUSIC 0417 and MUSIC 0419. Ability to read music notation fluently.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MUSIC 0417 and MUSIC 0419

MUSIC 1422 - COMPOSITION 2

Minimum Credits: 3
Maximum Credits: 3
Starting from the novel premise that two of the most important considerations for composers are 1) how their music sounds and 2) what listeners hear in it, this course explores strategies to develop, edit and otherwise improve the conception, notation, performance and reception of student's compositions.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

MUSIC 1431 - INSTRUMNTATION & ORCHESTRATION

Minimum Credits: 3
Maximum Credits: 3
A survey of different styles of instrumentation and orchestration in the European art music tradition. Focus of the course may change from year to year.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1441 - ELECTRONIC & COMPUTER MUSIC 1

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to composing music in the university of Pittsburgh electroacoustic music studio. Instruction in midi sequencing, introduction to synthesis, sampling, and other digital audio technology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1442 - ELECTRONIC & COMPUTER MUSIC 2

Minimum Credits: 3
Maximum Credits: 3
This course is a continuation of MUSIC 1441. It provides further experience in composing music in the university of Pittsburgh computer and electronic music studio, instruction in the advanced digital audio applications, and hard disk recording and editing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: MUSIC 1441

MUSIC 1450 - MUSIC PRODUCTION AND RECORDING

Minimum Credits: 3
Maximum Credits: 3
With the rapid changes taking place in the music industry, it is incumbent that all aspiring musicians and performing artists understand the means and methods of music production and recording. Throughout the semester, students will enjoy (1) hands-on experience, (2) recording projects with guest artists in class, (3) learning simple editing and mastering two-track (stereo) recording, and (4) learning to mix and master multi-track recordings. In-class projects will include actual recording of performers (mainly from the class) with an emphasis on Jazz. Upon completion, students will be able to organize and execute recording sessions of their own. Readings will be assigned throughout the semester; quizzed and individual projects will be used to assess students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

MUSIC 1560 - VOCAL LITERATURE

Minimum Credits: 1
Maximum Credits: 1
This course is a survey of the literature for solo voice. It includes class performance, comparisons of selected recorded performances, and the study of performance styles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1562 - PIANO LITERATURE

Minimum Credits: 1
Maximum Credits: 1
The topic of this course changes each term. It usually examines piano pedagogy, literature of individual composers or periods, or performance techniques.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

MUSIC 1564 - THEATRE VOICE

Minimum Credits: 1
Maximum Credits: 1
This course is designed primarily for theatre majors who are interested in developing their vocal technique. It stresses breathing, tone production, projection, and diction. Students prepare and receive coaching on selected songs.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

MUSIC 1731 - JAZZ COMPOSITION & ARRANGING 1

Minimum Credits: 3
Maximum Credits: 3
This course develops the students' knowledge of the techniques of jazz-rock composition and arranging. The distinctive features of jazz-rock harmony are studied, and students write arrangements for various instrumental combinations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1732 - JAZZ COMPOSITION & ARRANGING 2

Minimum Credits: 3
Maximum Credits: 3
A continuation of MUSIC 1731. The course develops the student's knowledge of the techniques of jazz-rock composition and arranging. The distinctive features of jazz-rock harmony are studied, and students write arrangements for various instrument combinations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1741 - JAZZ IMPROVISATION 1

Minimum Credits: 3
Maximum Credits: 3
This course provides an analysis of the techniques of jazz-rock-pop improvisation. Students develop a repertoire of current standards and compose and analyze pieces in several styles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1742 - JAZZ IMPROVISATION 2

Minimum Credits: 3
Maximum Credits: 3
A continuation of MUSIC 1741. The course provides an analysis of the techniques of jazz-rock-pop improvisation. Students develop a repertoire of current standards and compose and analyze pieces in several styles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

MUSIC 1900 - MUSIC INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
The music internship provides majors with opportunities to develop skills in music-related professions. Students are responsible for finding an

appropriate internship that is approved by a faculty member in music who agrees to oversee the student's work. May be taken for 1-3 credits, based on University guidelines relating to internship requirements. A maximum of 3 credits may be applied toward a music major.
Academic Career: UGRD
Course Component: Internship
Grade Component: Letter Grade

MUSIC 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 3
Independent study is elected by students who are making significant use of university resources in an independent project not related to any regularly offered course. The project is often off campus, but with some guidance from sponsoring faculty member(s).
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

MUSIC 1903 - SPECIAL TOPICS-DIRCTED RSRCH
Minimum Credits: 1
Maximum Credits: 3
This course consists of an individual project, exploring a topic not currently covered by any course offering. The student plans and carries out a research project in conjunction with a supervising faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

MUSIC 1904 - SENIOR SEMINAR
Minimum Credits: 3
Maximum Credits: 3
The seminar is required of students wishing to earn a major in music. The topic of the seminar changes, but participants are expected to produce a major research project or other approved project displaying the ability to work independently at an advanced level.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

National Preparedness and Homeland Security

NPHS 1510 - FEDL/INT'L FRMWRK EMRGY PREP
Minimum Credits: 3
Maximum Credits: 3
NPHS 1510 covers overarching frameworks for the federal government's planning and response to crises. These include the National Response Framework (NRF) and the National Incident Management Systems (NIMS), which establishes the Incident Command System (ICS) and the Emergency Support Functions (ESFs). Because the federal government is the interface with foreign governments for events with transnational elements, international aspects of crisis management and the international context for threat assessment are covered in this course.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PLAN: National Prep & Homeland Secur (CERT-1)

NPHS 1520 - STATE/LOCAL FRMWRK EMRGY PREP
Minimum Credits: 3
Maximum Credits: 3
All response to crisis begins locally. NPHS 1520 presents ways in which states, regions and localities have implemented response planning for their jurisdictions. It also explores boundaries between federal and state law, and how, for example, decisions are made for evacuation versus sheltering in place. Case studies and models for drafting response plans will be offered and rehearsed, as well as templates for planning and allocation of resources.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PLAN: National Prep & Homeland Secur (CERT-1)

NPHS 1530 - ANAL/DEC TOOLS EMRGY PREPRDNS
Minimum Credits: 3
Maximum Credits: 3
Efforts to professionalize the emergency management workforce include familiarizing the next generation with modern decision support software and analytical tools now used in planning and responding to crises. These include discrete- and agent-based simulation, geographical information systems, pattern recognition, virtual reality and predictive modeling tools. This course will offer introductory experience with these tools in realistic crisis scenarios. NPHS 1530 also will explore realities that are changing the delivery of emergency services to a model based on distributed versus

centralized operations.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PLAN: National Prep & Homeland Secur (CERT-1)

NPHS 1540 - CAPSTONE: EMRGY PREPAREDNESS

Minimum Credits: 3
Maximum Credits: 3
Along the lines of workshops conducted by the Defense Advanced Research Projects Agency (DARPA), the capstone course is dedicated to exploring a variety of solutions to a single, complex, interdisciplinary problem - a "wicked" problem - in emergency management. "Wicked" problems are complex problems for which there is an unlimited number of potential solutions, but choosing among them is difficult because they have huge impacts and there are no immediate or ultimate tests of their worth - they are neither true nor false but good or bad. The "wicked" problem considered in NPHS 1540 may change from term to term to meet emerging demands or class composition.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PLAN: National Prep & Homeland Secur (CERT-1)

NPHS 1800 - PH PREPRDNS EMERGENCY RESPONSE

Minimum Credits: 3
Maximum Credits: 3
This course teaches Undergraduates and post-baccalaureate students about the responsibilities, roles, and functions of public health in disaster planning, mitigation, response, and recovery. All classes use real-life disasters and emergencies as learning modules. The course is divided into 3 modules: module 1 covers the role and function of public health in the United States both historically and with the addition of more explicit disaster preparedness and response functions in recent years. Module 2 covers public health priorities and functions in all major forms of disasters, with a particular emphasis on environmental health emergencies, pandemics, and bioterrorism. Module 3 covers organized and spontaneous response activities, including how communities work together (or not) to deal with a wide variety of threats.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PLAN: National Prep & Homeland Secur (CERT-1)

NPHS 1900 - INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
Students registered for NPHS 1900 pursue an internship involving work related to national preparedness and emergency management. Students are responsible for securing internships and a faculty member to sponsor the internship. Students should produce academic work in conjunction with their internship, which the faculty sponsor will evaluate and grade. Faculty permission is required prior to enrollment. Consult an advisor for further information.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: PLAN: National Prep & Homeland Secur (CERT-1)

NPHS 1901 - INDEPENDENT STUDY

Minimum Credits: 3
Maximum Credits: 3
Students registered for NPHS 1901 pursue research on a project related to national preparedness and emergency management under the direction of a faculty member. Students develop a study plan with the faculty member, typically working independently on a paper or report, with occasional meetings. Faculty permission is required prior to enrollment. Consult an advisor for further information.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: PLAN: National Prep & Homeland Secur (CERT-1)

Neuroscience

NROSCI 0030 - BRAIN AND BEHAVIOR

Minimum Credits: 3
Maximum Credits: 3
This course analyzes the relations between brain function and overt behaviors. Topics include the control of movement, sensory processing, mechanisms controlling sleep, arousal, and other circadian rhythms, hunger and thirst, learning and memory, the biological bases of neuropsychiatric disorders, and the functioning of the cerebral hemispheres. Many clinical disorders will be discussed including language disorders, amnesia, epilepsy, depression, anxiety, schizophrenia, and Alzheimers disease.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 0035 - DRUGS AND BEHAVIOR

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide a general background in the fields of neuroscience and psychopharmacology. The course will examine the behavioral effects and biological mechanisms of actions of the major groups of psychoactive compounds, including stimulants, depressants, narcotics, and hallucinogens. Drugs used in the treatment of common psychiatric neurological disorders, such as schizophrenia, depression, and Parkinson's disease, will also be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 0080 - BRAIN AND BEHAVIOR

Minimum Credits: 3
Maximum Credits: 3
This course analyzes the relations between brain function and overt behaviors. Topics include: the control of movement, sensory processing, mechanisms controlling sleep, arousal, and other circadian rhythms, hunger and thirst, learning and memory, the biological bases of neuropsychiatric disorders, and the functioning of the cerebral hemispheres. Many clinical disorders will be discussed including language disorders, amnesia, epilepsy, depression, anxiety, schizophrenia, and Alzheimers disease.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 0081 - DRUGS AND BEHAVIOR

Minimum Credits: 3
Maximum Credits: 3
This course provides a general background in the fields of neuroscience and psychopharmacology. The course examines the behavioral effects and biological mechanisms of action of the major groups of psychoactive compounds, including stimulants, depressants, narcotics, and hallucinogens. Drugs used in the treatment of common psychiatric neurological disorders, such as schizophrenia, depression, and Parkinson's disease, will also be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 0082 - DRUGS AND BEHAVIOR

Minimum Credits: 4
Maximum Credits: 4
This is an honors course which provides a general background in the fields of neuroscience and psychopharmacology. The course will examine the behavioral effects and biological mechanisms of actions of the major groups of psychoactive compounds, including stimulants, depressants, narcotics, and hallucinogens. Drugs used in the treatment of common psychiatric neurological disorders, such as schizophrenia, depression, and Parkinson's disease, will be discussed. Experimental design, problem solving and the cellular aspects of drug action will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 0180 - UHC BRAIN & BEHAVR LABORATORY

Minimum Credits: 1
Maximum Credits: 1
This 1-credit honors laboratory will provide students with the opportunity to explore neuroscience topics in greater detail than is possible in the companion lecture course, NROSCI 0080. Students will participate in laboratory brain dissections, discuss modern experimental methods in neuroscience, and examine data from human imaging studies.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

NROSCI 1000 - INTRO TO NEUROSCIENCE

Minimum Credits: 3
Maximum Credits: 3
This course examines the anatomy, physiology, and pharmacology of the central and peripheral divisions of the nervous system. Specific topics covered include neuronal function, synaptic transmission, sensory processing, movement, sleep and wakefulness, hunger, thirst, caloric and body fluid homeostasis, recovery of function after brain damage, and various neurological and psychiatric disorders.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Course Requirements: (BIOSC 0150 or 170 or BIOSC 0715 or BIOSC 0190 or BIOL101 or 110) and (BIOSC 0160 or 180 or BIOSC 0191 or BIOSC 0716 or BIOENG 1071 or BIOL102 or 120) and (CHEM101 or CHEM 0110 or CHEM 0710 or CHEM 0760 or CHEM 0960 or CHEM111 or CHEM 0410) and (CHEM 102 or CHEM 0120 or CHEM 0720 or CHEM 0770 or CHEM 0970) or (CHEM 0420 and CHEM 0440) or (CHEM112 and 114); MINGRAD:`C' for listed Courses; LVL:Fr,So,Jr

NROSCI 1003 - UHC INTRO TO NEUROSCIENCE

Minimum Credits: 4
Maximum Credits: 4
This honors course examines the anatomy, physiology, and pharmacology of the central and peripheral divisions of the nervous system. Specific topics include neruonal function, synaptic transmission, sensory processing, movement, sleep and wakefulness, hunger, thirst, caloric and body fluid homeostasis, recovery of function after brain damage, and various neurological and psychiatric disorders. Course includes in-depth discussions of original research articles presented in the general lectures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: (BIOSC 0150 or 170 or BIOSC 0715 or BIOSC 0190 or BIOL101 or 110) and (BIOSC 0160 or 180 or BIOSC 0191 or BIOSC 0716 or BIOENG 1071 or BIOL102 or 120) and (CHEM101 or CHEM 0110 or CHEM 0710 or CHEM 0760 or CHEM 0960 or CHEM111 or CHEM 0410) and (CHEM 102 or CHEM 0120 or CHEM 0720 or CHEM 0770 or CHEM 0970) or (CHEM 0420 and CHEM 0440) or (CHEM112 and 114); MINGRAD`B' for Courses; LVL:Fr,So,Jr; MINGPA 3.25

NROSCI 1011 - FUNCTIONAL NEUROANATOMY

Minimum Credits: 4
Maximum Credits: 4
This course deals with human neuroanatomy and covers the basic structure of the central nervous system from spinal cord to cerebral cortex. Emphasis is placed on major systems and subsystems within the brain, and on their functional significance. The basic structure and morphology of nerve cells will be covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NROSCI 1000 or NROSCI 1003; MIN GRADE: 'B-' for listed courses; PLAN: Neuroscience (BS or MN)

NROSCI 1012 - NEUROPHYSIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course examines the functioning of neurons and synapses, the basic units responsible for fast communication within the nervous system. The course focuses on the elegant use of electrical mechanisms by the nervous system, and on the powerful quantitative approach to scientific investigation that is fundamental to neurophysiology. Topics include: principles of electric current flow exploited by the nervous system; the basis of the resting potential of neurons; the structure and function of voltage-gated and neurotransmitter-gated ion channels; the generation and propagation of action potentials; the physiology of fast synaptic communication.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [NROSCI 1000 (MIN GRADE 'B-') or NROSCI 1003 (MIN GRADE 'B-")] and (CHEM 0120 or CHEM 0720 or CHEM 0770 or CHEM 0960 or 0102 or 0112) and (PHYS 0110 and PHYS 0111 or PHYS 0174 and PHYS 0175) and MATH 0220; PLAN: Neuroscience (BS or MN)

NROSCI 1013 - FUNCTIONAL NEUROANATOMY

Minimum Credits: 4
Maximum Credits: 4
This is an honors course that deals with issues of how we can understand the function of the human brain through the study of neurological diseases. The manifestations of selected neurological diseases are presented and discussed in the context of how they can be analyzed and understood through application of the findings from basic research in neuroscience.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 1014 - SPEAKING OF SCIENCE

Minimum Credits: 3
Maximum Credits: 3
Students will learn strategies for giving presentations about science to both a scientific audience and a public audience. Topics covered will include 1) how to engage our audience, 2) the art of breaking down your message, 3) tips to make clear, interesting slides, and 4) pointers on presentation style. All audiences want to learn interesting new scientific information, and have it delivered as a good story in an understandable manner by a personable, easy to approach person. Communication skills, including knowing your audience and why they are interested in the information you are speaking about, how to translate scientific jargon into understandable concepts for the public, and how to keep the audience engaged will be discussed. Pointers will be given on answering questions, being conversational, and conveying the "big picture". Students will give a number of presentations in this course and learn to receive and give feedback effectively.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NROSCI 1000 or NROSCI 1003 (BOTH MIN GRADE 'B-'); PLAN: Neuroscience (BS or MN)

NROSCI 1015 - PHYSIOLOGY & CHEMISTRY NEURONS

Minimum Credits: 5
Maximum Credits: 5
The first part of this course will cover the electrical properties of nerve cells and of neuronal communication. The topics to be addressed include the resting potential, voltage- and neurotransmitter-dependent ion channels, action potential generation, and fast synaptic transmission. The second half of the course will examine the chemical processes involved in communication between neurons and their targets. Basic biochemical and morphological characteristics of neuronal transmission will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 1016 - PHYSIOLOGY & CHEMISTRY NEURONS

Minimum Credits: 7
Maximum Credits: 7
This is an honors course, involving both lecture and laboratory experiments. The first half of the lecture material covers the electrical properties of nerve cells and of neuronal communication. Topics include the resting potential, voltage- and neurotransmitter-dependent ion channels, action potential generation, and fast synaptic transmission. The second half examines the chemical processes involved in communication between neurons and their targets. In addition, students perform sample experiments and collect data for brief laboratory reports.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 1017 - SYNAPTIC TRANSMISSION

Minimum Credits: 3
Maximum Credits: 3
This course examines the mechanisms by which neruotransmitters are synthesized and released and the biochemistry of synaptic responses. Basic physiological, biochemical, and morphological characteristics of neuronal transmission will be discussed. An emphasis will be placed on the experimental approaches used to examine these processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NROSCI 1000 or NROSCI 1003; MIN GRADE 'B-' for Listed Courses

NROSCI 1025 - BIOLOGICAL CLOCKS

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to examine circadian and circannual clocks as adaptations and to analyze in detail the neural mechanisms of clock function. It would also consider situations in which there are disorders of clock function. Circadian and circannual clocks will be compared with ultradian clocks (those with a period less than 24 hour) which generally function to generate rhythms as local adaptations in specialized tissues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

NROSCI 1026 - CLINICAL NEUROPHYSIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This is a three credit advanced elective course that will cover the fundamental and basic principles used in the practice of clinical neurophysiology with the goal of providing an overview of both basic science and clinical topics relevant to performing intraoperative neurophysiological monitoring in a surgical setting. Topics will include anatomy and physiology of the motor and sensory systems and the theoretical basis of electroencephalography, sensory and motor evoked potentials, electromyography, transcranial Doppler and compound action potentials. Students will be able to explain the practical applications of these techniques in the diagnosis of nervous system disorders and in the continuous monitoring of the integrity of the human nervous system during surgical procedures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NROSCI 1000 (MIN GRADE: 'B-') or NROSCI 1003 (MIN GRADE: 'B-') and NROSCI 1011 AND NROSCI 1012; PLAN: Neuroscience (BS or MN)

NROSCI 1027 - NEUROSCIENCE PROSEMINAR

Minimum Credits: 2
Maximum Credits: 2

Program graduate students, postdoctoral fellows, and faculty will present an overview of their respective research topics and discussion of current research articles on that topic. Critical analysis of experiments and research is emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NROSCI 1000 or NROSCI 1003; MIN GRADE: 'B-' for listed courses; PLAN: Neuroscience (BS or MN)

NROSCI 1030 - PSYCHTRC DISORDERS & BRN FUNCN

Minimum Credits: 3
Maximum Credits: 3
This course examines the neurobiological basis of psychiatric disturbances (including schizophrenia, depression, Parkinson's disease, and Huntingtons chorea). The initial portion presents an overview of basic neuropharmacology, with an emphasis on recent findings of relevance to psychiatric disorders. The major portion consists of lectures on the anatomical, physiological, and neurochemical bases for specific psychiatric disturbances, and the mechanism of action of therapeutic drugs used in their treatment. A strong neuroscience background is required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [NROSCI 1000 (MIN GRADE 'B-') or NROSCI 1003 (MIN GRADE 'B-')] and NROSCI 1011; PLAN: Neuroscience (BS or MN)

NROSCI 1031 - PSYCHTRC DISORDERS & BRN FUNCN

Minimum Credits: 4
Maximum Credits: 4
This is an honors course that examines the neurobiological bases of psychiatric disturbances (schizophrenia, depression, Parkinson's disease, and epilepsy). The first portion presents an overview of basics in neuropharmacology, with an emphasis on recent findings of relevance to psychiatric dis orders. The second portion consists of lectures centering around the anatomical, physiological, and neurochemical basis for specific psychiatric disturbances, and around the mechanism of action of therapeutic drugs. Discussion of original articles correlated with lecture material.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 1032 - FNCTNL ORGZTN HUMN NERVOS SYS

Minimum Credits: 3
Maximum Credits: 3
The intent of this course is to examine the biological basis of neurological dysfunction and to use this information to gain further insight into the functional organization of the human nervous system. A disease oriented approach will be used to illustrate localization of function. Well known clinical cases will define the functional consequences of disease or damage to regions of the brain and current information on the mechanisms underlying the disease process or physical damage will be used to provide further insight into the functional alterations that contribute to the deficit.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NROSCI 1000 (MIN GRADE: 'B-') or NROSCI 1003 (MIN GRADE: 'B-') and NROSCI 1011; PLAN: Neuroscience (BS or MN)

NROSCI 1033 - NEURAL BASIS OF VISION

Minimum Credits: 3
Maximum Credits: 3
This course examines the neural basis of visual perception and action. It is divided into four units. The first unit covers methods for studying visual perception and its neural basis and discusses the neural hardware that underlies our ability to see. The second unit covers object recognition, cognitive factors that influence visual perception, and how the way we are planning to use visual information affects the way it is encoded in the brain. Unit three focuses on perceptual decision-making and using visual motion as a model system. We will also touch on some data analysis methods for using psychophysical and neuronal data to figure out how we make decisions based on visual information. The fourth unit will focus on perception of color and depth and on how visual perception develops after birth. Throughout the course, we will focus on what neural mechanisms can tell us about how we perceive the visual world and on how we can design experiments to better understand the relationship between neural mechanisms and perception.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (NROSCI 1000 or NROSCI 1003 (MIN GRADE 'B-')) and NROSCI 1011; PLAN: Neuroscience (BS or MN)

NROSCI 1034 - NEURAL BASIS OF COGNITION

Minimum Credits: 3
Maximum Credits: 3
This advanced elective is designed for students interested in learning about the neural basis of higher order cognitive functions, with an emphasis on cortical mechanisms. Topics will include: occipitotemporal mechanisms of visual perception; parietal mechanisms of spatial attention and vision for action; premotor mechanisms of action planning and movement execution; prefrontal mechanisms of working memory and behavioral control;

hippocampal mechanisms of episodic memory; multimodal integration and cognitive effort.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NROSCI 1000 or NROSCI 1003 (Min Grad 'B-') and NROSCI 1011; PROG: School of Arts & Sciences; PLAN: Neuroscience (BS or MN)

NROSCI 1035 - CONTROL OF MOVEMENT

Minimum Credits: 3
Maximum Credits: 3
This course will discuss the neural control of our actions in detail, including planning of movement in the cortex, relay of motor commands to the brainstem and spinal cord, coordination of movement by the cerebellum and basal ganglia, adjustment of movement via brainstem and spinal cord reflexes, execution of movement through contraction of muscle fibers, and feedback about movement as mediated by corollary discharge circuits. The focus will be on basic science, supplemented by reviews of clinical issues. Course format will include lectures and discussions of original research papers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 1036 - NEUROBIOLOGY OF AGING

Minimum Credits: 3
Maximum Credits: 3
This course examines age-related changes in neurobiological systems, including motor, sensory, cognitive, and neuroendocrine. Emphasis will be placed on distinguishing biochemical, molecular, physiological, and behavioral changes associated with normal aging versus changes associated with pathologic conditions such as Alzheimer's disease. Introductory lectures will discuss different theories of aging, how aging is studied in the laboratory, and how these relate specifically to neuroscience.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [NROSCI 1000 (MIN GRADE 'B-') or NROSCI 1003 (MIN GRADE 'B-')] and NROSCI 1011; PLAN: Neuroscience (BS or MN)

NROSCI 1040 - BIO BASES OF LEARNING & MEMORY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide an overview on the neural basis of simple learned behavior like classical conditioning. Topics covered include experimental results obtained by anatomical, electrophysiological and biochemical techniques. Emphasis will be placed on research undertaken in invertebrate and vertebrate models, as well as in isolated mammalian preparations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NROSCI 1000 (MIN GRADE: 'B-') or NROSCI 1003 (MIN GRADE: 'B-') and NROSCI 1012 AND NROSCI 1017; PLAN: Neuroscience (BS or MN)

NROSCI 1041 - DEVELOPMENTAL NEUROSCIENCE

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide an overview of issues that govern the developmental assembly of a complex nervous system. Topics covered include formation of neural tube and neural crest, birth and proliferation of neurons, cell migration, neuronal differentiation, molecular control of neural development, synapse formation, neuron-target interactions, and synaptic plasticity. These topics will be discussed in the context of experimental results obtained by anatomical, biochemical and electrophysiological techniques using vertebrate and invertebrate animals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NROSCI 1000 or NROSCI 1003; MIN GRADE: 'B-' for listed courses; PLAN: Neuroscience (BS or MN)

NROSCI 1042 - NEUROCHEMICAL BASIS BEHAVIOR

Minimum Credits: 3
Maximum Credits: 3
This course will include didactic lectures on behavioral and neurochemical methodologies, neurotransmitter systems and intracellular signaling pathways, and how the function of these systems contributes to complex behaviors. The purpose of the course is to present students with a comprehensive synopsis of classical psychopharmacological and neurochemical approaches as well as recent molecular methods that can be used to study brain mechanisms in behaviorally relevant contexts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Course Requirements: PREQ: NROSCI 1000 (MIN GRADE: 'B-') or NROSCI 1003 (MIN GRADE: 'B-') and NROSCI 1011 and (CHEM 0206 or 0231 or CHEM 0310 or CHEM 0730); PLAN: Neuroscience (BS or MN)

NROSCI 1043 - NEURAL PLASTICITY

Minimum Credits: 3
Maximum Credits: 3
This class is designed to establish conceptual and technical foundations for students who are interested in plasticity-associated neuroscience. Whereas the class will go through major findings in the plasticity field, the emphasis will be placed on why these findings are important, how these findings were made, and what challenges/debates these findings trigger.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NROSCI 1000 (MIN GRADE: 'B-') or NROSCI 1003 (MIN GRADE: 'B-'); PLAN: Neuroscience (BS or MN)

NROSCI 1045 - TOPICS IN NEUROSCIENCE

Minimum Credits: 1
Maximum Credits: 6
Flexible subject matter oriented to special topics of interest to the faculty.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (NROSCI 1000 or NROSCI 1003); MIN GRAD: 'B-' for all listed Courses; PROG: School of Arts and Sciences

NROSCI 1046 - TOPICS IN NEUROSCIENCE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NROSCI 1000 (MIN GRADE: 'B-') or NROSCI 1003 (MIN GRADE: 'B-'); PLAN: Neuroscience (BS or MN)

NROSCI 1047 - TOPICS IN NEUROSCIENCE

Minimum Credits: 2
Maximum Credits: 2
Flexible subject matter oriented to special topics of interest to the faculty.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: NROSCI 1801; PLAN: Neuroscience (BS or MN)

NROSCI 1048 - UHC TOPICS IN NEURSC RESEARCH

Minimum Credits: 2
Maximum Credits: 2
The goal of this course is to learn how to read articles in the field of neuroscience. Assigned readings are the original articles based on laboratory research that provided the source of information concerning three topics: neuroplasticity, hunger and the brain's control of food intake, and thirst and the brain's control of fluid intake.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

NROSCI 1049 - RESEARCH TOPICS NEUROSCIENCE

Minimum Credits: 1
Maximum Credits: 1
This course is required for all newly declared majors. This course will provide students with an overview of research conducted by neuroscience faculty and familiarize students with potential research topics.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit
Course Requirements: PREQ: NROSCI 1000 or NROSCI 1003; MIN GRADE: 'B-' for listed courses; PLAN: Neuroscience (BS); LEVEL: SOPHMORE, JUNIOR, SENIOR

NROSCI 1050 - INTRO APPLIED STATISTICS

Minimum Credits: 4
Maximum Credits: 4
An applied statistics course intended to teach students how to describe and analyze experimental data in the field of neuroscience. Topics include data description; exploratory data analysis; sampling; estimation; regression and hypothesis testing using student's t test, analysis of variance, and

selected nonparametric tests including the Mann-Whitney u test and chi-square. Students will use research caliber mini and microcomputer statistical software for data analysis. Course examples, case studies and homework problems will be chosen primarily from the field of neuroscience.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 1052 - NEUROPHYSIOLOGY LABORATORY

Minimum Credits: 2
Maximum Credits: 2
Designed to give "hands on" experience with some of the more important neurophysiological preparations and procedures which are described in the neurophysiology lecture course (1012). Experiments will include: (1) examination of the ionic basis of the resting potential (2) computer-based simulation of action production (3) measurement of action potential conduction velocity (4) intracellular recording of synaptic potentials and (5) determination of the neurotransmitter functioning at a specified synapse. Students will also design & conduct a small neurophysiological experiment.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

NROSCI 1070 - HUMAN PHYSIOLOGY-UHC

Minimum Credits: 4
Maximum Credits: 4
Lectures and reading on the following: (1) functions of the cardiovascular system; (2) respiration; (3) digestion and absorption in the gut; (4) kidney function and the regulation of body fluids; (5) the regulation of metabolism; and (6) reproduction.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0180 or BIOSC 0191 or BIOSC 0716 or BIOENG 1071 or BIOENG 1072 or BIOL 0102 or 0120) and (CHEM 0102 or 0112 or CHEM 0120 or CHEM 0720 or CHEM 0770 or CHEM 0960)

NROSCI 1074 - BIOCHEMISTRY

Minimum Credits: 3
Maximum Credits: 3
The course covers the important concepts of modern bio chemistry. Chemical background for an understanding of the macromolecular components of living systems will be reviewed. Relationship between chemical structure and biological function will be emphasized, as will bio chemical energetics and the transmission of biological information.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NROSCI 1097 - UNDERGRAD TEACHING EXPERIENCE

Minimum Credits: 1
Maximum Credits: 2
This course is intended for neuroscience majors who wish to assist faculty in the teaching of a NROSCI core course or a NROSCI advanced elective. Students and faculty meet regularly to discuss the important topics for each week and effective teaching techniques.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

NROSCI 1111 - FUNCTNL NEUROANAT HONORS PRAC

Minimum Credits: 2
Maximum Credits: 2
This is an honors course that supplements NROSCI 1011 by using several approaches to study the functional organization of the nervous system. Examples of such approaches are studying human and animal brain material and discussing important original papers in neuroanatomy.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NROSCI 1000 or NROSCI 1003 (BOTH MIN GRADE 'B-'); PLAN: Neuroscience (BS or MN)

NROSCI 1134 - NEURAL BASIS OF COGNITION-UHC

Minimum Credits: 1
Maximum Credits: 1
The honors section of NROSCI 1034 will provide advanced undergraduates with the opportunity to explore selected topics in cognitive neuroscience in depth. Topics will include the neural basis of object vision, spatial representation, attention, memory and executive function. Students will read primary sources and gain experience in discussing original research papers.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

NROSCI 1140 - BIO BASIS LEARNING MEMORY-UHC

Minimum Credits: 4
Maximum Credits: 4
This course is designed to provide an overview on the neural basis of simple learned behavior like classical conditioning. Topics covered include experimental results obtained by anatomical, electrophysiological and biochemical techniques. Emphasis will be placed on research undertaken in invertebrate and vertebrate models, as well as in isolated mammalian preparations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (NROSCI 1000 or NROSCI 1003 (BOTH MIN GRADE 'B-')) and NROSCI 1012 and NROSCI 1017; PLAN: Neuroscience (BS or MN); Cumulative Grade Point Average 3.25 or better

NROSCI 1250 - HUMAN PHYSIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course begins with a general introduction on cell biology, physiology of nerves and muscle, and intercellular communication. The course will then survey the function of the following systems: cardiovascular, respiratory, renal, and gastrointestinal. Each system discussed will be integrated into the larger function of homeostasis, emphasizing its adaptation during pathology and challenges (e.g., Exercise). The formal lectures will be supplemented by a required recitation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (BIOSC 0160 or 0180 or BIOSC 0191 or BIOSC 0716 or BIOENG 1071 or BIOENG 1072 or BIOL 0102 or 0120) and (CHEM 0102 or 0112 or CHEM 0120 or CHEM 0720 or CHEM 0770 or CHEM 0960)

NROSCI 1410 - TRANSLATING SCIENCE

Minimum Credits: 3
Maximum Credits: 3
Students will work in creative teams of 2-3 students/team to develop creative new outreach tools for communication of science to the public (new lectures, videos, films, activities). At the beginning of the semester, didactic lectures will cover background information about how to effectively communicate scientific information, how to break down a message, production of effective engaging slides, animations and videos, and the use of hands-on activities to engage the audience. Guest speakers with expertise in film, video and use of museum exhibits will be included. Students will then choose a topic area they wish to create an outreach lecture/video/etc. In, and with the assistance of dr. Cameron will choose a scientific advisor with specific expertise on the topic for which an outreach tool will be developed. Students will do background reading for the development of their outreach tool and have discussions with their advisor. If developing a lecture, students will develop a set of PowerPoint slides for the lecture, the lecture text with background references, and hands-on activities to complement the lecture for both a junior high and high school version of the lecture. They will present the lecture to one of the grade levels for which it was designed. For other activities, the activity will be developed along with background information regarding the use of the activity. The activity will be presented to a public group.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NROSCI 1000 or NROSCI 1003 (BOTH MIN GRADE 'B-') and NROSCI 1014; PLAN: Neuroscience (BS or MN)

NROSCI 1800 - NEUROSCIENCE/WRITING PRACTCM 1

Minimum Credits: 1
Maximum Credits: 1
This course is restricted to neuroscience majors & minors and fulfills the writing requirement for the major. It includes extra emphasis on and credit for instruction in proper writing for the discipline of neuroscience using topics from an appropriate co-requisite neuroscience course taken in the same term.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (ENGCMP 0200 or ENGCMP 0201) or (FP 0003); CREQ: NROSCI 1014 or NROSCI 1026 or NROSCI 1030 or NROSCI 1032 or NROSCI 1034 or NROSCI 1036 or NROSCI 1040 or NROSCI 1041 or NROSCI 1042; PLAN: Neuroscience (BS or MN)

NROSCI 1801 - NEUROSCIENCE/WRITING PRACTCM 2

Minimum Credits: 1
Maximum Credits: 1
This course is restricted to neuroscience majors & minors and fulfills the writing requirement for the major. It includes extra emphasis on and credit for instruction in proper writing for the discipline of neuroscience using topics from an appropriate co-requisite neuroscience course taken in the same term.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

Course Requirements: PREQ: (ENGCMP 0200 or ENGCMP 0201) or (FP 0003); CREQ: NROSCI 1014 or NROSCI 1026 or NROSCI 1030 or NROSCI 1032 or NROSCI 1034 or NROSCI 1036 or NROSCI 1040 or NROSCI 1041 or NROSCI 1042; PLAN: Neuroscience (BS or MN)

NROSCI 1816 - PHYSLGY CHEM NEURONS/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
This practicum is the special writing course for the university honors college course, "physiology and chemistry of neurons". It includes extra emphasis on and credit for instruction in proper writing for the discipline of neuroscience, using topics taken from the area of physiology and chemistry of neurons.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

NROSCI 1820 - HOMEOSTASIS/WRITING PRACTICUM

Minimum Credits: 1
Maximum Credits: 1
This practicum is the special writing course for the advanced elective "homeostasis". It includes extra emphasis on and credit for instruction in proper writing for the discipline of neuroscience, using topics taken from the area of homeostasis.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

NROSCI 1825 - BIOLOGICAL CLOCKS/WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
This practicum is the special writing course for the advanced elective "biological clocks". It includes extra emphasis on and credit for instruction in proper writing for the discipline of neuroscience, using topics taken from the area of biological clocks.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

NROSCI 1830 - PSYTRC DIS BRN FUNCN/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
This practicum is the special writing course for the advanced elective "psychiatric disorders and brain function". It includes extra emphasis on and credit for instruction in proper writing for the discipline of neuroscience, using topics taken from the area of psychiatric disorders and brain function.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

NROSCI 1832 - FUNCT ORGANIZATION/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
This practicum is the special writing course for the advanced elective "functional organization of the human nervous system". It includes extra emphasis on and credit for in struction in proper writing for the discipline of neuroscience, using topics taken from the area of the functional or ganization of the human nervous system.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

NROSCI 1840 - BIO BASES LRNG MEMRY/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
This practicum is the special writing course for the advanced elective "biological bases of learning and memory". It includes extra emphasis on and credit for instruction in proper writing for the discipline of neuroscience, using topics taken from the area of the biological bases of learning and memory.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

NROSCI 1841 - DEVELOPMNTAL NEURSC/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
This practicum is the special writing course for the advanced elective "developmental neuroscience". It includes extra emphasis on and credit for instruction in proper writing for the discipline of neuroscience, using topics taken from the area of developmental neuroscience.
Academic Career: UGRD

Course Component: Practicum
Grade Component: Satisfactory/No Credit

NROSCI 1900 - INTERNSHIP EXPERIENCE

Minimum Credits: 1
Maximum Credits: 3
Students may earn 1-3 credits for approved, supervised field experiences related to neuroscience. A faculty sponsor must agree to provide and review academic assignments related to the practical experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

NROSCI 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6
This course involves student participation in neuroscience research supervised by a faculty member of the department of neuroscience or some other department in which neuroscience research is performed. This course is particularly valuable for students interested in graduate study of neuroscience.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

NROSCI 1902 - INDEPENDENT STUDY/WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
This practicum is the special writing course for the under graduate research course, "independent study". It includes extra emphasis on and credit for instruction in proper writing for the discipline of neuroscience, using topics appropriate to the research being conducted.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

NROSCI 1903 - INTERNSHIP CAPSTONE

Minimum Credits: 3
Maximum Credits: 6
Students may earn 1-3 credits for approved, supervised field experiences related to neuroscience. A faculty sponsor must agree to provide and review academic assignments related to the practical experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: Letter Grade

NROSCI 1961 - THESIS RESEARCH

Minimum Credits: 1
Maximum Credits: 6
This course involves independent neuroscience research leading to the preparation and defense of a written thesis. This course involves student participation in neuroscience research supervised by a faculty member of the department of neuroscience or some other department in which neuroscience research is performed.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

NROSCI 1962 - THESIS RESEARCH/WRITING PRAC

Minimum Credits: 1
Maximum Credits: 1
This course involves writing a thesis based on independent neuroscience research that is supervised by a faculty member of the department of neuroscience or some other department in which neuroscience research is performed.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

NROSCI 2014 - SPEAKING OF SCIENCE

Minimum Credits: 3
Maximum Credits: 3
Fulfills neuroscience advanced elective requirement. You will learn strategies for giving presentations about science to both a scientific audience and a public audience. Topics covered will include (1) how to engage your audience, (2) the art of breaking down your message, (3) tips for how to make clear, interesting slides, and (4) pointers on presentation style. All audiences want to learn interesting new scientific information, and have it delivered as a good story in an understandable manner by a personable, easy to approach person. You want to emphasize your message, stay focused,

and convey the importance of your message while being interesting, maintaining the attention of the audience and making the learning process enjoyable. Guest speakers will provide background information about various uses of scientific information in the public domain. Communication skills, including knowing your audience and why they are interested in the information you are speaking about, how to translate scientific jargon into understandable concepts for the public, and how to keep the audience engaged will be discussed. Pointers will be given on answering questions, being conversational, and conveying the "big picture". Students will give a number of presentations in this course and learn to receive and give feedback effectively.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Neuroscience (PhD) or Neurobiology (PhD)

NROSCI 2410 - TRANSLATING SCIENCE
Minimum Credits: 3
Maximum Credits: 3
Students will work in creative teams of 2-3 students/team to develop creative new outreach tools for communication of science to the public (new lectures, laboratories, videos, films, activities). At the beginning of the semester, didactic lectures will cover background information about how to effectively communicate scientific information, how to break down a message, production of effective, engaging slides, animations and videos, and the use of hands-on activities to engage the audience. Guest speakers with expertise in film, video and use of museum exhibits will be included. Students will then choose a topic area they wish to create an outreach lecture/video/etc. In, and with the assistance of dr. Cameron you will choose a scientific advisor with specific expertise on the topic you will develop an outreach tool for. Students will do background reading for the development of their outreach tool and have discussions with their advisor. If developing a lecture, students will develop a set of PowerPoint slides for the lecture, the lecture text with background references, and hands-on activities to complement the lecture for both a junior high and a high school version of the lecture. They will present the lecture at one of the grade levels it was designed for. For other activities, the activity will be developed along with background information regarding the use of the activity. The activity will be presented to a public group.
Academic Career: GRAD
Course Component: Lecture
Grade Component: GradLG/SU3

Nursing

NUR 0001 - FRESHMN SEMINAR - NUR STUDENTS
Minimum Credits: 0
Maximum Credits: 0
This course is designed to provide beginning nursing students with an overview of the nursing profession and an introduction to the school of nursing. The purpose of the course is to facilitate the students' adjustment to the university environment and to acquaint them with the skills and resources available to promote success.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis
Course Requirements: School of Nursing students only.

NUR 0002 - NSG ANATOMY & PHYSIOLOGY LAB 1
Minimum Credits: 1
Maximum Credits: 1
This laboratory course is designed to provide students with hands-on experience related to the anatomy and physiology of the human body. Laboratory sessions complement the lecture component of NUR 0012. Laboratory instruction emphasizes structure and how it relates to function and the maintenance of homeostasis in the whole body.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: CREQ: NUR 0012

NUR 0003 - NSG ANATOMY & PHYSIOLOGY LAB 2
Minimum Credits: 1
Maximum Credits: 1
This laboratory course is designed to provide students with hands-on experience related to the anatomy and physiology of the human body. Laboratory sessions complement the lecture component of NUR 0013. Laboratory instruction emphasizes structure and how it relates to function and the maintenance of homeostasis in the whole body.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0002; CREQ: NUR 0013

NUR 0005 - HONORS FRESHMAN SEMINAR
Minimum Credits: 1
Maximum Credits: 1

Using a flexible format, this course is designed to provide beginning nursing students with an overview of the University Honors College and the honors track within the school of nursing. The purpose of this course is to facilitate the students' exposure to the University of Pittsburgh Honors College environment, and to acquaint them with the opportunities and resources that are available to promote success in the honors track in the school of nursing.
Academic Career: UGRD
Course Component: Seminar
Grade Component: H/S/U Basis

NUR 0012 - HUMAN ANATOMY AND PHYSIOLOGY 1

Minimum Credits: 3
Maximum Credits: 3
This course is designed to present students with a basic foundation in normal human anatomy and physiology. Topics covered are: cell physiology, histology, integumentary, skeletal, muscular, nervous and sensory systems. Emphasis is on the interaction of structure and function and the mechanisms which maintain homeostasis in the human body.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

NUR 0013 - HUMAN ANATOMY AND PHYSIOLOGY 2

Minimum Credits: 3
Maximum Credits: 3
This course is designed to present students with a basic foundation in normal human anatomy and physiology. Body systems covered include: endocrine, cardiovascular, respiratory, digestive, urinary, reproductive, and embryological development. Emphasis is on the interaction of structure and function and the mechanisms which maintain homeostasis in the human body.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NUR 0012

NUR 0020 - PATHOPHYSIOLOGC FNDTNS NUR CRE

Minimum Credits: 4
Maximum Credits: 4
This course will examine mechanisms that produce disease and injury, the ways in which the body responds to these mechanisms, and the clinical manifestations produced by the body's response.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0013

NUR 0031 - MICROBIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This lecture course will introduce students to the basic properties of bacteria, archaea, eukaryotic microorganisms and viruses, with an emphasis on bacteria. The diversity within the microbial world will be emphasized, as well as their relevance to the health and diseases of humans. Approaches for controlling the growth of microbes in the environment and for preventing the spread of infectious diseases will also be discussed. In addition, students will also become familiar with host-microorganism interactions and host-immune responses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: NUR 0032; PROG: School of Nursing

NUR 0032 - MICROBIOLOGY LABORATORY

Minimum Credits: 1
Maximum Credits: 1
This laboratory course will provide students with hands-on experience in terms of the techniques used to detect, grow, isolate and identify microorganisms.
Academic Career: UGRD
Course Component: Clinical
Grade Component: Letter Grade
Course Requirements: PROG: School of Nursing

NUR 0051 - INTRO PROFESSIONAL NURSING

Minimum Credits: 3
Maximum Credits: 3
This course provides a broad overview and synthesis of the issues and trends most relevant to the practice of professional nursing. Historical, contemporary and potential influences on professional nursing practice are reviewed. An emphasis on the unique and varied roles of nurses in today's

interdisciplinary health care environment are examined within the context of individual, family, community, and global health. Characteristics and major changes in health care delivery systems (federal, state, and local) are discussed. Components of professional nursing values and core practice competencies are presented. The concept of an evidence-based approach to clinical practice is introduced. Critical thinking strategies are introduced in the context of the nursing process.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 0062 - NUTRITION FOR HEALTH PROMOTION

Minimum Credits: 2
Maximum Credits: 2
This course focuses on nutrition in nursing practice for the promotion and maintenance of health for human beings throughout the life cycle. Food needs for energy and the major nutrients are considered for the promotion of health. Emphasis is placed on nutrition assessment and interventions in relation to the dietary guidelines for Americans.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 0063 - THERAPEUTIC NUTRITION

Minimum Credits: 2
Maximum Credits: 2
This course focuses on nutrition in nursing practice for the restoration and maintenance of health for human beings throughout the life cycle. Enteral and parenteral sources 0f energy and major nutrients will be considered for persons in institutional and home care settings. Emphasis is placed on nutrition assessment and interventions for persons with short or long term disruptions of health status in relation to current research in therapeutic nutrition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 0064 - NURSING CARE OF THE ELDERLY

Minimum Credits: 5
Maximum Credits: 5
This course focuses upon the role of the nurse in restoring and maintaining the health of elderly persons. Content pertaining to related theories, sociocultural influences and health care resources are included. Emphasis is on promoting the optimal functioning of elderly persons experiencing selected alterations in mobility, stimulation, affiliations, integrity and ingestion/egestion through the use of the nursing process, critical thinking and decision making. Opportunities will be provided for consultation, health teaching collaboration and utilization of research findings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 0066 - NUTRITION FOR CLINCAL PRACTICE

Minimum Credits: 3
Maximum Credits: 3
This course focuses on nutrition for clinical practice for nurses. Food for energy and the major nutrients are considered for the promotion of health and for medical nutrition therapy for selected disruptions of health. Emphasis is placed on nutrition assessment and interventions in relation to the goals of the current healthy people document and dietary guidelines for Americans.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

NUR 0067 - NSG RES: INTRO CRITL APPRL EBP

Minimum Credits: 3
Maximum Credits: 3
The primary objective of this course is to assist students in becoming intelligent consumers of research to provide the basis for evidence-based practice and provision of culturally-congruent care. Students gain an understanding of the application of quantitative and qualitative research processes to the development of nursing knowledge and the contributions of research to the evidence base of nursing practice. Students are expected to implement the steps of evidence based practice. Students are to identify clinical problems and search the literature for information about the problem. Students are expected to critically appraise research articles, distinguish between useful, valid research and that which cannot or should not be applied to nursing practice.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0080 or NUR 0081

NUR 0070 - INTRO PROF ROLE & HLTH PROMO

Minimum Credits: 4
Maximum Credits: 4
The student will be introduced to the profession of nursing from historical and contemporary perspectives. The role of the professional nurse and the nursing process including critical thinking and decision making will be included. This course will also provide the student with a knowledge base for the promotion of health throughout the life-span. Focus is on the health education aspect of the professional nursing role. By health teaching a referral, when appropriate, the student will intervene to promote the health of children in ambulatory & other community settings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 0071 - INTRO TO PROFESSIONAL NURSING

Minimum Credits: 2
Maximum Credits: 2
The student will be introduced to the profession of nursing from historical and contemporary perspectives. The role of the professional nurse and use of the nursing process, including critical thinking and decision-making, will also be introduced. A brief description of the school of nursing's organizing framework and an overview of the health care de livery system will be given. Characteristics of nursing as a profession will be identified and selected theories will be critically examined for their applicability to nursing practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Nursing students only.

NUR 0073 - NUTRITION AND HEALTH

Minimum Credits: 4
Maximum Credits: 4
This course focuses on nutrition in nursing practice for the adult learner. Nutrition for the promotion, restoration and maintenance of health for human beings throughout the life cycle will be explored. Emphasis is placed on nutrition assessment and interventions in relation to the dietary guidelines for Americans and for persons with short and long term disruption of health in relation to current research in therapeutic nutrition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 0074 - NURSING CRE ELDERLY WELL & ILL

Minimum Credits: 4
Maximum Credits: 4
Focuses on the role of the nurse in promoting, restoring, and maintaining the health of elderly persons. Content pertaining to related theories, sociocultural influences, and health care resources is included. Emphasis is on promoting health and optimal functioning of elderly persons with selected alterations in mobility, stimulation, affiliations, integrity, ingestion, and elimination through the use of the nursing process. Opportunities will be provided for health teaching, consultation, and collaboration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Nursing students only.

NUR 0075 - NSG METH ASSMNT & PSYMTR SKILS

Minimum Credits: 5
Maximum Credits: 5
This course provides students with the beginning knowledge and skills for health assessment and initial cognitive and manipulative components of psychomotor skills used when providing nursing care for individuals throughout the lifespan. Nursing process, critical thinking and decision making serve as the framework for acquisition of health assessment and psychomotor skills. Through active laboratory participation the student will demonstrate self-direction as a learner.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 0076 - FOUNDTNS OF NURSING PRACTICE 1

Minimum Credits: 5
Maximum Credits: 5
This course focuses on concepts of communication, therapeutic intervention, and decision-making as related to the nursing process. Techniques of

assessment of physical, psychological, sociocultural, and developmental dimensions of the individual will be explored. Variations based on age, social condition, and culture will be discussed. Emphasis will be placed on therapeutic interventions, health assessment, and health promotion. Skill acquisition will involve initial manipulative component of psychomotor skills used to provide basic nursing care.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Nursing students only.

NUR 0077 - NUR MGMT ADULT ACUTE/CHRONIC

Minimum Credits: 6
Maximum Credits: 6
This course focuses on the nursing care of hospitalized adults with acute/chronic illnesses. Students will be guided in critical thinking exercises and use of therapeutic nursing interventions. Students will care for patients who require medical/surgical treatments and who are not experiencing a complicated illness course. Nursing management of persons with selected alterations in human functioning will be stressed. Clinical experiences will be in community hospitals and institutions affiliated with the university of Pittsburgh medical center.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Nursing students only.

NUR 0080 - FOUNDATIONS OF NURSING PRACT 1

Minimum Credits: 4
Maximum Credits: 4
This course focuses on the concepts of communication, therapeutic intervention, and decision-making as they relate to the nursing process. Techniques of assessment of the physical, psychological, and developmental dimensions of the individual are explored through a variety of learning strategies. Variations of expected findings based on influences such as age, social condition, and culture are discussed. Emphasis is placed on the therapeutic interventions of safety, hygiene and comfort, health assessment and health promotion.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NUR 0003 and NUR 0051; CREQ: NUR 0020 and NUR 0087

NUR 0080C - FNDTNS OF NURSING PRAC 1 CLNCL

Minimum Credits: 2
Maximum Credits: 2
This course is designed to provide clinical experiences related to the theory provided in Foundations of Nursing Practice 1. Techniques used in the assessment of the physical, psychological and development dimensions of the individual within an acute care setting are demonstrated. Variations of findings based on influences such as age and culture are identified. Emphasis is placed on the therapeutic interventions of safety, hygiene and comfort, health assessment and health promotion.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 0080

NUR 0081 - FOUNDATIONS OF NURSING PRACT 2

Minimum Credits: 2
Maximum Credits: 2
This course builds on the fundamental skills learned in NUR 0080. The focus is on direct practice and correct manipulation of equipment during the performance of psychomotor skills. During laboratory sessions, students will have the opportunity to practice simulated clinical skills. The nursing process and clinical reasoning will serve as the framework for decision-making during skill performance. Through active laboratory participation, the student will demonstrate self-direction as a learner.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NUR 0080; CREQ: NUR 0082

NUR 0082 - NUR MGT ACUT/CHRNC HLTH PROBS

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the nursing care of adults, including older adults, with acute and/or chronic illnesses. Students will be guided in critical thinking exercises and the use of therapeutic interventions and research findings in the management of adults. Nursing process, critical thinking, and decision-making serve as the framework for acquisition of knowledge for the management of patients. Societal and cultural influences will be emphasized.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0020 and NUR 0080 and NUR 0087; CREQ: NUR 0081 and NUR 0082C

NUR 0082C - NUR MGT ACUT/CHRNC HLTH PROBS

Minimum Credits: 4
Maximum Credits: 4
This course focuses on the nursing care of adults, including older adults, with acute and/or chronic illnesses. Students will be guided in critical thinking exercises and the use of therapeutic interventions and research findings in the management of adults with acute and/or chronic illnesses. During clinic, students will have the opportunity to practice clinical skills learned in the lab. Nursing process, critical thinking, and decision-making serve as the framework for acquisition of clinical psychomotor skills. Common concepts of care will be emphasized, including societal and cultural influences.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 0082

NUR 0086 - NURSING INFORMATICS

Minimum Credits: 2
Maximum Credits: 2
This course focuses on concepts relevant to the practice of nursing informatics. The course emphasizes information technology applications and the principles of nursing informatics from a current and historical perspective. Learners will examine the analysis of healthcare data and its transformation to nursing knowledge. Nursing language concepts and their importance in clinical information system development will be identified. Learners will examine information technologies that manage clinical information and support patient care. Social and ethical issues in the context of clinical information systems will be examined. The impact of evolving/emerging information technologies on healthcare provider and consumer roles will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 0087 - PHARMACOLOGY AND THERAPEUTICS

Minimum Credits: 3
Maximum Credits: 3
Examination of the major categories of pharmacologic agents and application of pharmacologic concepts to clinical nursing practice. Emphasis is placed on understanding the physiologic actions of the drugs, expected patient responses, major side effects, and implications for nursing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CHEM 0910 and NUR 0013 and (NUR 0031 or ORBIOL 0031)

NUR 0088 - INTRO TO BASIC STATSTC FOR EBP

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to descriptive statistics and parametric and nonparametric statistical tests that are commonly used by researchers in the health sciences and appear in published research reports. Emphasis is placed on student mastery of concepts and principles that are fundamental to descriptive and inferential statistics, as well as interpretation and critical appraisal of their use in research studies. Opportunities are provided to manipulate data, perform basic statistical tests, and summarize findings in tabular, graphical, and narrative form.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 0155 - CONTEM ISSUES CROS CULTL HLTH

Minimum Credits: 3
Maximum Credits: 3
Purpose of course is to increase awareness of how the delivery and acceptance of health care may be influenced by social, cultural, and environmental factors. It will provide an overview of how these factors influence a person's response to stressors, daily health and living needs. Goal is to help students increase their understanding of culturally congruent care by utilizing cultural concepts, theories, and research. Students will analyze factors that facilitate/ hinder communication about health needs, acceptance of the health care regimen, and access to health care systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1021 - ADVNCD CLINCAL PROBLEM SOLVING

Minimum Credits: 5
Maximum Credits: 5
This course focuses on the nursing management of the adult who experiences an acute or complex illness with an alteration in multiple body systems. The students' ability to apply the nursing process, using critical thinking skills, is expanded through classroom and clinical activities. Professional competence is enhanced through the utilization of high fidelity human simulation technology. Collaboration with interdisciplinary health professionals in health promotion and restoration is fostered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

NUR 1021C - ADV CLIN PROB SOLV CLIN

Minimum Credits: 2
Maximum Credits: 2
This course focuses on the management of the adult who experiences an acute or complex illness with an alteration in multiple body systems. The students' ability to apply the nursing process, using critical thinking skills, is expanded through clinical activities. Collaboration with interdisciplinary health professionals in health promotion and restoration is fostered.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1121

NUR 1037 - CLINICAL PROBLEM SOLVING

Minimum Credits: 3
Maximum Credits: 3
The focus of this course is on the integration of major nursing concepts that have been taught throughout the nursing curriculum. Synthesis of this theoretical know ledge will then be applied to clinical problem solving and decision making in a wide range of health related problems that clients experience through the life continuum. Factors that influence clinical problem solving will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1040 - PROBLEM BASED LEARNING

Minimum Credits: 3
Maximum Credits: 3
Problem based learning will be utilized as an innovative individual and group teaching strategy. Problems will be offered to students to enhance the application of pathophysiology to actual patient clinical situations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: H/S/U Basis
Course Requirements: School of Nursing students only.

NUR 1045 - NURS CARE CRITICALLY ILL ADLTS

Minimum Credits: 3
Maximum Credits: 3
The course is designed to provide the senior student an opportunity to pursue in-depth knowledge of problems commonly experienced by critically ill patients and their significant others. Emphasis is placed on stressors encountered in the critical care environment, current treatment modalities and their rationale based on the physiology of multi-system failure. Students will have the opportunity to participate in implementing steps of the nursing process with the guidance and assistance of a critical care nurse preceptor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1046 - STUDENT NURS INTRNSHIP PROGRAM

Minimum Credits: 3
Maximum Credits: 3
The focus of this course is on the implementation of previously learned clinical skills. Introduction of time management in priority setting related to patient care will be implemented with the use of preceptors. Emphasis will be on improving clinical judgement skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1049 - NUR PROC AND THE ADDCTD PERSON

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the synthesis of knowledge related to the development and progression of addiction in all forms including alcoholism, drug abuse, cigarette smoking, overeating, and others. Emphasis will be on the application of nursing process with individuals, families, and groups at all levels of prevention.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1050 - NUR CRE MTHRS, NEWBRNS & FMLYS

Minimum Credits: 2
Maximum Credits: 2
This course provides an introduction to the process of childbirth and the dynamics of the childbearing family. It explores the areas of health promotion, physiologic changes associated with pregnancy, high risk conditions associated with pregnancy and the development of the fetus and newborn. Emphasis is on adaptation to the biopsychosocial needs of the childbearing family with sensitivity to the cultural needs and ethical issues of a diverse population. Critical thinking, problem solving, stress adaptation, role, family and nursing theories provide a major focus for understanding childbearing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0066 and NUR 0082 and NUR 0087

NUR 1050C - NUR CARE MTHRS NB & FAML CLIN

Minimum Credits: 2
Maximum Credits: 2
This course provides an introduction to the process of childbirth and the dynamics of the childbearing family. It explores the areas of health promotion, physiologic changes associated with pregnancy, high risk conditions associated with pregnancy and the development of the fetus and newborn. Emphasis is on adaptation to the biopsychosocial needs of the childbearing family with sensitivity to the cultural needs and ethical issues of a diverse population. Critical thinking, problem solving, stress adaptation, role, family and nursing theories provide a major focus for understanding childbearing. Clinical experiences reflect a diversity of settings including outpatient, inpatient, and community programs that provide services to the childbearing family.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1050

NUR 1051 - NUR ADLT EXPERNG CARDC ARRHYTM

Minimum Credits: 3
Maximum Credits: 3
Course focuses on nursing care of adults with cardiac arrhythmias. Critical decision making and nursing responsibilities with respect to electrocardiographic interpretation and the institution of prescribed treatment are addressed. Emphasis is placed on the fundamentals of basic electrocardiography including arrhythmia classification, recognition and etiology. Knowledge of the anatomy and physiology of the heart including coronary blood flow are synthesized and applied to the interpretation of cardiac conduction disturbances along with nursing implications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1052 - NUR CARE CHILD & THEIR FMLYS

Minimum Credits: 2
Maximum Credits: 2
This course focuses on the unique health and developmental needs of infants, children and adolescents with an emphasis on family-centered care. The course incorporates principles of assessment, planning and implementation of nursing interventions appropriate for health promotion, wellness, health restoration and various complex health problems. Nursing approaches are based on the use of best evidence, developmental perspectives, and cultural competence with a focus on critical thinking.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0066 and NUR 0082 and NUR 0087

NUR 1052C - NUR CRE CHILD/THEIR FMLYS CLIN

Minimum Credits: 2
Maximum Credits: 2
This course focuses on nursing practice for restoration and maintenance of health in children in various stages of development within their families and the broader social contexts in which children grow and develop. Nursing approaches used in the clinical setting are based on the use of best

evidence, developmental perspectives, and cultural competence. The nursing process is applied to the child and family to minimize the effects of stressors which have resulted in a disruption of health. There is an emphasis on critical thinking and decision making as the student applies theory to nursing care.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1052

NUR 1054 - NURSING CARE OF OLDER ADULTS

Minimum Credits: 2
Maximum Credits: 2
This course is designed to ensure competency in providing evidence-based nursing care to older adults and their families, across a continuum of health care settings. Attention is given to the complex interaction of acute and chronic co-morbid conditions, interdisciplinary collaboration, the recognition of risk factors, valid and reliable health assessment, and individualized and evidence-based care for older adults across a continuum of health care settings. The influence of attitudes, age, gender, race, culture, religion, language, lifestyle, technology, and health care policy on the biological, psychological, and social functioning of older adults is considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 0082; PROG: School of Nursing

NUR 1054C - NUR CARE OF OLDER ADULTS CLIN

Minimum Credits: 1
Maximum Credits: 1
This course is designed to ensure competency in providing evidence-based nursing care to older adults and their families, across a continuum of health care settings. Attention is given to the complex interaction of acute and chronic co-morbid conditions, interdisciplinary collaboration, the recognition of risk factors, valid and reliable health assessment, and individualized care for older adults across a continuum of health care settings. The influence of attitudes, age, gender, race, culture, religion, language, lifestyle, technology, and health care policy on the biological, psychological, and social functioning of older adults is considered.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1054

NUR 1060 - NUR CARE CLIENTS PMH PROBLEMS

Minimum Credits: 2
Maximum Credits: 2
This course is designed to teach basic psychiatric mental health nursing concepts and their application to clinical practice. Classroom learning is focused on developmental, psychological, and biological theories in order to enhance understanding of psychiatric illness. Major psychiatric illnesses throughout the lifespan as well as contemporary methods of treatment are addressed. Emphasis is placed on understanding the unique contributions of social and cultural factors to mental health.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0066 and NUR 0082 and NUR 0087; CREQ: NUR 1120

NUR 1060C - NUR CARE CLIENTS PMH PROB CLIN

Minimum Credits: 2
Maximum Credits: 2
This course focuses on nursing practice of health promotion and restoration in individuals with mental health problems. Application of theoretical concepts and nursing interventions is the focus of the clinical experience in acute, chronic, and community mental health settings. Emphasis is placed on understanding the unique contributions of social and cultural factors in the development of treatment plans for clients experiencing psychiatric problems.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1060

NUR 1061 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
An independent study is a student-initiated experience planned to permit students to pursue an area of interest in nursing with guidance of a faculty preceptor.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

NUR 1064 - GERONTOLOGICAL NURSING

Minimum Credits: 5
Maximum Credits: 5
This course focuses upon the role of the nurse in promoting, restoring, and maintaining the health of elderly persons. Content pertaining to related theories, sociocultural influences and health care resources is included. Students apply the nursing process (a) in health promotion activities with elderly persons in the community, and (b) to selected alterations related to chronic health problems of elderly in a nursing home setting and in homes of persons with Alzheimer's disease. Opportunities will be provided for consultations, health teaching, and collaboration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1067 - ENHANCED COMMUNICTN PROF NUR

Minimum Credits: 2
Maximum Credits: 2
Course is designed to provide info about basic principles of effective communication in the practice of professional nursing. Units of content and learning activities focus on writing skills, presentation skills, communication as an image builder, barriers to effective communication in the workplace, and strategies for enhancing communication in the healthcare environment. Frequent opportunities for skill development and practice are provided. The goal is to enhance the proficiency of the professional nurse in a variety of situations that require effective communication.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Nursing students only.

NUR 1070 - INTRO TO NURSING SCIENCE

Minimum Credits: 2
Maximum Credits: 2
This course provides the adult student with an introduction to the scientific and theoretical basis of professional nursing. Historical influences through contemporary influences on nursing as an applied science are examined. Specific theories of nursing, physiology, and psychology along with research findings, which serve as the scientific basis of nursing practice, are analyzed. The roles of the professional nurse as advocate, educator, researcher, and change agent are examined within the context of the changing health care system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1072 - HEALTH PROMTN/HEALTH ASSESSMNT

Minimum Credits: 3
Maximum Credits: 3
This course presents the knowledge base for using health promotion strategies and the techniques for health assessment of individuals across the life span. The role of the nurse in promoting patterns of positive health behaviors is emphasized. The student is also provided with an opportunity to practice physical assessment skills in the laboratory and in a precepted clinical setting. In addition, the course facilitates the RN learner's adjustment to the expectations of the multiple role learner.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 1070; PROG: School of Nursing

NUR 1073 - COMMUNITY HEALTH NURSING

Minimum Credits: 5
Maximum Credits: 5
This course will provide learning experiences which focus on the role of the community health nurse in working with individuals, families, and groups in a variety of community settings. Students will explore community issues such as community assessment, screening, epidemiologic concepts and factors which influence the delivery of community health services. Health care needs of selected groups in the community will also be studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1074 - PROF DVLP AND PRACTICUM 1

Minimum Credits: 3
Maximum Credits: 3
This course enables the registered nurse student to further develop critical thinking, leadership abilities, communication and decision-making skills in the development and implementation of an evidence-based clinical capstone project to enhance patient care quality. A systematic approach is used to

identify a clinical topic for evidence-based literature review, presentation, and evaluation. Each student identifies specific learning activities for the practicum, which relate directly to a selected culturally diverse environment. Under the guidance of faculty and a clinical preceptor, didactic seminars, assignments, and mentored clinical practicum are used to foster independence and self-direction for all students.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0067 or 2000 or 2001

NUR 1075 - PROFESSIONAL NURSING ROLE

Minimum Credits: 3
Maximum Credits: 3
This course focuses on enabling the student to synthesize knowledge about the professional nursing role within the health care delivery system. Theory related to leadership and management in nursing will be presented. Health care policy and nursing practice issues will also be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1077 - SCHOOL NURSE SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This course is designed to prepare the professional nurse for certification as a school nurse in Pennsylvania; both the theory component (NUR 1077) and the practicum (NUR 1078) are required for eligibility. The role of the school nurse is explored through the historical, legal, ethical, research and practice perspectives. The biological, physical, developmental, behavioral, cultural and psychosocial needs of children of all ages in the school setting are examined. Throughout the course, current evidence related to school nursing and Pennsylvania educational requirements is applied to the health needs of school age children, including those with special health and learning needs, the culturally diverse and English language learners (ell's). The independent and collaborative aspects of the school nurse role are explored.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: NUR 1078; PROG: School of Nursing

NUR 1078 - SCHOOL NURSE PRACTICUM

Minimum Credits: 3
Maximum Credits: 3
This course is designed to prepare the professional nurse for certification as a school nurse in Pennsylvania; both the theory component (NUR 1077) and this practicum (NUR 1078) are required for eligibility. This course provides the required 100 hours of clinical practicum experience in elementary, middle and high school settings. The nursing care of children requiring acute, chronic and episodic care is performed under the guidance of an experienced school nurse. Throughout the course, the application of the nursing process and evidence-based approaches are employed when providing nursing services to school age children. Interdisciplinary care and management for school age children with special health and learning needs, including the culturally diverse and English language learners (ell's) is emphasized. The independent and collaborative aspects of the school nurse role are explored within the school setting.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: CREQ: NUR 1077; PROG: School of Nursing

NUR 1079 - PROFESSIONAL DVLP & PRACTCM 2

Minimum Credits: 3
Maximum Credits: 3
This course enables the registered nurse student to further develop oral and written communication, critical thinking, and leadership skills through the presentation, implementation, and evaluation of an evidence-based clinical practice process during the clinical practicum. Under the guidance of faculty and a clinical preceptor, didactic seminars, assignments, and mentored clinical practicum are used to foster leadership skills, independence and self-direction with a clinical project for all students.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 1074; PROG: School of Nursing

NUR 1082 - ADVANCED CARE OF ADULT 1

Minimum Credits: 4
Maximum Credits: 4
This course includes nursing care of adults experiencing acute/complex alterations in multiple body systems. Roy's adaptation model of nursing and Watson's theory of caring serve as conceptual and theoretical bases. Practice settings include acute/critical care units. Emphasis is on prioritization of nursing care, technology/bioinstrumentation, patient and family role adaptation and multiple-body system alterations. Pathophysiology, diagnostic studies, associated nursing responsibilities and medical-surgical management are included.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1083 - TRANSITION INTO NURSNG PRACTC

Minimum Credits: 6
Maximum Credits: 6
This course focuses on facilitating the transition to professional practice through the use of agency preceptors to increase independence and responsibility for patient care in an intensive clinical experience. Leadership principles are utilized in the management of small groups of clients and unit personnel. Progressive acquisition of skills in clinic decision-making will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: H/S/U Basis
Course Requirements: School of Nursing students only.

NUR 1084 - ADVANCED CARE OF THE ADULT 2

Minimum Credits: 4
Maximum Credits: 4
This course is a continuation of NUR 1082 and includes nursing care of adults experiencing acute/complex alterations in multiple body systems. Practice settings include acute/critical care units. Emphasis on prioritization of nursing care, technology/bioinstrumentation, patient and family role adaptation and multiple body system alterations. Roy's adaptation model and Watson's theory serve as base. Pathophysiology, diagnostic studies, associated nursing responsibilities and medical-surgical management are included.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1085 - ETHICS IN NURSING & HEALTH CRE

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the domain of clinical ethics as a foundation for developing ethical expertise in nursing practice. The course focuses on contemporary nursing and health care issues that raise personal and professional ethical concerns. Emphasis is placed on cultural differences, current legislation, political and religious controversy, economic constraints, and professional commitment related to the resolution of the identified ethical dilemmas. The process of ethical analysis and reasoning is used to resolve representative patient and health care situations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0082

NUR 1086 - ADV MEDICAL-SURGICAL NURSING

Minimum Credits: 6
Maximum Credits: 6
This course includes nursing care of adults experiencing acute/complex alterations in multiple body systems. Roy's adaptation model of nursing and Watson's theory of caring serve as conceptual and theoretical bases. Practice settings include acute/critical care units. Emphasis is on prioritization of nursing care, technology/bioinstrumentation, patient and family role adaptation and multiple-body system alterations. Pathophysiology, diagnostic studies, associated nursing responsibilities and medical-surgical management are included.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1087 - TRANSITION INTO PRACTICE

Minimum Credits: 5
Maximum Credits: 5
This course focuses on facilitating the transition to professional practice through the use of agency preceptors to increase independence and responsibility for patient care in an intensive clinical experience. Leadership principles are utilized in the management of small groups of clients and unit personnel. Progressive acquisition of skills in clinic decision-making will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: H/S/U Basis
Course Requirements: School of Nursing students only.

NUR 1090 - PRECEPTORSHIP IN NURSING EDUC

Minimum Credits: 3
Maximum Credits: 3

The course affords the RN the opportunity to develop know ledge of the preceptors contribution to the preparation of new nurses for the profession. Skill in enacting the role of preceptor is included via a practicum in which the RN serves as a preceptor for a novice practitioner.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Nursing students only.

NUR 1120 - ADV NUR MGT ACU/CPLX HLTH PROB

Minimum Credits: 2
Maximum Credits: 2
This course focuses on the patient centered nursing care of adults experiencing acute and complex illnesses. Emphasis is placed on the prioritization and decision making processes of nursing care and the nursing responsibilities associated with translating, integrating and applying medical/surgical management, evaluation of outcomes, health promotion, and support for individuals and families experiencing acute and complex health problems. This course will also discuss the increasing diversity of this nation's population as expressed through age, racial, ethnic, gender, cultural, spiritual and sexual orientation. Discussions will occur with the effect of socio-economic differences and how it may affect the patient's overall health care. Discussion of interdisciplinary collaboration healthcare professional is emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NUR 0066 and NUR 0067 and NUR 0082 and NUR 0087

NUR 1120C - ADV NUR MGT ACU/CPLX HLTH CLIN

Minimum Credits: 2
Maximum Credits: 2
This clinical course focuses on the nursing care of adults with acute and complex illnesses in a hospital setting. Emphasis is placed on using the nursing process to assist students with the development of priority nursing goals and in applying critical thinking skills to patient care. The clinical nursing responsibilities include interpretation of diagnostic studies, medical/surgical patient management, evaluation of outcomes, health promotion, and support for individuals and families experiencing acute and complex health problems. This course includes application of cultural diversity awareness training to the nursing process. Clinical learning is focused on developing and refining the knowledge and skills to manage patient care as part of inter-professional teams. Clinical experiences are offered in acute care, critical care, and monitored units.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1120

NUR 1121 - ADVNCD CLINCAL PROBLEM SOLVING

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the nursing management of the adult who experiences an acute or complex illness with an alteration in multiple body systems. The students' ability to apply the nursing process, using critical thinking skills, is expanded through classroom and case study activities. Professional competence is enhanced through the utilization of high fidelity human simulation technology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1052 and NUR 1054 and NUR 1060; PROG: School of Nursing

NUR 1121C - ADVNCD CLIN PROB SOLVING CLIN

Minimum Credits: 2
Maximum Credits: 2
This course focuses on the nursing management of the adult who experiences an acute or complex illness with an alteration in multiple body systems. The students' ability to apply the nursing process, using critical thinking skills, is expanded through clinical activities. Collaboration with interdisciplinary health professionals in health promotion and restoration is fostered
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1121

NUR 1122 - TRANSTN INTO PROF NURS PRAC

Minimum Credits: 6
Maximum Credits: 6
This course is designed to facilitate the transition to professional practice through the preceptorship of registered nurses in a variety of settings. Students will be able to synthesize knowledge about the professional nursing role and increase their responsibility and accountability for patient care. Theory related to professional nursing roles, patient care management, and leadership will be presented. In addition, health care policy related to nursing issues will be examined.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: School of Nursing students only.

NUR 1123 - COMMUNTY HLTH NUR: HLTH PROMTN

Minimum Credits: 3
Maximum Credits: 3
This course will provide the student with a broad introduction to community health and the role of nursing within this context. Through the use of critical thinking and decision making, independence in clinical practice will be encouraged. Students will explore areas of epidemiology, health promotion within groups, community assessment, and factors influencing the delivery of and access to community health services. The health care needs of selected at-risk populations will be examined, emphasizing a population focus for nursing care and health promotional interventions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1124 - COMMUNITY HLTH NUR: HOME CARE

Minimum Credits: 3
Maximum Credits: 3
This course will provide the student with a broad introduction to the role of nursing in case management in the home and diverse community settings. Through the use of critical thinking and decision-making, independence in clinical practice will be encouraged. Students will conduct family, home and environmental assessment in order to develop individualized, comprehensive family health promotional and education al plans. Emphasis will be placed upon managing the care of individuals, families and caregivers collaboratively with health care providers from multiple disciplines.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1125 - CLINICAL DECISION MAKING

Minimum Credits: 4
Maximum Credits: 4
Emphasis of this course for nursing students enrolled in the accelerated nursing program is on nursing care of the adult experiencing acute and complex illnesses with alterations in multiple body systems. Focus is on critical thinking and decision making in the use of the nursing process, prioritization of nursing care, technology-bioinstrumentation, and support for individuals, families, and groups experiencing complex illnesses. Collaboration with interdisciplinary health professionals in health promotion and restoration is fostered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Nursing students only.

NUR 1126 - TRANSITION INTO PRACTICE

Minimum Credits: 3
Maximum Credits: 3
This course for the accelerated nursing student focuses on facilitating the transition to professional practice through the use of agency preceptors to increase independence and responsibility for patient care in an intensive clinical experience. Leadership principles are utilized in the management of small groups of clients and unit personnel. Progressive acquisition of skills in clinical decision making will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Nursing students only.

NUR 1127 - COMMUNTY HEALTH NURSING

Minimum Credits: 3
Maximum Credits: 3
This course will provide the student with a broad introduction to community health and the role of nursing within this context. Students will explore epidemiology; health promotion and disease prevention within groups; individual and family case management; community assessment and intervention; environmental hazards; and factors influencing the delivery of and access to community health services. The health care needs of selected at-risk populations will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: NUR 0067; PROG: School of Nursing

NUR 1127C - COMMUNITY HEALTH NURSING CLIN

Minimum Credits: 0
Maximum Credits: 0
The overall objective of this course is to provide the student with a broad introduction to community health and the role of nursing within this

context. Students will experience independence and collaboration with community-based clinicians in a variety of settings. Students will have opportunities to apply epidemiology; health promotion and disease prevention within groups; individual and family case management; community assessment and intervention; environmental hazards; and factors influencing the delivery of and access to community health services at the individual, family, and aggregate levels.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1128

NUR 1128 - COMMUNITY HEALTH NURSING

Minimum Credits: 2
Maximum Credits: 2
The overall objective of this course is to provide the student with a broad introduction to community health and the role of nursing within this context. Students will explore epidemiology; health promotion and disease prevention within groups; individual and family case management; community assessment and intervention; environmental hazards; and factors influencing the delivery of and access to community health services. The health care needs of selected at-risk populations will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (NUR 1120 or NUR 1220) and (NUR 1050 or NUR 1250) and (NUR 1060 or NUR 1260) and (NUR 1052 or NUR 1252)

NUR 1128C - COMMUNITY HEALTH NURSING CLIN

Minimum Credits: 2
Maximum Credits: 2
The overall objective of this course is to provide the student with a broad introduction to community health and the role of nursing within this context. Students will experience independence and collaboration with community-based clinicians in a variety of settings. Students will have opportunities to apply epidemiology; health promotion and disease prevention within groups; individual and family case management; community assessment and intervention; environmental hazards; and factors influencing the delivery of and access to community health services at the individual, family, and aggregate levels.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1128

NUR 1130 - LEADERSHP IN PROF NUR PRACTICE

Minimum Credits: 3
Maximum Credits: 3
Course is designed to provide knowledge and skills needed for implementation of leadership and management roles within professional nursing practice. Units of content focus on change in the healthcare delivery system, leadership and management theories, effective interpersonal skills for leadership, organizational theories, emerging models of care delivery, planned change, information management, financial management, and performance evaluation. Students critically analyze influences on leadership within healthcare today and plan for active participation in the process of transformational leadership.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NUR 1070; PROG: School of Nursing

NUR 1131 - INTERPROF HEALTHCARE TEAMS

Minimum Credits: 1
Maximum Credits: 2
This course provides a review of interprofessional healthcare teams, barriers and facilitators, roles/responsibilities of various members of the healthcare team, and strategies that help to incorporate teams within a variety of healthcare settings. The student is guided through methods of team development in healthcare organizations. The course provides a basis for incorporating nursing as an integral member of the healthcare team.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1133 - TRANSTN INTO PROF NUR PRACT

Minimum Credits: 9
Maximum Credits: 9
This course is designed to facilitate the transition into professional practice through the preceptorship with registered nurses in a variety of settings. Students synthesize knowledge about the professional nursing role and increase their responsibility and accountability for nursing practice for individuals, families, and aggregates. Theory related to professional nursing roles, patient care management, and leadership is presented. In addition, health care policy related to specific nursing issues is examined.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1052 and NUR 1054 and NUR 1060; PROG: School of Nursing

NUR 1134 - TRANSTN INTO PROF NUR PRACT

Minimum Credits: 2
Maximum Credits: 2
Students synthesize knowledge about the professional nursing roles and increase their understanding of their responsibility and accountability for the nursing care of individuals, families and aggregates. Theory related to professional nursing roles, patient care management, and leadership is presented. In addition, health care policy related to specific nursing issues is examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (NUR 1120 or NUR 1220) and (NUR 1050 or NUR 1250) and (NUR 1060 or NUR 1260) and (NUR 1052 or NUR 1252)

NUR 1134C - TRANSTN PROF NUR PRACT CLIN

Minimum Credits: 6
Maximum Credits: 6
This course is designed to facilitate the transition into professional practice through preceptorship with registered nurses in a variety of settings. Students synthesize knowledge about the professional nursing roles and increase their responsibility and accountability for the nursing care of individuals, families and aggregates. Theory related to professional nursing roles, patient care management, and leadership is presented. In addition, health care policy related to specific nursing issues is examined.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1134

NUR 1154 - NURSING CARE OF OLDER ADULTS

Minimum Credits: 2
Maximum Credits: 2
This course is designed to ensure competency in providing evidence-based nursing care to older adults and their families, across a continuum of health care settings. Attention is given to the complex interaction of acute and chronic co-morbid conditions, interdisciplinary collaboration, the recognition of risk factors, valid and reliable health assessments, and individualized care for older adults in acute and skilled nursing facilities. The influence of attitudes, age, gender, race, culture, religion, language, lifestyle, technology, and health care policy on the biological, psychological, and social functioning of older adults is considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

NUR 1220 - ADV NUR MGT ACU/CPLX HLTH CLN

Minimum Credits: 5
Maximum Credits: 5
This course focuses on the nursing care of adults experiencing acute/complex illnesses. Emphasis is placed on the prioritization and decision making processes of nursing care and nursing responsibilities associated with diagnostic studies, m/s management, evaluation of outcomes, health promotion, and support for individuals/families experiencing acute and complex health problems. Collaboration with interdisciplinary health professionals in health restoration is fostered. Clinical experiences are offered in acute, critical care, and monitored units.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: NUR 1282; PROG: School of Nursing

NUR 1220C - ADV NURSING MANAGEMENT OF THE ADULT WITH ACUTE/COMPLEX HEALTH PROBLEMS CLINICAL

Minimum Credits: 2
Maximum Credits: 2
This clinical course focuses on the nursing care of adults with acute and complex illnesses in a hospital setting. Emphasis is placed on using the nursing process to assist students with the development of priority nursing goals and in applying critical thinking skills to patient care. The clinical nursing responsibilities include interpretation of diagnostic studies, medical/surgical patient management, evaluation of outcomes, health promotion, and support for individuals and families experiencing acute and complex health problems. This course includes application of cultural diversity awareness training to the nursing process. Clinical learning is focused on developing and refining the knowledge and skills to manage patient care as part of inter-professional teams. Clinical experiences are offered in acute care, critical care, and monitored units.
Academic Career: UGRD
Course Component: Clinical

Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1120

NUR 1221 - ADVNCD CLINCAL PROBLEM SOLVING

Minimum Credits: 4
Maximum Credits: 4
This course focuses on the nursing management of the adult who experiences an acute or complex illness with an alteration in multiple body systems. The students' ability to apply the nursing process using critical thinking skills is expanded through classroom and clinical activities. Professional competence is enhanced through utilization of high fidelity human simulation technology. Collaboration with interdisciplinary health professionals in health promotion and restoration is fostered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1254 and NUR 1282; PROG: School of Nursing

NUR 1221C - ADVNCD CLIN PROB SOLVING CLIN

Minimum Credits: 1
Maximum Credits: 1
This course focuses on the nursing management of the adult who experiences an acute or complex illness with an alteration in multiple body systems. The students' ability to apply the nursing process, using critical thinking skills, is expanded through clinical activities. Collaboration with interdisciplinary health professionals in health promotion and restoration is fostered.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1121

NUR 1227 - COMMUNITY HEALTH NURSING

Minimum Credits: 3
Maximum Credits: 3
The overall objective of this course is to provide the student with a broad introduction to community health and the role of nursing within this context. Students will explore epidemiology; health promotion and disease prevention within groups; individual and family case management; community assessment and intervention; environmental hazards; and factors influencing the delivery of and access to community health services. The health care needs of selected at-risk populations will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 2000; PROG: School of Nursing

NUR 1228C - COMMUNITY HEALTH NURSING CLIN

Minimum Credits: 0
Maximum Credits: 0
The overall objective of this course is to provide the student with a broad introduction to community health and the role of nursing within this context. Students will experience independence and collaboration with community-based clinicians in a variety of settings. Students will have opportunities to apply epidemiology; health promotion and disease prevention within groups; individual and family case management; community assessment and intervention; environmental hazards; and factors influencing the delivery of and access to community health services at the individual, family, and aggregate levels.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1128

NUR 1233 - TRANSTN INTO PROF NUR PRACT

Minimum Credits: 5
Maximum Credits: 5
This course is designed to facilitate the transition into professional practice through the preceptorship with registered nurses in a variety of settings. Students synthesize knowledge about the professional nursing roles and increase their responsibility and accountability for nursing practice for individuals, families and aggregates. Theory related to professional nursing roles, patient care management, and leadership is presented. In addition, health care policy related to specific nursing issues is examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1254 and NUR 1282; PROG: School of Nursing

NUR 1234 - ADV CLNCL PROB SOLV/TRANSITION

Minimum Credits: 8
Maximum Credits: 8

This course is designed to facilitate the student's transition into professional practice through nursing management of the client who experiences an acute or complex illness with an alteration in multiple body systems and preceptorship with professional registered nurses in a variety of health care settings. Students will expand their ability to apply the nursing process in more complex situations, including simulation activities. Students will synthesize knowledge about professional nursing roles and community health issues and increase responsibility and accountability for nursing practice for individuals, families and aggregates. Theory related to professional nursing roles, patient care management, leadership and health care policy is presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1234C - TRANSITION INTO PROFESSIONAL NURSING CLINICAL

Minimum Credits: 3
Maximum Credits: 3
This course is designed to facilitate the transition into professional practice through the preceptorship with registered nurses in a variety of settings. Students synthesize knowledge about the professional nursing roles and increase their responsibility and accountability for the nursing care of individuals, families and aggregates.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1134

NUR 1250 - NUR CRE MTHRS, NEWBRNS & FMLYS

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to the process of childbirth and the dynamics of the childbearing family. It explores the areas of health promotion, physiologic changes associated with pregnancy, high risk conditions associated with pregnancy and the development of the fetus and newborn. Emphasis is on adaptation to the biopsychosocial needs of the childbearing family with sensitivity to the cultural needs and ethical issues of a diverse population. Critical thinking, problem solving, stress adaptation, role, family and nursing theories provide a major focus for understanding childbearing. Clinical experiences reflect a diversity of settings including outpatient, inpatient, and community programs that provide services to the childbearing family.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 1282; PROG: School of Nursing

NUR 1250C - NUR CARE MTHRS NB & FAML CLIN

Minimum Credits: 1
Maximum Credits: 1
This course provides an introduction to the process of childbirth and the dynamics of the childbearing family. It explores the areas of health promotion, physiologic changes associated with pregnancy, high risk conditions associated with pregnancy and the development of the fetus and newborn. Emphasis is on adaptation to the biopsychosocial needs of the childbearing family with sensitivity to the cultural needs and ethical issues of a diverse population. Critical thinking, problem solving, stress adaptation, role, family and nursing theories provide a major focus for understanding childbearing. Clinical experiences reflect a diversity of settings including outpatient, inpatient, and community programs that provide services to the childbearing family.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1050

NUR 1252 - NUR CARE CHILD & THEIR FMLYS

Minimum Credits: 4
Maximum Credits: 4
This course focuses upon nursing practice for restoration and maintenance of health in children in various stages of development within the family. Nursing approaches are based on the use of developmental theories and cultural sensitivity. The nursing process is applied to the child and the family to minimize the effects of stressors which have resulted in a disruption of health. There will be a focus on critical thinking and decision making as the student applies theory to nursing care.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 1282; PROG: School of Nursing

NUR 1252C - NUR CRE CHILD/THEIR FMLYS CLIN

Minimum Credits: 1
Maximum Credits: 1
This course focuses on nursing practice for restoration and maintenance of health in children in various stages of development within their families

and the broader social contexts in which children grow and develop. Nursing approaches used in the clinical setting are based on the use of best evidence, developmental perspectives, and cultural competence. The nursing process is applied to the child and family to minimize the effects of stressors which have resulted in a disruption of health. There is an emphasis on critical thinking and decision making as the student applies theory to nursing care.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1052

NUR 1254 - NURSING CARE OF OLDER ADULTS

Minimum Credits: 2
Maximum Credits: 2
This course is designed to ensure competency in providing evidence-based nursing care to older adults and their families, across a continuum of health care settings. Attention is given to the complex interaction of acute and chronic co-morbid conditions, interdisciplinary collaboration, the recognition of risk factors, valid and reliable health assessments, and individualized care for older adults in acute and skilled nursing facilities. The influence of attitudes, age, gender, race, culture, religion, language, lifestyle, technology, and health care policy on the biological, psychological, and social functioning of older adults is considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 0082 or NUR 1282; PROG: School of Nursing

NUR 1260 - NUR CARE CLIENTS W/PMH PROBLMS

Minimum Credits: 4
Maximum Credits: 4
This course is designed to teach basic psychiatric mental health nursing concepts and their application to clinical practice. Classroom learning is focused on developmental, psychological, and biological theories in order to enhance understanding of psychiatric illness. Major psychiatric illnesses throughout the lifespan as well as contemporary methods of treatment are addressed. Application of theoretical concepts and nursing interventions is the focus of the clinical experience in acute, chronic, and community mental health settings. Emphasis is placed on understanding the unique contributions of social and cultural factors in the development of treatment plans for clients experiencing psychiatric problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 1282; CREQ: NUR 1220; PROG: School of Nursing

NUR 1260C - NUR CARE CLIENTS PMH PROB CLIN

Minimum Credits: 2
Maximum Credits: 2
This course focuses on nursing practice of health promotion and restoration in individuals with mental health problems. Application of theoretical concepts and nursing interventions is the focus of the clinical experience in acute, chronic, and community mental health settings. Emphasis is placed on understanding the unique contributions of social and cultural factors in the development of treatment plans for clients experiencing psychiatric problems.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1060

NUR 1281 - FOUNDATIONS OF NURSING PRACTICE 1

Minimum Credits: 4
Maximum Credits: 4
This course focuses on theory acquisition and skills application in communication, therapeutic intervention, and clinical reasoning. Techniques of assessment, analysis, intervention, and planning of the physical, psychological, and developmental dimensions of the individual are explored through a variety of learning strategies. Variations of expected findings based on influences such as age, social condition, and culture are discussed. Emphasis is placed on the therapeutic interventions of safety, hygiene, comfort, health promotion, and safe performance of psychomotor skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: NUR 0082 and NUR 1282C

NUR 1282 - NURSE MGT OF THE ADULT WITH ACUTE/CHRONIC HEALTH PROBLEMS

Minimum Credits: 6
Maximum Credits: 6
This course focuses on the nursing care of hospitalized adults with acute and/or chronic illnesses. Students will be guided in critical thinking exercises and the use of therapeutic interventions and research findings in the management of hospitalized adults. During laboratory sessions, students will have the opportunity to practice simulated clinical skills. Nursing process, critical thinking, and decision-making serve as the framework for acquisition of clinical psychomotor skills. Students will have clinical experiences with in-patients who require medical and/or surgical treatments

and who are not experiencing a complicated illness course. Common concepts of care and common problems encountered in the care of ill adults and elderly clients will be emphasized, including societal and cultural influences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: NUR 0066 and NUR 0087 and NUR 1281

NUR 1282C - NUR ADLT AC/CRNC HLTH PROB CLN

Minimum Credits: 4
Maximum Credits: 4
This course focuses on the nursing care of adults, including older adults, with acute and/or chronic illnesses. Students will be guided in critical thinking exercises and the use of therapeutic interventions and research findings in the management of adults with acute and/or chronic illnesses. During clinic, students will have the opportunity to practice clinical skills learned in the lab. Nursing process, critical thinking, and decision-making serve as the framework for acquisition of clinical psychomotor skills. Common concepts of care will be emphasized, including societal and cultural influences.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 0082 and NUR 0087 and NUR 1281

NUR 1350 - CRISIS INTERVENTION THEORY

Minimum Credits: 3
Maximum Credits: 3
Course will focus on the theory and concepts relevant to psychological crisis. Selected theories from nursing, sociology, psychology, systems, and learning will be used to plan, implement, and evaluate therapeutic regimens for clients experiencing crisis, particularly in a primary care setting. Emphasis will also be placed on understanding the unique contributions of social and cultural factors in the development of appropriate treatment plans.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 1060; PROG: School of Nursing

NUR 1351 - CRISIS INTERVENTION PRACTICUM

Minimum Credits: 2
Maximum Credits: 2
This practicum provides the student with an opportunity to refine skills in the clinical management of clients who are experiencing a developmental or situational crisis. Student will be expected to (a) synthesize relevant crisis intervention theory with the management of the crisis situation, and (b) evaluate the effectiveness of these interventions. Experiences include precepted clinical work in ambulatory or inpatient settings with adult clients.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 1060; PROG: School of Nursing

NUR 1477 - SCHOOL NURSE SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This course is designed to prepare the professional nurse for certification as a school nurse in Pennsylvania. The role of the school nurse is explored through the historical, legal, ethical, research and practice perspectives. The biological, physical, developmental, behavioral, cultural and psychosocial needs of children of all ages in the school setting are examined. Throughout the course, current evidence related to school nursing and Pennsylvania educational requirements is applied to the health needs of school age children, including those with special health and learning needs, the culturally diverse and English language learners (ELL's). The independent and collaborative aspects of the school nurse role are explored.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: NUR 1078

NUR 1610 - APPLD PATHOPHYSIOLOGY CLN PRA

Minimum Credits: 3
Maximum Credits: 3
This upper division course reviews developments in the basic and clinical sciences. It is intended to provide the basis for graduate education for advanced practice nurses. Implications of the aging process, nutrition, and drug therapies are discussed as they apply to selected scientific developments and diseases.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Nursing students only.

NUR 1611 - SAFE PRACTICES IN HEALTH CARE

Minimum Credits: 2
Maximum Credits: 2
This course raises awareness of patient safety needs and helps health care personnel develop patient safety indicators to enhance quality of health care. Some of the most pivotal events experienced by patients are discussed. They are: complications of anesthesia, decubitus ulcers, and foreign bodies left during procedures, post-op problems, birth and OB issues, infections, patient identification, and medication errors. Communications related to safety are discussed. Agencies promoting patient safety are identified and discussed. Research related to safe practice and safety issues are analyzed. Policies or procedures that promote safety are developed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Nursing students only.

NUR 1620 - MIND/-BODY INTERVENTIONS: ALTERNATIVE/COMPLEMENTARY MEDICINE

Minimum Credits: 2
Maximum Credits: 3
The purpose of this course is to provide nursing students with an introduction to physiological and psychological interactions in order to understand and appreciate mind/body interventions in the context of alternative/complementary medicine. The content emphasizes research based techniques and practices, with a focus on stress management and relaxation, the range of current practices is explored. Independent learning activities provide opportunities to focus on specific therapies and interventions and how they can be implemented in clinical nursing practice.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1630 - HEALTH CARE DELIVERY IN THE UNITED KINGDOM

Minimum Credits: 2
Maximum Credits: 2
This course is designed to provide the undergraduate nursing student with exposure to the culture and health care delivery system in a foreign country. Emphasis will be placed on exploring health issues and risk factors, the impact of cultural characteristics on health care delivery and utilization, and the achievement of health-related goals in the united kingdom. Students will compare the health care systems, nursing education and nursing practice in the united kingdom and the United States. They will identify national and international health-related organizations in the united kingdom and the mission of and roles these institutions play.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1060 and NUR 1120 and NUR 1900; PROG: School of Nursing

NUR 1630IS - HEALTH CARE DELIVERY UK - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: No Grade Required

NUR 1630OS - HEALTH CARE DELIVERY UK - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: No Grade Required

NUR 1631 - HLTH CARE DELIVERY SWITZERLAND

Minimum Credits: 2
Maximum Credits: 2
This course is designed to provide the undergraduate nursing student with exposure to the culture and health care delivery system in a foreign country. Emphasis will be placed on exploring health issues and risk factors, the impact of cultural characteristics on health care delivery and utilization, and the achievement of health-related goals in Switzerland. Students will compare the health care systems, nursing education and nursing practice in Switzerland and the United States. They will identify national and international health-related organizations in Switzerland and the mission of and roles these institutions play.
Academic Career: UGRD
Course Component: Independent Study

Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1060 and NUR 1120 and NUR 1900; PROG: School of Nursing

NUR 1631IS - HLTH CRE DLVRY SWITZERLAND -IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

NUR 1631OS - HLTH CRE DLVRY SWITZERLAND -OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

NUR 1632 - HEALTH CARE DELIVERY IN ITALY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide the undergraduate nursing student with exposure to the culture and health care delivery system in a foreign country. Emphasis will be placed on exploring health issues and risk factors, the impact of cultural characteristics on health care delivery and utilization, and the achievement of health-related goals in Italy. Students will compare the health care systems, nursing education and nursing practice in Italy and the United States. They will identify national and international health-related organizations in Italy and the mission of and roles these institutions play.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1060 and NUR 1120 and NUR 1900

NUR 1632IS - HLTH CARE DELIVERY-ITALY -IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

NUR 1632OS - HLTH CARE DELIVERY-ITALY -OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

NUR 1633 - HEALTH CRE DLVRY CAMBODIA

Minimum Credits: 1
Maximum Credits: 3
This course is designed to provide the undergraduate nursing student with exposure to the culture and health care delivery in Cambodia. Emphasis will be placed on exploring health issues and risk factors, the impact of cultural characteristics on health care delivery and utilization, and the achievement of health-related goals in Cambodia. Students will compare the health care systems, nursing education and nursing practice in Cambodia and the United States. They will identify national and international health-related organizations in the country and the mission of and roles these institutions play in that country.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: H/S/U Basis
Course Requirements: PREQ: NUR 1900; PROG: School of Nursing

NUR 1633IS - HEALTH CRE DLVRY CAMBODIA - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD

Course Component: Independent Study
Grade Component: No Grade Required

NUR 1633OS - HEALTH CRE DLVRY CAMBODIA - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

NUR 1634 - HEALTH CARE DELIVERY IN OMAN

Minimum Credits: 3
Maximum Credits: 3
The IFTA, "international health care field study in Oman" will focus on providing a study abroad opportunity to nontraditional (CGS) and nursing (NUR) students who are generally underrepresented populations in study abroad programs. This course is designed to provide Undergraduate CGS and NUR students with exposure to middle eastern culture and the health care delivery systems in Oman. Emphasis will be placed on exploring general physical and mental health issues; risk factors; the impact of cultural characteristics on health care delivery and utilization; and the achievement of health-related goals and the united nation's millennium development goals in Oman. Students will compare educational preparation for health care practitioners; health care delivery systems; and health care practices in Oman and the United States. They will identify national and international health-related organizations and the mission of and roles these institutions play in both Oman and the United States. Students acquire a familiarity with the process of scientific inquiry and an appreciation of the usefulness of the scientific method of problem solving and decision-making. Ultimately, this course will introduce students who are interested in a career in the health sciences or nursing to the research process as it is utilized in providing holistic, transcultural health care across disciplines.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade
Course Requirements: PREQ: (NUR 1765) or (HRS 1017); CREQ: NUR 1829; PROG: School of Nursing

NUR 1634IS - HC DELIVERY IN OMAN - IN STATE

Minimum Credits: 0
Maximum Credits: 0
The IFTA, "international health care field study in Oman" will focus on providing a study abroad opportunity to nontraditional (CGS) and nursing (NUR) students who are generally underrepresented populations in study abroad programs. This course is designed to provide undergraduate CGS and NUR students with exposure to Middle Eastern culture and the health care delivery systems in Oman. Emphasis will be placed on exploring general physical and mental health issues; risk factors; the impact of cultural characteristics on health care delivery and utilization; and the achievement of health-related goals and the united nation's millennium development goals in oman. Students will compare educational preparation for health care practitioners; health care delivery systems; and health care practices in Oman and the United States. They will identify national and international health-related organizations and the mission of and roles these institutions play in both Oman and the United States. Students acquire a familiarity with the process of scientific inquiry and an appreciation of the usefulness of the scientific method of problem solving and decision-making. Ultimately, this course will introduce students who are interested in a career in the health sciences or nursing to the research process as it is utilized in providing holistic, transcultural health care across disciplines
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

NUR 1634OS - HC DELIVERY OMAN-OUT OF STATE

Minimum Credits: 0
Maximum Credits: 0
The IFTA, "international health care field study in Oman" will focus on providing a study abroad opportunity to nontraditional (CGS) and nursing (NUR) students who are generally underrepresented populations in study abroad programs. This course is designed to provide undergraduate CGS and NUR students with exposure to Middle Eastern culture and the health care delivery systems in Oman. Emphasis will be placed on exploring general physical and mental health issues; risk factors; the impact of cultural characteristics on health care delivery and utilization; and the achievement of health-related goals and the united nation's millennium development goals in oman. Students will compare educational preparation for health care practitioners; health care delivery systems; and health care practices in Oman and the United States. They will identify national and international health-related organizations and the mission of and roles these institutions play in both Oman and the United States. Students acquire a familiarity with the process of scientific inquiry and an appreciation of the usefulness of the scientific method of problem solving and decision-making. Ultimately, this course will introduce students who are interested in a career in the health sciences or nursing to the research process as it is utilized in providing holistic, transcultural health care across disciplines
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

NUR 1635 - NURSING IN INDIA

Minimum Credits: 2
Maximum Credits: 2

Expanding globalization of society is making increasing demands on the professional nurse to understand differing perspectives, traditions, religions, politics, cultures, and health maintenance behaviors. Thru faculty-led discussions, observations, and interactions with Indian healthcare providers, this study abroad program is designed to promote an enhanced understanding of nursing practice and education in India. Students will experience nursing care and nursing education with English-speaking nurse mentors and students thru the Emmanuel Hospital Association in Northern India.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1052 and NUR 1054 and NUR 1060; PROG: School of Nursing

NUR 1636 - HLTH CARE DELIVERY IN CHINA

Minimum Credits: 2
Maximum Credits: 2
This course is designed to provide the undergraduate nursing student with exposure to the culture and health care delivery system in a foreign country. Emphasis will be placed on exploring health issues and risk factors, the impact of cultural characteristics on health care delivery and utilization, and the achievement of health-related goals in china. Students will compare the health care systems, nursing education and nursing practice in china and the United States. They will identify national and international health-related organizations in china and the mission of and roles these institutions play.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 1900

NUR 1636IS - HLTH CARE DELIVERY IN CHINA-IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

NUR 1636OS - HLTH CARE DELIVERY IN CHINA-OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

NUR 1637 - HEALTH CARE DELIVERY THAILAND

Minimum Credits: 1
Maximum Credits: 3
This course is designed to provide the undergraduate nursing student with exposure to the culture and health care delivery in Thailand. Emphasis will be placed on exploring health issues and risk factors, the impact of cultural characteristics on health care delivery and utilization, and the achievement of health-related goals in Thailand. Students will compare the health care systems, nursing education and nursing practice in Thailand and the United States. They will identify national and international health-related organizations in the country and the mission of and roles these institutions play in that country.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1900; PROG: School of Nursing

NUR 1637IS - HC DELIVERY THAILAND- IN STATE

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

NUR 1637OS - HC DLVRY THAILAND-OUT OF STATE

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

NUR 1640 - LEADERSHIP IN MILITARY NURSING

Minimum Credits: 3
Maximum Credits: 3
This elective course is designed to enhance nurse cadets' leadership ability and technical competence. This course has two components: leadership training and precepted clinical experience.
Academic Career: UGRD
Course Component: Lecture
Grade Component: H/S/U Basis
Course Requirements: School of Nursing students only.

NUR 1650 - DOMESTIC VIOLENCE

Minimum Credits: 3
Maximum Credits: 3
Violence is becoming more prevalent in our culture. As health care providers we must possess an awareness of our own attitudes toward both violence and victims, an understanding of the process of violence, the skills necessary to perform a complete violence assessment, and the therapeutic actions needed for positive outcomes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Nursing students only.

NUR 1660 - THE CLINICAL INTERVIEW

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the theory and concepts relevant to psychiatric, medical, and qualitative research interviewing and to obtaining a patient history in the psychiatric and medical setting. The focus is on selected interviewing techniques developed by various authorities. Emphasis will be placed on specific basic and advanced techniques that are useful in obtaining accurate information and in detecting critical processes such as suicide ideation or the presence of psychosis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Nursing students only.

NUR 1670 - IV THERAPY: PRINCIPLS & PRACTC

Minimum Credits: 2
Maximum Credits: 2
Course focuses on principles involved in initiating and maintaining iv therapy and the variety of devices used to deliver iv meds. The preferred and recommended techniques to effectively insert iv devices will be reviewed and dis cussed. Anatomy and physiology of the circulatory system will be reviewed. Venipuncture techniques and equipment will be introduced and examined. Emphasis will be placed on specialty iv devices and the appropriateness of their use. Complications of iv therapy and specialty lines will also be addressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Nursing students only.

NUR 1680 - INTRO GENETCS & MOLEC THERPUTC

Minimum Credits: 3
Maximum Credits: 3
This is an introductory course that focuses on the fundamentals of genetics. The course is designed to give the student a basic understanding of genetic concepts so that this knowledge can be utilized to understand current and future genetic theories and therapeutics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1682 - GENETICS ONLINE EDUC SERIES

Minimum Credits: 1
Maximum Credits: 1
This is an online introductory course that focuses on the fundamentals of genetics. The course is designed to give the student a basic understanding of genetic concepts so that this knowledge can be utilized to understand current and future genetic theories and therapeutics.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit
Course Requirements: School of Nursing students only.

NUR 1690 - EXPLORING CANCER CARE

Minimum Credits: 2
Maximum Credits: 2
The overall objective of this course is to provide the student a broad introduction to cancer care and the role of the professional within this specialty. Through the use of discussion, presentations and observational experiences, students explore various aspects of cancer care. Specific cancers, therapies and care issues are explored. The health needs of the cancer patient and family are examined. Health promotion through education, screening and early detection as recommended thru the American cancer society and healthy people 2000/2010 will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0082; PROG: School of Nursing

NUR 1710 - APPLIED ADULT CP CRITICAL CARE

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to provide students with the opportunity to synthesize and apply concepts related to the cardiopulmonary assessment and multidisciplinary management of critically ill adults. Through the use of presentations and laboratory sessions, the student will explore the pathophysiologic basis of critical cardiopulmonary instability, physical and technologic assessment parameters, and treatment modalities commonly utilized in the care of these patients in the intensive care unit. Interactive laboratory demonstration of vasoactive drugs, arterial, central venous and pulmonary artery monitoring, artificial airways, mechanical ventilation and rhythm strip interpretation will be provided. Critical clinical decision making and nursing responsibilities specific to dysrhythmia interpretation are addressed, including institution of appropriate immediate nursing intervention, pharmacological, and electrical therapeutic interventions based on advanced cardiac life support (ACLS) algorithms. Further, students will have the opportunity to synthesize and apply this information within patient care scenarios of respiratory and cardiac instability.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 1120; PROG: School of Nursing

NUR 1720 - TOPICS IN OBSTETRICAL NURSING

Minimum Credits: 3
Maximum Credits: 3
This course offers an overview of nursing care of patients experiencing perinatal complications. Pathophysiology and general medical management of select complications will be reviewed and implications for nursing care will be discussed in depth. Through the use of case studies, students will analyze pertinent data and develop plans of care. In addition, issues, controversies, and alternatives specific to the management of the low risk perinatal patient will be ad dressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 1050 or NUR 1250; PROG: School of Nursing

NUR 1730 - PEDIATRIC CRITICAL CARE

Minimum Credits: 2
Maximum Credits: 2
Provides students the opportunity to synthesize and apply concepts related to critically ill pediatric patients. Entry level physiology of the following systems will be re viewed: respiratory, cardiovascular, gastrointestinal and neurologic. Pediatric trauma basics will be covered as well as the subspecialty areas of pain, sleep and skincare. Stu dents will have the opportunity to interpret arterial blood gases, discuss methods of medication/fluid administration & learn the basics of hemodynamic monitoring. Student will learn components of a multidisciplinary critical care team.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Nursing students only.

NUR 1740 - APPLIED CONCEPTS WITH CHF

Minimum Credits: 2
Maximum Credits: 2
This course is designed to assist students to apply concepts related to the assessment and management of patients with congestive heart failure (CHF). Students will explore the physiologic basis of common cardiovascular pathologies, assessment techniques, diagnostic procedures, and treatment modalities commonly utilized in the care of CHF patients. Health promotion strategies, appropriate screening, and patient/family education will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1750 - PRACTICAL ISSUES IN DISABILITY

Minimum Credits: 3
Maximum Credits: 3
Course discusses the issues involved in providing assistance to individuals with severe disabilities, and provides opportunities for learning practical skills for assisting these individuals in their activities of daily living.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1760 - NURSING CARE OF CHILDREN IN DISASTERS

Minimum Credits: 2
Maximum Credits: 2
Course provides an overview of nursing care of children following disasters, public health emergencies and complex emergencies. Epidemiology of pediatric illnesses and injuries following such events is discussed. Highlighted are physiologic and psychosocial differences in children following exposure to nuclear, biological, chemical and explosive agents. The prioritized nursing care of children exposed to these is addressed. Care of children in complex emergencies, refugee camps and shelters is described. Hospital/community disaster planning with a focus on children presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Nursing students only.

NUR 1765 - RISK FACTORS AND HEALTH

Minimum Credits: 3
Maximum Credits: 3
The overall objective of this course is to provide the student with a broad description of risk factors and health promotion for individuals, families and communities. Current federal, state and professional organization guidelines and recommendations for health promotion and disease prevention are applied. Current research on the efficiency of health promotion activities is presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

NUR 1766 - EBP IN HEALTH AND FITNESS

Minimum Credits: 2
Maximum Credits: 2
This course provides an integrated approach to health and fitness across the lifespan. The literature related to the components of physical fitness and health will be appraised for its evidence and applicability to general and special populations. Articulation with healthy people 2010, as well as state and local health initiatives, will be emphasized. Nursing knowledge will be applied when prescribing health and fitness regimes for clients across the lifespan. Students will be expected to survey and appraise literature related to health and fitness. Students will be required to participate in and lead physical fitness activities which can be adapted to their needs. Ethical and legal aspects of health and fitness practice, within a nursing context, will be explored. Marketing oneself as a health and fitness professional will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Nursing students only.

NUR 1767 - RISK FACTORS HLTH: GLBL PERSP

Minimum Credits: 3
Maximum Credits: 3
The overall objective of this course is to provide the student with a broad description of risk factors and health promotion for individuals, families and communities from a global perspective. Students select a country of interest and apply that country's government, policy and professional organization guidelines and recommendations for health promotion and disease prevention. Current evidence on the efficacy of health promotion activities is studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1765

NUR 1770 - NURSING CARE OF ADULTS EXPERIENCING CARDIAC DYSRHYTHMIAS

Minimum Credits: 2
Maximum Credits: 2
Course is focused on interpretation and management of cardiac dys rhythmias occurring in the adult. Mastery of cardiac rhythm interpretation is the end goal. Critical clinical decision making and nursing responsibilities specific to dysrhythmias interpreted are addressed, including institution of appropriate pharmacological and electrical therapeutic interventions based on ACLS algorithms. Information on basis of electro-physiology, dysrhythmias etiologies and electrocardiographic monitoring is provided. Case studies and multiple examples are used to support repetitive practice in rhythm interpretation.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Nursing students only.

NUR 1800 - COORDINATING CLINICAL TRIALS

Minimum Credits: 2
Maximum Credits: 2
The purpose of this course is to provide individuals with a basic understanding of clinical trials research conducted in accordance with federal regulations. Aspects of clinical trials research such as regulatory requirements, informed consent, pre and post study activities, audit procedures, and budgetary issues will be covered. This course will include presentations by individuals experienced in conducting trials; clinical research coordinators, IRB staff, investigational pharmacists, statisticians, and other experts in clinical research.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 0067 and NUR 1085; PROG: School of Nursing

NUR 1801 - COORDINATING CLN TRIALS PRAC

Minimum Credits: 1
Maximum Credits: 2
The course is designed to familiarize students with roles and responsibilities of a clinical research coordinator through observation during a practicum, discussion of different types of clinical research protocols, and discussion of how these protocols are implemented in a variety of research settings. Each student selects focus area and preceptor who guides observations designed to exemplify the role of the clinical research coordinator. Each student also participates in review of research proposals in NIH funded center at the university of Pittsburgh.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1800; PROG: School of Nursing

NUR 1820 - INTRO LGL NURS CONSUG/FRNSC

Minimum Credits: 3
Maximum Credits: 3
Provides introductory information in areas of law, process of a lawsuit, and ethical/legal/social issues re: nurse consulting and forensic nursing. Designed to provide overview of how nursing knowledge/skills can be transferred into legal nurse consulting and forensic nursing examination. Approaches and methods are discussed including screening cases, analyzing health professional malpractice cases, hospital/medical records review, quality assurance and risk management and preparing effective reports/abstracts. Activities in the development of investigative techniques in forensic nursing included.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0082; PROG: School of Nursing

NUR 1821 - ADV PRACTICE IN FORENSC NURSNG

Minimum Credits: 3
Maximum Credits: 3
Course is designed to provide an opportunity to combine nursing knowledge with forensic science in scientific investigation, evidence collection/preservation, analysis, and leg al documentation. Techniques of forensic assessment and physical examination, evidence collection, chain of custody, forensic documentation that withstands courtroom scrutiny, and challenges of the role will be discussed. Participation in case analyses including ethical, legal and social issues (ELSI) allow for critique and development of skills relevant to various roles in forensic nursing practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1820; PROG: School of Nursing

NUR 1822 - FORENSC NUR SPECLTY SEM & PRAC

Minimum Credits: 3
Maximum Credits: 3
Course addresses health care issues that confront nurses on a daily basis and have legal implications. The seminar focuses on the discussion of the role of the forensic nurse in caring, providing interventions for, and improving out comes with patients and families across the life span and with various ethnic and racial backgrounds. It guides the student in defining, discussing, arguing and clarifying forensic challenges based on existing standards of practice, jcaho guidelines, research themes, protocols and procedures that guide safe nursing practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Nursing students only.

NUR 1823 - FORENSC PMH NUR & CORRCTNL NUR

Minimum Credits: 3
Maximum Credits: 3
Course provides an overview of forensic psych mental health and correctional nursing roles. Course focuses on the role of the nurse in caring and providing interventions for the criminally insane, adjudicated criminal defendants unable to stand trial by reason of insanity or mental disorder, or incarcerated offenders in rehabilitation or in treatment, as well as victims and families affected by interpersonal violence. Emphasis is on the role of the nurse when psychiatry and mental health intersect with the law to effect patient outcomes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 1820; PROG: School of Nursing

NUR 1829 - CONTEM ISSUES CROS CULTL HLTH

Minimum Credits: 3
Maximum Credits: 3
Purpose of course is to increase awareness of how delivery and acceptance of health care may be influenced by social, cultural, and environmental factors. It will provide an overview of how these factors influence a person's response to stressors, daily health and living needs. Goal is to help students increase their understanding of culturally congruent care by utilizing cultural concepts, theories, and research. Students will analyze factors that facilitate/ hinder communication about health needs, acceptance of the health care regimen, and access to health care systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

NUR 1830 - HEALTH CRE IN AGE OF TERRORISM

Minimum Credits: 2
Maximum Credits: 2
The overall purpose of this course is to increase the preparedness of health professionals to prevent, recognize and act on physical, biologic and chemical hazards to human health. Thru the promotion of critical thinking and decision making, the course will explore the steps of outbreak investigation, exposure assessment, exposure pathways and ways to interrupt such pathways. It will also examine potential hazards and their human health effects, appropriate control measures and risk communication methods for the public.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Nursing students only.

NUR 1865 - FUNDMS DISTR/MASS CASUALTY CRE

Minimum Credits: 2
Maximum Credits: 2
This course is designed to build on the base of medical surgical nursing and to provide the student with an understanding of the causes, prevention, and mitigation of disasters and insight into the disaster management system nationally and locally. The course will include content relevant to all disciplines in the disaster care continuum and then focus on nursing's role in these systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUR 0082; PROG: School of Nursing

NUR 1900 - GLOBAL HEALTH CARE

Minimum Credits: 2
Maximum Credits: 2
Cultural competence and embracing diversity are central values for healthcare professionals. In light of the globalization of society, knowledge of differing perspective, traditions, religions, politics, cultures, and health practices is crucial to providing quality healthcare. This course is designed to introduce students to concepts necessary to understand healthcare from a global perspective, to broaden their views of a global society, and to examine their roles within a global community. This course will also introduce students to current school of nursing study abroad programs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: NUR 0080 and (NUR 0087 or 1110)

NUR 1901 - GLOBAL HEALTH CARE PRACTICUM

Minimum Credits: 1
Maximum Credits: 3
Through faculty led discussions, observations, and interactions with multi-national healthcare providers and citizens, this study abroad practicum is designed to promote an understanding of healthcare practice and education in selected sites. Students will be invited to broaden their views of a globalizing society in which multiple perspectives and beliefs coexist. Content will focus on assisting students to understand how differing cultural perspectives, traditions, religions and political beliefs can impact health behaviors. Students will be immersed in the culture of the chosen host country and will observe the delivery of healthcare.
Academic Career: UGRD

Course Component: Practicum
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Nursing students only.

NUR 1990 - SENIOR SEMINAR

Minimum Credits: 1
Maximum Credits: 1
The goal of this course is to support the senior student's successful progression to entry-level professional nursing practice. Classroom activities and self-directed learning will prepare students to attain the benchmarks associated with professional licensure and provide a foundation for the continuous self-evaluation and life-long learning required to support professional nursing practice (AACN, 2008).
Academic Career: UGRD
Course Component: Lecture
Grade Component: H/S/U Basis
Course Requirements: CREQ: NUR 1121 or NUR 1134; LVL: Sr; PROG: School of Nursing (UNURS)

NUR 2000 - RESEARCH FOR EVIDENCE-BASED PRACTICE 1

Minimum Credits: 2
Maximum Credits: 2
This course examines the interaction of theory, research, and clinical expertise in the development of evidence-based nursing practice. Students develop the skills needed to identify relevant research and to critically appraise published studies to evaluate their quality and applicability to clinical practice. Students gain an understanding of the research process, the critical appraisal of published research studies that use a variety of research designs, and the role of research in evidence-based practice.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad Letter Grade
Course Requirements: CREQ: NUR 2011 or NUR 2211 or NUR 2411

NUR 2004 - PATHPHYLGY ACROSS LIFE SPAN

Minimum Credits: 4
Maximum Credits: 4
This course is designed to provide the student with a comprehensive theoretical foundation of the phenomena that produce alterations in human physiologic function in diverse populations across the life span. Information gained in this course will prepare the student for subsequent courses related to the diagnosis and management of disease processes associated with pathophysiologic dysfunction/alterations in people of various ethnic/cultural groups across the lifespan.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad Letter Grade
Course Requirements: School of Nursing students only.

NUR 2010 - HEALTH PROMO/DISEASE PRVNTN

Minimum Credits: 3
Maximum Credits: 3
Health promotion and disease prevention are examined from theoretical foundations to clinical applications. The course focuses on individual and community health promotion assessment, screening, and interventions in diverse populations. Epidemiological principles and real clinical examples are discussed as a basis for focusing health promotion assessment and interventions. Course topics are delineated according to health people 2010 goals with a corresponding focus on factors related to health care disparities among vulnerable populations. Current research in health promotion and disease prevention is the basis for identifying appropriate interventions in diverse populations and settings.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad LG/SU3 Basis
Course Requirements: School of Nursing students only.

NUR 2011 - APPLIED STATISTICS FOR EBP

Minimum Credits: 3
Maximum Credits: 3
This course will provide students with the basis for understanding and interpreting commonly used statistical tests, as well as critically appraising their use in published research studies. Content will include descriptive and inferential statistics commonly reported in published research studies including both univariate and multivariate parametric and nonparametric tests. The course will also cover meta-analytic techniques and students will learn to calculate effect sizes.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad LG/SU3 Basis
Course Requirements: School of Nursing students only.

NUR 2031 - DIAGC PHYSCL EXAM LIFE SPAN

Minimum Credits: 3
Maximum Credits: 3
This didactic course focuses on the use of the diagnostic history and physical examination to formulate a health assessment in patient populations across the lifespan. Concentration is on selected theories, principles and techniques from the physical and behavioral sciences essential to obtaining a complete health history and performing a methodical physical examination on patients across the life span.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad Letter Grade
Course Requirements: PREQ: NUR 2004 or NUR 2204 or NUR 2404; PLAN: NURSAN-MSN or NURSAN-DNP; SUBPLAN: MSNNNP or DNPNNP or DNPFLNP or DNPPPNP or MSNCNL or DNPMSN or DNPAGAC or DNPNA or ODNPNA or MSNADM or OCNL or ONAD or DNPAGNP-SP or DNPPCNP or DNPAGCN or DNPPMHN

NUR 2044 - NUR GRAD ORIENTATION MODULE

Minimum Credits: 0
Maximum Credits: 0
This module provides a web-based graduate nursing orientation that is designed to provide graduate nursing students with an overview of the school of nursing and information that they will need to successfully complete their programs and achieve their career goals.
Academic Career: GRAD
Course Component: Independent Study
Grade Component: Grad HSU Basis
Course Requirements: School of Nursing students only.

NUR 2061 - ORGANIZTNL & MANAGEMENT THEORY

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the organization and management, particularly of nursing personnel, in health services organizations. Organizational theories, their analysis, and their application to health care services systems will be explored. Management theories will also be discussed. Emphasis will be placed on personnel management aspects relevant to nursing such as licensure, certification, advance practice, nurse extender, etc.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad LG/SU3 Basis
Course Requirements: School of Nursing students only.

NUR 2680 - INTRO GENETCS & MOLEC THERPUTC

Minimum Credits: 3
Maximum Credits: 3
This introductory course focuses on the fundamentals of human and molecular genetics. It is designed to give students a basic understanding of genetic concepts and molecular techniques so that this knowledge can be applied to current and future genetic diagnoses and therapies encountered in nursing.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad Letter Grade

NURSP 2061 - ORGANIZTNL & MANAGEMENT THEORY

Minimum Credits: 3
Maximum Credits: 3
This graduate level course focuses on organizational, leadership, and management theories and how they apply to health service organizations, both today and in the future. Emphasis will be placed on leading the clinical discipline of nursing based on organizational and systems thinking as well as relevant political and cultural perspectives. Quality and performance improvement strategies, as well as creating and sustaining appropriate levels of change, are explored in order to facilitate the ability to create safe and effective care delivery environments.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad LG/SU3 Basis
Course Requirements: School of Nursing students only.

NURSP 2092 - LEADERSHIP DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the application of leadership theory and the development of critical leadership skills necessary for success in today's health care environment. The course is based on five essential competencies for nursing leadership: professionalism, business skills and principles, knowledge of the health care environment, communication and relationship management, and transformational leadership.
Academic Career: GRAD
Course Component: Lecture
Grade Component: Grad LGSNC
Course Requirements: School of Nursing students only.

Nutrition

NUTR 1006 - INTRO TO HUMAN NUTRITION

Minimum Credits: 3
Maximum Credits: 3
This course will cover an overview of the scientific principles of nutrition and application of these principles to humans throughout the life cycle. Major focuses of the course are the classification and function of the six major nutrients, review of current nutrition standards, safety of the food supply, and nutrition misinformation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

NUTR 1600 - INTRODUCTION TO DIETETICS

Minimum Credits: 1
Maximum Credits: 1
This is an introduction to the profession of dietetics. Emphasis will be placed on the scope of the profession of dietetics practice, the role and functions of registered dietitian nutritionists, and the education requirements for entry into practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

NUTR 1602 - NUTRITION ASSESSMENT 1

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the rationale for and the use of a variety of standards used in assessing and planning the quality and quantity of the food and nutrient intake of individuals and groups. It will include in-depth study and application of commonly used reference standards and tools used for evaluating levels and proportions of macronutrients, micronutrients and various dietary food components. Assessment of health indicators in individuals and populations will also be addressed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUTR 1006 or HRS 1006; PLAN: Clinical Dietetics-Nutrition (BS, BPH, BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1603 - NUTRITION ASSESSMENT 2

Minimum Credits: 3
Maximum Credits: 3
Introduction to professional practice methods and skills in nutrition focused physical examination. Learning experiences will include formal class presentations, class discussions, case-based problem solving and skill development laboratory sessions. Knowledge based learning leading to examination technique simulations for anthropometric measurements for body composition, nutrition focused physical examination for malnutrition diagnosing and examination techniques, e.g., vital signs, head and neck exam, intra and extra-oral exams, heart and lung auscultation, as well as, abdominal auscultation and palpation are included. At the completion of the course competency in application of nutrition focused physical examination techniques will be assessed on an individual basis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUTR 1621 and HRS 1025 and (HRS1025 or BIOSC 1850); PLAN: Clinical Dietetics-Nutrition (BS, BPH, BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1604 - FOOD SERVICE MANAGEMENT W/LAB

Minimum Credits: 3
Maximum Credits: 3
This course presents the basic principles and skills of food service management and leadership. These skills are needed to respond to market forces and assist in meeting the goals of the organization. Learning experiences include lectures, discussions, and required field trips.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Clinical Dietetics-Nutrition (BS, BPH, BS-H)

NUTR 1605 - PRINCPLS NUTRTNS EDUC & CNSLG

Minimum Credits: 3
Maximum Credits: 3
Concepts and components of the teaching-learning process and their application in the dietetics practice. Experience in the instructional planning and implementation functions of clinical dietitians is emphasized.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUTR 1602 and 1610 and 1620; PLAN: Clinical Dietetics-Nutrition (BS, BPH, BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1608 - PROFESSIONAL TRENDS & ISSUES

Minimum Credits: 3
Maximum Credits: 3
Identification and discussion of critical issues pertaining to the profession of dietetics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUTR 1600, 1620, and 1621; PLAN: Clinical Dietetics-Nutrition (BS, BPH, BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1609 - CLINICAL BIOCHEMISTRY

Minimum Credits: 3
Maximum Credits: 3
This course will introduce the basic concepts of biochemistry. The structures and function of the major biomolecules, carbohydrates, lipids, proteins and nucleic acids will be discussed and their metabolism integrated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (NUTR 1006 or HRS 1006) and CHEM 0350; PLAN: Clinical Dietetics-Nutrition (BS, BPH, BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1610 - FOOD SCIENCE 1

Minimum Credits: 3
Maximum Credits: 3
This is an introductory course emphasizing the chemical and physical properties of food in relation to its selection, quality, and preparation. Experience in the construction, modification and preparation of recipes to meet various dietary needs is also provided.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUTR 1602; CREQ: NUTR 1613; PLAN: Nutrition and Dietetics (BPH; BS; BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1612 - FOOD AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
Introduction to ethnic influence on the diversity of American food patterns. Social, cultural, economic, geographic, and religious factors are considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Nutrition and Dietetics (BPH; BS; BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1613 - FOOD SCIENCE 1 LABORATORY

Minimum Credits: 1
Maximum Credits: 1
Study of the chemical and physical changes that occur in food as a result of various food preparation methods and their effects on nutrient quality. Experience in the construction, modification and preparation of recipes to meet various dietary needs is also provided.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PREQ: NUTR 1602; COREQ: NUTR 1610; PLAN: Nutrition and Dietetics (BPH; BS; BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1614 - NUTRITION & CRITICAL THINKING

Minimum Credits: 3
Maximum Credits: 3
An application of critical thinking skills to evaluate nutrition issues in popular media. This course is designed for senior students in clinical dietetics and nutrition.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: NUTR 1602; PLAN: Clinical Dietetics-Nutrition (BS, BPH, BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1620 - MACRONUTRIENT METABOLISM
Minimum Credits: 3
Maximum Credits: 3
The first of a two-course sequence in advanced nutrition and metabolism presenting the principles of normal nutrition and their application in providing nutritional care and guidance. Emphasis is placed on the macronutrients and energy balance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUTR 1006 or HRS 1006; PLAN: Nutrition and Dietetics (BPH; BS; BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1621 - MICRONUTRIENT METABOLISM
Minimum Credits: 3
Maximum Credits: 3
Second of a two-course sequence in advanced nutrition and metabolism. Emphasis is placed on the essential micronutrients.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUTR 1620; PLAN: Nutrition and Dietetics (BPH; BS; BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1622 - NUTRITION IN THE LIFE CYCLE
Minimum Credits: 3
Maximum Credits: 3
The study of the physiological, developmental, sociological, and environmental factors that affect nutrient requirements and recommendations at various stages of the life cycle.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Nutrition and Dietetics (BPH; BS; BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1630 - NUTRITION THERAPY 1
Minimum Credits: 3
Maximum Credits: 3
The first of a two-course sequence which will provide an introduction to medical nutrition therapy in the treatment of acute and chronic diseases. The course will cover pathophysiology and treatment of specific diseases, nutrition implications of specific diseases, nutrition assessment, determination of nutrient requirements, and nutrition interventions including calculation of modified diets.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Nutrition and Dietetics (BPH; BS; BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1632 - NUTRITION THERAPY 2
Minimum Credits: 3
Maximum Credits: 3
The second of a two-course sequence which will provide an introduction to medical nutrition therapy in the treatment of acute and chronic diseases. The course will cover pathophysiology and treatment of specific diseases, nutrition implications of specific diseases, nutrition assessment, determination of nutrient requirements, and nutrition interventions including calculation of modified diets.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: NUTR 1630; PLAN: Nutrition and Dietetics (BPH; BS; BS-H) or Clinical Dietetics - Nutrition (NDNUTR-ND)

NUTR 1699 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
Provides advanced students an opportunity to explore in depth an area of particular interest to them. It is the student's responsibility to find a faculty member willing to undertake such a tutorial.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

Periodontics

PERIO 1010 - PERIODONTICS 1
Minimum Credits: 2
Maximum Credits: 2
This course is designed to cover basic principles in periodontics; recognition of health parameters during growth, development, maturation and changes during aging. The terminology, etiology, pathogenesis, and histopathology of periodontal diseases are correlated with clinical findings. It emphasizes the role of the dental hygienist in prevention and plaque control. Historical and current concepts including epidemiology are presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PERIO 1011 - PERIODONTICS 2
Minimum Credits: 1
Maximum Credits: 1
This course is an introduction to periodontal therapy. The students are instructed in the treatment of gingivitis, periodontitis, the rationale for scaling and root planing, different types of periodontal surgery and the treatment of acute infections involving the periodontal tissues. Also, the students are instructed in the importance for periodontal maintenance following periodontal treatment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PERIO 1020 - PERIODONTICS
Minimum Credits: 3
Maximum Credits: 3
This course concerns the healthy periodontium, changes with aging, and changes due to disease. Classification of periodontal diseases, etiology, histopathology, and prevention are discussed. This course teaches the students the role of the hygienist in clinical management, treatment, and control of periodontal disease.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Petroleum Engineering

PETE 1097 - SPECIAL PROJECTS
Minimum Credits: 1
Maximum Credits: 6
Student develops an individual project under supervision of a faculty member. Project may be experimental, design-oriented, or instructional. A written report is prepared.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

PETE 1160 - PETROLEUM RESERVOIR ENGINRING
Minimum Credits: 3
Maximum Credits: 3
This course covers the principles of reservoir engineering and material balance calculation in petroleum reservoirs. The topics include petroleum origin and oil occurrence and migration; oil , gas, and gas-condensate reservoirs; basic drilling of oil and gas wells; p-v-t behavior of natural gas; material balances in gas reservoirs; oil reservoirs under simultaneous dissolved gas drive, gas cap drive, and water drive; generalized material balance in petroleum reservoirs; basic equations for fluid flow in reservoirs, absolute, effective, and relative permeabilities; and a design project on reservoir calculations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: MATH 0250 or MATH 0290 or MATH 1270 or 0202 or 1035; PROG: Swanson School of Engineering

PETE 1201 - RECOVRY OF OIL BY WATRFLOODING
Minimum Credits: 3
Maximum Credits: 3
Theory of immiscible fluid displacement starting with frontal advance theory and applying it to waterflooding, fluid patterns, sweep efficiency, stratified reservoirs, etc. Relative permeability experiments are simulated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

PETE 1202 - PETROLM DRILLING & PRODUCTION

Minimum Credits: 3
Maximum Credits: 3
This course covers principles of oil and gas production from hydrocarbon-bearing formations. Topics include: flow through porous media of incompressible, compressible and slightly compressible fluids; reservoir, producing formation, vertical lift, and chock performances; principles of gas lift, gas lift valves and design; and sucker rod pumping design; and design project on artificial gas lift.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: MATH 0250 or MATH 0290 or MATH 1270 or 0202 or 1035; PROG: Swanson School of Engineering

PETE 1203 - WELL TESTNG & PRSSURE TRANSENT

Minimum Credits: 3
Maximum Credits: 3
Unsteady state flow in reservoirs, pressure drawdown testing, pressure build-up testing, multiple rate testing, and gas well testing. Pressure transient analysis testing including both oil and gas wells.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

PETE 1204 - ENHANCED OIL RECOVERY PROCES

Minimum Credits: 3
Maximum Credits: 3
This course covers different topics on enhance oil recovery processes (co2, thermal, miscible fluids and surfactants); coal-bed methane, enhanced methane recovery, and underground coal gasification; surface and in-situ heavy oil, tar sand and oil shale production; and co2 capture, sequestration and disposal. The fundamentals, thermodynamics, reaction kinetics and transport phenomena as well as the environmental issues and regulations related to these topics are also covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PROG: Swanson School of Engineering

PETE 1205 - PETROLEUM PRODUCTION ENGNRNG

Minimum Credits: 3
Maximum Credits: 3
This course covers principles of oil and gas production from hydrocarbon-bearing formations. Topics include: flow through porous media of incompressible, compressible and slightly compressible fluids; reservoir, producing formation, vertical lift, and chock performances; principles of gas lift, gas lift valves and design; and sucker rod pumping design; and design project on artificial gas lift.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: MATH 0202 or MATH 0250 or MATH 0290 or 1035 or MATH 1270; PROG: Swanson School of Engineering

PETE 1207 - PET AND NATURAL GAS PROCESSING

Minimum Credits: 3
Maximum Credits: 3
The course covers different topics on natural gas, petroleum and petrochemical processing. The topics include natural gas cleanup, methane reforming for h2 production, partial oxidation of ch4 for synthesis gas production, and chemicals from methanol; refinery feed-stocks, crude distillation and refinery products, alkylation, hydrotreating, catalytic reforming and isomerization, catalytic cracking, resid, tar sands and oil shale processing; and methanol/other alcohols, ethylene, fertilizer, and plastic production plants.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

PETE 1208 - PET DRILNG & WELL CMPLTN DSGN

Minimum Credits: 3
Maximum Credits: 3
This course covers different topics related to drilling operations; directional drilling techniques; completion operations; and work-over operations. The drilling operations encompass drilling rig components, bit selection program, drilling fluid types, cementing program design and well control/safety. The directional drilling techniques include: well-path design/applications, downhole motor components, directional surveys, and logging while drilling. The well completion operations contain: formation evaluation tools, open-hole log interpretation, coring tools, flow testing, perforating, hydraulic fracturing and other stimulation techniques. The work-over operations comprise work-over rig components, cased hole log interpretation, plugs/packers/fishing tools, squeeze job design, casing integrity tests and stimulation evaluation. A special project on casing design is also included.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PROG: Swanson School of Engineering

PETE 1209 - HYDRL FRACTURING MECHCS APPLCS

Minimum Credits: 3
Maximum Credits: 3
Course description: this class will prepare students to wisely and critically design hydraulic fracturing treatments as well as make informed recommendations to employers, governments, and communities about the risks and benefits of hydraulic fracturing methods. Upon completion of this course, students will be equipped to use engineering formulae to estimate hydraulic fracture dimensions, evaluate strengths and weaknesses of various modeling approaches, characterize subsurface conditions from wellbore pressure analysis, make sound recommendations for monitoring, and compare and contrast approaches and risks for a range of application domains.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: CHE 0300; PROG: Swanson School of Engineering

PETE 1212 - CO2 ENHND OIL RECOV FRACKING

Minimum Credits: 3
Maximum Credits: 3
This course will cover the physical properties of CO2 that make it an attractive solvent for enhanced oil recovery (EOR), the natural and anthropogenic sources of CO2, the types of fields that are suitable for CO2 EOR, and the mechanisms responsible for CO2 increasing oil recovery. The current status of CO2 EOR in the United States will also be reviewed, along with its potential for future expansion. The foremost technical challenges of CO2 EOR, namely mobility control and conformance control, will be discussed along with a current research efforts. The course will conclude with a brief review of how CO2 has been used as a hydraulic fracturing, whether as a pure fluid, as the gaseous component of foams, or as an energizing component.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Grad LG/SU3 Basis
Course Requirements: PREQ: CHE 0100 and CHE 0200; PLAN: Chemical Engineering (BSE); PROG: Swanson School of Engineering

Philosophy

PHIL 0010 - CONCEPTS OF HUMAN NATURE

Minimum Credits: 3
Maximum Credits: 3
An introduction to some ways in which ethical and social thought has been influenced by different views of human nature. Readings are from such authors as Plato, Hobbes, Rousseau, Marx, and Freud.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0011 - CONCEPTS OF HUMAN NATURE/REC

Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "concepts of human nature".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0012 - CONCPTS HUMAN NATURE/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "concepts of human nature".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0040 - COMPUTERS AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
This introductory level course explores the connections between contemporary computational theories of mind with traditional philosophical conceptions since the seventeenth century. Readings are both historical and current.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0041 - COMPUTERS AND CULTURE/REC

Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "computers and culture".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0042 - COMPUTERS & CULTURE/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "computers and culture".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0080 - INTRO TO PHILOSOPHCAL PROBLEMS

Minimum Credits: 3
Maximum Credits: 3
An introduction to some classical problems of philosophy. Topics vary, but might include skepticism, free will, the existence of god, and the justification of ethical beliefs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0081 - INTRO TO PHILOSOPHCAL PROB/REC

Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "intro to philosophical problems".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0082 - INTRO PHILPHCL PRBLM/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
An introduction to some classical problems of philosophy. Topics vary, but might include skepticism, free will, the existence of god, and the justification of ethical beliefs. Special writing component for PHIL 0080, "introduction to philosophical problems."
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0200 - HISTORY OF ANCIENT PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
The aim of this course is to introduce students to some of the main achievements and leading ideas of ancient Greek philosophy up to classical times. Emphasis will be on understanding and evaluating the arguments and ideas of the Greek philosophical tradition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0201 - HISTORY OF ANCIENT PHIL/REC

Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "history of ancient philosophy".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0202 - HISTORY ANCIENT PHIL/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
The aim of this course is to introduce students to some of the main achievements and leading ideas of ancient Greek philosophy up to classical times. Emphasis will be on understanding and evaluating the arguments and ideas of the Greek philosophical tradition. Special writing component for PHIL

0200, "History of Ancient Philosophy".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0210 - HISTORY OF MODERN PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
An introduction to the philosophical period from Descartes through Kant. Special attention is given to at least one rationalist, one empiricist, and Kant.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0211 - HISTORY OF MODERN PHIL/REC

Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "history of modern philosophy".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0212 - HISTRY OF MDRN PHIL/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "history of modern philosophy".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0220 - INTRODUCTION TO EXISTENTIALISM

Minimum Credits: 3
Maximum Credits: 3
This introductory level course explores the central existentialism question of how to be a genuine individual or self through reading of several major authors, such as pascal, Kierkegaard, Dostoievski, Nietzsche, and Sartre.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0221 - INTRO TO EXISTENTIALISM/REC

Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "introduction to existentialism"; it does not include extra emphasis on or credit for instruction in writing skills.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0222 - INTRO EXISTENTIALISM/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "introduction to existentialism"; it includes extra emphasis on and credit for instruction in writing skills.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0230 - PHILOSOPHY AND FILM

Minimum Credits: 3
Maximum Credits: 3
This is an introductory aesthetics course dealing with philosophy and film.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0231 - PHILOSOPHY AND FILM/REC
Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course philosophy and film.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0232 - PHILOSOPHY AND FILM/WRIT PRAC
Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course philosophy and film.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0233 - PHILOSOPHY AND FILM LAB
Minimum Credits: 0
Maximum Credits: 0
This is a screening lab for lecture.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0270 - EAST-WEST PHILOSOPHY
Minimum Credits: 3
Maximum Credits: 3
This introductory level undergraduate course examines selected traditions in eastern philosophy, and compares them with Western traditions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0300 - INTRODUCTION TO ETHICS
Minimum Credits: 3
Maximum Credits: 3
This is an introductory course considering the question of one fundamental moral principle - right and wrong. The results are applied to moral problems of serious interest today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0301 - INTRODUCTION TO ETHICS/REC
Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "introduction to ethics".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0302 - INTRODCTN TO ETHCS/WRIT PRAC
Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "introduction to ethics".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0320 - SOCIAL PHILOSOPHY
Minimum Credits: 3
Maximum Credits: 3
An introduction to some traditional philosophical perspectives on the nature of society. Philosophers studied might include Plato, Hobbes, Marx, and Twentieth-Century social theorists.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0321 - SOCIAL PHILOSOPHY/REC
Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "social philosophy".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0322 - SOCIAL PHILOSOPHY/WRIT PRAC
Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "social philosophy".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0330 - POLITICAL PHILOSOPHY
Minimum Credits: 3
Maximum Credits: 3
This introductory level undergraduate course studies several important views on the nature and justification of government, such as those of Plato, Hobbes, and Marx.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0331 - POLITICAL PHILOSOPHY/REC
Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "political philosophy".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0332 - POLITICAL PHILOSOPHY/WRIT PRAC
Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "political philosophy".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0350 - PHILOSOPHY AND PUBLIC ISSUES
Minimum Credits: 3
Maximum Credits: 3
The aim of this introductory undergraduate course is to encourage systematic and clear thought about issues of public importance by philosophic reflection which emphasizes the implications of different moral and political theories for these issues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0352 - PHIL & PUBLIC ISSUES/WRIT PRAC
Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "philosophy and public issues".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0360 - MORALITY AND MEDICINE
Minimum Credits: 3
Maximum Credits: 3
This introductory level undergraduate course examines various ethical problems arising in medicine, such as euthanasia, abortion, and the allocation of resources.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0380 - INTRODCTN TO FEMINST THOUGHT

Minimum Credits: 3
Maximum Credits: 3
Primary objectives will be to acquaint students with the long history and diversity of feminist thought in Western tradition and to teach students to think and write critically.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0381 - INTRO FEMINIST THOUGHT/REC

Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "introduction to feminist thought". It does not include extra emphasis on or credit for instruction in writing skills.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0382 - INTRO FEMINST THGHT/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "introduction to feminist thought". It includes extra emphasis on, and credit for, instruction in writing skills.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0440 - MINDS AND MACHINES

Minimum Credits: 3
Maximum Credits: 3
This introductory level course is devoted to explicating and critically evaluating the thesis that the human mind, or at least its cognitive faculty, can be understood as a computing machine. Readings are primarily from contemporary authors, and include both scientists and philosophers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0441 - MINDS AND MACHINES/REC

Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "minds and machines".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0442 - MINDS AND MACHINES/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "minds and machines".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0450 - KNOWLEDGE & REALITY

Minimum Credits: 3
Maximum Credits: 3
This course gives a broad introduction to classic and contemporary work on central questions in metaphysics and epistemology. Central topics of concern will be the nature of reality and the possibility of knowledge. Along the way we will discuss skeptical arguments to the effect that knowledge of certain aspects of reality is impossible and classic and contemporary responses to them. We will also discuss a number of topics in metaphysics, which may include the nature of the self, time, the relationship between mind and body, the existence of god, and debates between idealists
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0452 - THRYS KNOWL & REALITY/WRIT LAB

Minimum Credits: 4
Maximum Credits: 4
This writing laboratory is the special writing recitation for the lecture course 'Theories of Knowledge & Reality'.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0460 - INTRO PHIL MIND

Minimum Credits: 3
Maximum Credits: 3
This course gives a broad introduction to contemporary work on the philosophy of mind. It will primarily focus on the nature of consciousness, the mind-body problem, and may include how we know the minds of other human beings, the nature of personal identity over time, as well as discussion of the theory of action.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0462 - INTRO PHIL MIND / WRITING LAB

Minimum Credits: 4
Maximum Credits: 4
This writing laboratory is the special writing recitation for the lecture course "Introduction to Philosophy of Mind".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0470 - PHILOSOPHY OF RELIGION

Minimum Credits: 3
Maximum Credits: 3
A critical examination of the rationality of faith in the existence of god. Traditional arguments both for and against the existence of god are considered, along with pragmatic justifications of faith based upon its beneficial consequences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0471 - PHILOSOPHY OF RELIGION/REC

Minimum Credits: 0
Maximum Credits: 0
This practicum is the standard recitation for the lecture course "philosophy of religion".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: Satisfactory/No Credit

PHIL 0472 - PHILOSPHY OF RLIGN/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "philosophy of religion".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0473 - PHILOSOPHY OF RELIGION

Minimum Credits: 3
Maximum Credits: 3
An examination of the arguments for and against the existence of god.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0500 - INTRODUCTION TO LOGIC

Minimum Credits: 3
Maximum Credits: 3
An introduction to the concepts and methods of modern deductive logic. Propositional logic is emphasized, but quantificational logic is touched upon.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0550 - FORML METHDS IN SCIENCE & PHIL

Minimum Credits: 3
Maximum Credits: 3
An introduction to such concepts and methods as probability, infinity, axiomatics (formal and informal), boolean algebra, methatheory, algorithms, and turning machines.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0610 - PHILOSOPHY AND SCIENCE

Minimum Credits: 3
Maximum Credits: 3
An introductory course in philosophy of science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0612 - PHILOSOPHY & SCIENCE/WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "philosophy and science".
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

PHIL 0810 - FRESHMAN SEMINAR

Minimum Credits: 3
Maximum Credits: 3
This is an intensive seminar for a small, select group of talented and highly motivated freshmen. Philosophical issues discussed vary considerably from year to year, but tend to be narrowly focused and topical.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

PHIL 0830 - PHILOSOPHY FOR ENGINEERS

Minimum Credits: 3
Maximum Credits: 3
This is an intensive seminar for a small, select group of talented and highly motivated freshmen from the school of engineering. Philosophical issues discussed vary from year to year, but tend to be narrowly focused and topical.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

PHIL 0840 - SCIENCE AND RELIGION

Minimum Credits: 3
Maximum Credits: 3
This introductory undergraduate course addresses two questions; does the scientific understanding of the world suffer from a kind of incompleteness that can be remedied by the supernaturalist religions? Or is there even a clash between contemporary science and such religion?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 0850 - PHILOSOPHY & LIBERAL DEMOCRACY

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to several problems common to philosophers and politics and introduces students to the different theories, modes of argument, and techniques of analysis used by the two disciplines to understand them. It is intended to help students deepen their understanding of the dominant political stance of our society.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course; LVL: Fr, So, Jr

PHIL 0890 - TOPICS IN PHILOSOPHY (VARIOUS)
Minimum Credits: 3
Maximum Credits: 3
This intensive but introductory level seminar is reserved for special philosophical topics that do not fit standard course-catalog categories. Issues discussed vary from year to year, but tend to be narrowly focused and specialized.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

PHIL 1010 - PRESOCRATIC PHILOSOPHY
Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course is a survey of major figures in Greek philosophy before Socrates and Plato.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 1020 - PLATO
Minimum Credits: 3
Maximum Credits: 3
This is an advanced undergraduate course examining Plato's main views both in their historical context, and as they influence our own thinking today; the relations between Socrates and the sophists are also studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: Any other Philosophy course.

PHIL 1040 - ARISTOTLE
Minimum Credits: 3
Maximum Credits: 3
This is an advanced undergraduate course examining the basic concepts of Aristotle's metaphysics, physics, ethics and logic.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1060 - HELLENISTIC PHILOSOPHY
Minimum Credits: 3
Maximum Credits: 3
An examination, at the advanced undergraduate level, of the three major schools of the Hellenistic age--the stoics, epicureans, and skeptics--and their views about ethics, epistemology, and the nature of reality.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1070 - TOPICS IN ANCIENT PHILOSOPHY
Minimum Credits: 3
Maximum Credits: 3
An investigation of a particular topic or figure in the field of ancient philosophy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1080 - MEDIEVAL PHILOSOPHY
Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course examines selected major figures in European philosophy during the middle ages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1110 - RATIONALISM

Minimum Credits: 3
Maximum Credits: 3
An examination, at the advanced undergraduate level, of several important rationalist philosophers, such as Hobbes, Descartes, Spinoza, and Leibniz.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1140 - EMPIRICISM

Minimum Credits: 3
Maximum Credits: 3
An examination, at the advanced undergraduate level, of several important empiricist philosophers, such as Bacon, Locke, Berkeley, Hume, and Reid.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1170 - KANT

Minimum Credits: 3
Maximum Credits: 3
An introduction to the philosophy of Kant, focusing on the "critique of pure reason". The course seeks to enable the advanced undergraduate to understand the theories and arguments of this revolutionary and rewarding work.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHIL 0210 or PHIL 0212 or any 1000-level Philosophy course.

PHIL 1180 - 19TH CENTURY PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
A survey, at the advanced undergraduate level, of the thought and unity of the three great German philosophers of the nineteenth century; Hegel, Marx, and Nietzsche.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1190 - TOPICS IN 19TH CENTURY PHIL

Minimum Credits: 3
Maximum Credits: 3
Topics vary. Typically the course will concentrate on the thought of a single nineteenth-century philosopher, such as Nietzsche, or on a prominent theme, such as idealism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1195 - NIETZSCHE

Minimum Credits: 3
Maximum Credits: 3
This course is a study of the genealogy of morality. It focuses in particular on Nietzsche's radical criticism of morality, and his proposal for a revaluation of all values.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1200 - 20TH CENTUR ANALYTC PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course examines major trends in contemporary analytic philosophy, including, for instance, some (but not all) of logical empiricism, logical positivism, Wittgenstein and his followers, ordinary language ("oxford") philosophy, quine and his followers, Sellars and his followers, and so on.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: Any other Philosophy course.

PHIL 1210 - TOPICS IN ANALYTIC PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course explores specific topics in contemporary analytic philosophy. These topics vary from year to year, but might include Russell and Moore, the verificationist theory of meaning, early (or late) Wittgenstein, philosophy as pseudo-problems; from Carnap to Ryle, the philosophy of quine (or Sellars, or Strawson, or Davidson, or...), And so on.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1220 - 20TH CENTURY CONTINENTAL PHIL

Minimum Credits: 3
Maximum Credits: 3
This is an advanced undergraduate level survey of major trends in Twentieth-Century German and French philosophy, including, for instance, some (but not all) of hermeneutics, phenomenology, existentialism, structuralism, critical theory, and deconstruction. (Logical positivism is treated elsewhere, along with 20th-century analytic philosophy.)
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1225 - WITTGENSTEIN

Minimum Credits: 3
Maximum Credits: 3
In depth study of some central sections of Wittgenstein's philosophical investigations. Objective will be not only to improve understanding of issues about language, mind, and reality raised in that brilliant but cryptic work, but also to situate the work historically in relation to Wittgenstein's earlier masterpiece tractatus logico-philo sophicus; the analytic tradition in 20th century philosophy; and modern philosophy in general.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1230 - TOPICS IN CONTINENTL PHILOSPHY

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course explores specific topics in contemporary continental philosophy. These topics vary from year to year, but might include Husserlian phenomenology, early (or late) Heidegger, the development of hermeneutic theory, the Frankfurt school, Sartre and Camus, or Foucault and Derrida.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1240 - AMERICAN PRAGMATISM

Minimum Credits: 3
Maximum Credits: 3
This is an advanced undergraduate course in the "classical" American pragmatists, especially Pierce, James, Dewey, and Mead.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1250 - GERMAN PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
The readings for this course will be drawn from a wide range of German philosophers from Kant to Wittgenstein (e.g., Hegel, Nietzsche, Freze, Heidegger, and Carnap). The emphasis will be on learning to read difficult philosophical texts in the original language and learning to translate them into English. Some reading knowledge of German and some previous exposure to philosophy are prerequsites for this course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1270 - NON-WESTERN PHILOSOPHY
Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course concentrates on a few selected figures or problems in non-Western philosophical thought. The selection will vary from one offering of the course to another.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1290 - TOPICS IN HISTRY OF PHILOSOPHY
Minimum Credits: 3
Maximum Credits: 3
This is an advanced undergraduate course devoted to special topics in the history of philosophy that do not naturally fall into any of our regular courses. Topics and periods covered will vary each time the course is offered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHIL 0200 or PHIL 0210 or PHIL 1010 or PHIL 1020 or PHIL 1040 or PHIL 1060 or PHIL 1070 or PHIL 1080 or PHIL 1110 or 1120 or PHIL 1140 or PHIL 1170 or PHIL 1310

PHIL 1300 - ETHICAL THEORY
Minimum Credits: 3
Maximum Credits: 3
An advanced undergraduate examination of various topics in ethical theory, such as ethical relativism, subjective and objective value, the relation of reason and ethics, ethical realism, utilitarianism and contractarianism, and virtues and vices.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHIL 0300 or PHIL 0330 or PHIL 0332 or PHIL 0350 or any 1000 level Philosophy course.

PHIL 1310 - HISTORY OF ETHICS
Minimum Credits: 3
Maximum Credits: 3
An examination of some of the principal moral philosophers in one or more of the major historical periods from Homeric times to the present day--such as Plato, Aristotle, Aquinas, Hobbes, Hume, Kant, Nietzsche, Mill, and Rawls.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1315 - APPLIED ETHICS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 1320 - TOPICS IN SOCIAL PHILOSOPHY
Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course concentrates on a few selected philosophical problems concerning the nature of society; the selection will vary from one offering of the course to another. The course may be historical or topical in approach.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1330 - TOPICS IN POLITICAL PHILOSOPHY
Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course concentrates on a few selected philosophical problems concerning the nature and justification of government; the selection will vary from one offering of the course to another.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1340 - FEMINIST PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
A comparison of biological, psychological, and economic theories of the nature and causes of the oppression of women. Authors studied might include de Beauvoir, Freud, Marx, Veblen, and Emma Geldman.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1350 - MARXIST PHILOSOPHY

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course studies the philosophical views of Marx and other Marxist thinkers, particularly those concerning economic theory, society, government, and history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1360 - BIOMEDICAL ETHICS

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course examines a selection of ethical problems arising in medicine, such as euthanasia, abortion, and the allocation of resources, and/or ethical issues relating to other species, such as vegetarianism, animal rights, and possible interplanetary morality. The selection will vary from one offering of the course to the next.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1370 - PHILOSOPHY OF ART

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course addresses philosophical problems that arise in connection with art, such as the nature of works of art, the comparison and contrast between representational and non-representational art, the definition of beauty, and special obligations concerning art works.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1380 - BUSINESS ETHICS

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course considers a selection of ethical issues that arise in connection with business needs and practices, such as employer-employee relations, truth in advertising, responsibilities to consumers, fair and unfair competitive practices, environmental effects, contractual obligations, liability for damages, and governmental regulation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1385 - ETHICS AND ECONOMICS

Minimum Credits: 3
Maximum Credits: 3
Contemporary societies, at least in the West, are often characterized in terms of two basic social institutions: liberal democracy and free-market capitalism. This course explores the latter of these institutions in a philosophical context. In doing so we will discuss the nature and origins of market capitalism - free or otherwise - but our primary focus will be on the moral status of the market as a social institution. Are markets a source of personal and collective virtue or a universal ethicalsolvent that reduces men to base motivations of envy and greed? Are they a necessary foundation of individual freedom or an existential threat to personal autonomy? And is market capitalism in some sense the natural economic analogue to liberal democracy or is there a deep conflict between the ideal at work in these two forms of social life? We will begin by reading a number of classic answers to these questions, before moving on to discuss them in the context of a number of ethical issues raised by contemporary forms of capitalism. In doing so, our aim will be to move beyond simple, ideologically-motivated positions "for" and "against" market capitalism, towards a more

nuanced understanding of the moral status of markets as social institutions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 1390 - PHILOSOPHY OF LAW

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course examines a selection of philosophical questions that arise in connection with the theory and practice of law, including constitutional, criminal, and tort law. Topics might include such issues as the comparative role of judges and legislators in making law, the nature of justice, and the relation of law to morality.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1395 - ETHICS & PRACTICAL REASON

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 1400 - RIGHTS & HUMAN RIGHTS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 1410 - PHILOSOPHY OF ACTION

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 1420 - PHILOSOPHY OF LANGUAGE

Minimum Credits: 3
Maximum Credits: 3
This is an advanced undergraduate course in recent and contemporary philosophy of language; topics covered vary somewhat, but typically include many of: reference and descriptions, empiricist criteria of meaning, truth, the theory of speech acts, the analytic-synthetic distinction, theory of translation, possible worlds semantics, pragmatic theories of meaning, and so on.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Philosophy Course

PHIL 1440 - PHILOSOPHY OF MIND

Minimum Credits: 3
Maximum Credits: 3
This is an advanced undergraduate course in the philosophy of mind, taking up problems of both historical and contemporary interest. Topics vary, but are likely to include many of mind-body dualism, materialist reductionism, phenomenalism, the other-minds problem, philosophical behaviorism, qualia, propositional attitude ascriptions, intentionality, and so on.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1455 - PHIL COGNITV & NEURAL SCIENCES

Minimum Credits: 3
Maximum Credits: 3
This course will explore topics at the intersection of the philosophy of mind, and scientific investigation of the mind and brain (as in psychology, cognitive science, neuro biology, etc.).
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1460 - THEORY OF KNOWLEDGE

Minimum Credits: 3
Maximum Credits: 3
This is an advanced undergraduate course in recent and contemporary epistemology. Topics vary somewhat, but generally include many of the following: skepticism, sense data and the myth of the given, induction and confirmation, definition of "knowing-that-p", holism and coherence, the status of common sense, and so on.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1470 - PHILOSOPHY OF RELIGION

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course examines critically a selection of philosophical issues that arise in connection with religious faith, such as the rationality of believing in the existence of god, possible pragmatic justifications of faith based upon its beneficial consequences, relations between religious and scientific knowledge, and so on.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1480 - METAPHYSICS

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course considers a selection of central problems in metaphysics, such as the problems of realism, essentialism, free will, necessity and possibility, substance and property, persistence through time (including personal identity), the nature of truth, and so on.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1490 - TOPICS IN SYSTEMATIC PHILOSPHY

Minimum Credits: 3
Maximum Credits: 3
This is an advanced undergraduate course devoted to specific problem areas in contemporary philosophy that are not dealt with in regular courses. Thus, the topics covered will vary considerably from one offering of the course to the next, but they might include such things as the theory of action, the philosophy of history, the free-will problem, realism and relativism, personal identity, and such like.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1500 - SYMBOLIC LOGIC

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course develops skills in formal and informal reasoning in predicate-quantifier logic, and covers formal semantics for sentential logic, informal semantics for predicate-quantifier logic, and elementary syntactic metatheory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHIL 0500

PHIL 1520 - LOGICAL METATHEORY

Minimum Credits: 3
Maximum Credits: 3
A study of some of the fundamental concepts, results, and proofs in symbolic logic. Topics to be covered include propositional and predicate calculi, first-order theories and their models, Loewenheim-Skolem theorem, Peano arithmetic, and Goedel's incompleteness theorem.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHIL 1500

PHIL 1530 - SET THEORY
Minimum Credits: 3
Maximum Credits: 3
An elementary development of axiomatic set theory, together with a philosophical discussion of set-theoretic foundations of mathematics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHIL 0500

PHIL 1540 - COMPUTABILITY THEORY
Minimum Credits: 3
Maximum Credits: 3
An introduction to the theory of computability. Topics include models of computation, decidability, enumerability, computational complexity, and computability and the philosophy of mind.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHIL 1500

PHIL 1550 - PROBABILITY AND INDUCTION
Minimum Credits: 3
Maximum Credits: 3
A survey of major issues regarding inductive reasoning in everyday life and in science. Various concepts of probability will be examined and related to human decision making. The classic problems of justification and induction, due to David Hume, will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHIL 0500

PHIL 1555 - RATIONALITY
Minimum Credits: 3
Maximum Credits: 3
This course will focus on an influential analysis of rationality: the game-theoretic notion, which has agents attempting to maximize their expected utility. We will consider the foundations of this approach, criticisms of it, and applications of it to several areas of philosophy (including political philosophy, philosophy of language, and philosophy of science).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1580 - PHILOSOPHY OF MATHEMATICS
Minimum Credits: 3
Maximum Credits: 3
A survey of issues in the philosophy of mathematics, emphasizing both a historical perspective and contemporary logical foundations of mathematics. Special attention is given to geometry or number theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHIL 1500

PHIL 1590 - TOPICS IN LOGIC
Minimum Credits: 3
Maximum Credits: 3
An advanced undergraduate course concentrating on some special topic in logic, such as algebraic logic, modal logic, relevance logic, theory of truth, applications of logic to philosophy of science, or foundations of measurement.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHIL 0500

PHIL 1600 - PHILOSOPHY & RISE MDRN SCIENCE
Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course explores the mutually reinforcing relationships between modern philosophy and modern empirical science in and around the seventeenth century. Authors studied might include Copernicus, Galileo, Bacon, Descartes, Locke, Newton, and Leibniz, as well as contemporary historians of science and philosophy.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1610 - INTRO TO PHILOSOPHY OF SCIENCE

Minimum Credits: 3
Maximum Credits: 3
This course provides a broad, introductory survey of current issues in philosophy of science and treats philosophical problems such as confirmation, which are common to all sciences, as well as problems peculiar to individual sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1612 - PHIL OF 20TH CENTURY PHYSICS

Minimum Credits: 3
Maximum Credits: 3
An examination of the fascinating philosophical problems to which modern physical theories have given rise. No previous formal training in physics or mathematics will be presupposed, since the basic physical ideas needed will be introduced largely qualitatively with an emphasis on concepts rather than equations. Topics will vary from year to year with instructor, but center around classical mechanics, quantum mechanics, and relativity theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1620 - PHILOSOPHY OF SOCIAL SCIENCE

Minimum Credits: 3
Maximum Credits: 3
Problems of explanation, confirmation, concept formation, and methodology in such sciences as anthropology, economics, political science, psychology and sociology. Comparison among social, biological, and physical sciences with respect to methodology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1625 - PHILOSOPHY OF MEDICINE

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to philosophical and yet practical issues in medical science. Students will examine the concepts of 'health', 'normality', and 'disease', and also some representative theories in clinical biochemistry, microbiology and physiology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1630 - PHILOSOPHY OF ANTHROPOLOGY

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course examines philosophical problems that arise in connection with scientific anthropology including especially methodological issues concerning cross-cultural investigation concept formation explanation theory and value relativity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1640 - PHILOSOPHY OF PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course covers such topics as mind-body reductionism, behaviorism, functionalism, cognitivism, and the relation of artificial intelligence research to psychological theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1650 - PHILOSOPHY OF BIOLOGY

Minimum Credits: 3
Maximum Credits: 3
Philosophy of biology will consider foundational conceptual issues in biology like the nature and structure of biological explanation, the possibility of laws in evolutionary theory, the relationship between different causal components of biological processes (genetics and development), the problem of species reality and classification, the explanatory character of ascription of biological function, and the extension of biological explanations to human psychology and culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1660 - PARADOX

Minimum Credits: 3
Maximum Credits: 3
This course explores paradoxes both for the fun of untangling an intriguing puzzle and for the more serious reason of the easy access they provide to some of the most important foundations issues in philosophy and the sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1670 - PHILOSOPHY OF NEUROSCIENCE

Minimum Credits: 3
Maximum Credits: 3
This course will serve as in introduction to the conceptual problems around neuroscience for students with and without a background in experimental neuroscience.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHIL 1682 - FREEDOM AND DETERMINISM

Minimum Credits: 3
Maximum Credits: 3
This course analyzes three concepts of determinism--the logical determinism, logical determinism or fatalism, and physical determinism--and examines the various philosophical arguments designed either to show that determinism and free will do clash or alternatively that they are reconcilable.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1690 - TOPICS IN PHILOSPHY OF SCIENCE

Minimum Credits: 3
Maximum Credits: 3
Discussion, at the advanced undergraduate level, of selected problems such as confirmation, concept formation, the nature of theories. In any given term, the course might focus on problems in physical, biological, or social sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1762 - GUIDE OF THE PERPLEXED

Minimum Credits: 3
Maximum Credits: 3
Moses Maimonides (1138-1204) was the greatest Jewish thinker of the medieval period, and remains highly influential today. Born in Spain, he became the leading rabbinic authority of his time by writing a compendium of Jewish law, the Mishnah torch. He was also famous as a physician and author of medical works. His widest impact, however, has been through his masterpiece of philosophy of religion, the guide of the perplexed. This engaging, elusive book is important not only for its influence on such major thinkers as Aquinas, Spinoza, Leibniz, and Newton, but also for its insight into questions of religion and rationality. In this course we will study virtually all of the guide, giving special attention to Maimonides' account of the fall, his theory of religious language, his arguments for the existence of god, his doctrine of creation, his teachings on religious experience, prophecy, and revelation, and his views on human perfection and immortality. In our sessions we will work closely and carefully through the text, at each step following up Maimonides' hints and challenges to his readers. Our goal will be, not merely to appreciate the surface purport of the book, but also to discern its deeper implications, through which Maimonides sought to suggest, to a few of his readers, the secret meaning of the bible itself.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PHIL 1800 - PHILOSOPHY AND ANIMALS

Minimum Credits: 3
Maximum Credits: 3
An advanced undergraduate course dealing with the philosophical conceptions of animals found in the works of various philosophers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1840 - SCIENCE AND RELIGION

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course addresses two questions: does the scientific understanding of the world suffer from a kind of incompleteness that can be remedied by the supernaturalist religions? Or is there even a clash between contemporary science and such religion?
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1890 - ISSUES IN PHILOSOPHY (VARIOUS)

Minimum Credits: 3
Maximum Credits: 3
This intensive, advanced-level seminar is reserved for special philosophical topics that do not fit standard course-catalog categories. Issues discussed vary from year to year, but tend to be narrowly focused and specialized.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any Other Philosophy Course

PHIL 1901 - INDEPENDENT STUDY--UNDERGRADUT

Minimum Credits: 1
Maximum Credits: 9
This course is a way of offering university credit in philosophy for relevant experiences or work undertaken independently, with little or no formal interaction with an instructor.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

PHIL 1902 - DIRECTED STUDY--UNDERGRADUATE

Minimum Credits: 1
Maximum Credits: 9
This course provides an individualized study program, on a topic not covered in the regular curriculum, under the close supervision of a faculty advisor. The student is generally expected to produce a substantial piece of written work.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

PHIL 1903 - DIRCTED RESEARCH--UNDERGRADUT

Minimum Credits: 1
Maximum Credits: 9
This course is a way of offering university credit in philosophy for research work undertaken by a student under the direction of a faculty member in connection with that faculty member's own research.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

PHIL 1940 - HONORS THESIS/MAJORS

Minimum Credits: 3
Maximum Credits: 3
This is a special directed study for senior philosophy majors who wish to write an honors thesis over two terms. Use course PHIL 1941 for the second term.
Academic Career: UGRD

Course Component: Directed Studies
Grade Component: Letter Grade

PHIL 1941 - HONORS THESIS 2/MAJORS
Minimum Credits: 3
Maximum Credits: 3
This is the second term of course PHIL 1940.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

PHIL 1942 - HONORS THESIS 3/MAJORS
Minimum Credits: 6
Maximum Credits: 6
This is a special directed study for senior philosophy majors who wish to write an honors thesis in one term.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

Physics & Astronomy

PHYS 0080 - SCIENCE AND PSEUDOSCIENCE
Minimum Credits: 3
Maximum Credits: 3
This course examines the characteristics of scientific endeavor, and the ways in which pseudosciences differ from sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (MATH 0020 or MATH 0025 or MATH 0031) or CREQ: (MATH 0032 or MATH 0100 or MATH 0120 or MATH 0125 or MATH 0200 or MATH 0220)

PHYS 0081 - SPACE & TIME, LIGHT & MATTER
Minimum Credits: 3
Maximum Credits: 3
This course introduces non-science students to the ideas of physics, with emphasis on modern physics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0020 or any MATH greater than or equal to MATH 0031 (Min Grade 'C') or MATH PLACEMENT SCORE (61 or greater)

PHYS 0082 - SCIENCE OF MUSICAL SOUNDS
Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the physical ideas underlying musical phenomena.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0020 or any MATH greater than or equal to MATH 0031 (Min Grade 'C') or MATH PLACEMENT SCORE (61 or greater)

PHYS 0086 - PHYSICS AND PUBLIC POLICY
Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the physical ideas involved in understanding and evaluating some of the important issues facing society at large.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHYS 0087 - PHYSICS AND SOCIETY
Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the physical ideas underlying the role of nuclear science in modern life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Course Requirements: PREQ: MATH 0020 or any MATH greater than or equal to MATH 0031 (Min Grade 'C') or MATH PLACEMENT SCORE (61 or greater)

PHYS 0088 - THE PHYSICS OF ENERGY

Minimum Credits: 3
Maximum Credits: 3
This is an introductory course on energy. The course will describe both qualitatively and quantitively energy use, energy generation, and sources of energy. In this course, we will explore potential energy sources and the limitations of potential energy sources for specific practical applications. The course will also describe many of the basic physical considerations related to climate change as this phenomenon has now become intimately connected with energy use.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

PHYS 0089 - PHYSICS AND SCIENCE FICTION

Minimum Credits: 3
Maximum Credits: 3
This course looks at some of the physical ideas underlying stories by leading writers of science fiction.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0020 or any MATH greater than or equal to MATH 0031 (Min Grade 'C') or MATH PLACEMENT SCORE (61 or greater)

PHYS 0106 - BASIC PHYS SCIENCE & ENGRG 3

Minimum Credits: 3
Maximum Credits: 3
This is the third term of a three-term, calculus-based sequence in introductory physics. This term deals with electromagnetism, waves and optics, and modern physics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHYS 0110 - INTRODUCTION TO PHYSICS 1

Minimum Credits: 3
Maximum Credits: 3
This is the first term of a two-term, algebra-based sequence in introductory physics. This term deals with mechanics, heat and thermodynamics, and waves.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0020 or any MATH greater than or equal to MATH 0031

PHYS 0111 - INTRODUCTION TO PHYSICS 2

Minimum Credits: 3
Maximum Credits: 3
This is the second term of a two-term, algebra-based sequence in introductory physics. This term deals with electricity and magnetism, optics, and modern physics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHYS 0110 or PHYS 0174 or PHYS 0475; MIN GRAD: 'C' for all listed Courses

PHYS 0174 - BASC PHYS SCI & ENGR 1 (INTGD)

Minimum Credits: 4
Maximum Credits: 4
The integrated curriculum version of PHYS 0104, the first part of a two-term sequence (PHYS 0174-PHYS 0175) introduces students to the basic principles of mechanics. An effort has been made to achieve a better integration of physics with the first term of calculus, engineering, and chemistry. The theory of waves and the kinetic theory of gases will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: MATH 0220 or MATH 0235

PHYS 0175 - BASC PHYS SCI & ENGR 2 (INTGD)

Minimum Credits: 4
Maximum Credits: 4
The integrated curriculum version of PHYS 0105, the second part of a two-term sequence (PHYS 0174-PHYS 0175), introduces students to the basic principles of physics. An effort has been made to achieve a better integration of physics with the first term of calculus, engineering, and chemistry. Modern physics (special relativity, elementary quantum mechanics, and atomic structure) will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PHYS 0174 MIN GRAD 'C' or PHYS 0475 MIN GRAD 'C') and (MATH 0235 : MIN GRAD 'C') or [(PHYS 0174 or PHYS 0475 MIN GRAD 'C-') and CREQ: MATH 0230]

PHYS 0210 - INTRO TO PHYSICS TEACHING

Minimum Credits: 2
Maximum Credits: 2
This course is aimed at science and engineering majors interested in learning more about physics teaching. It will introduce cognitive research and principles of learning, provide models of good physics instruction, and give students opportunities to develop and present a physics concept to an introduction physics recitation class. The lesson that students will deliver in the recitations will be developed under the guidance of the instructor, undergoing multiple drafts, and discussion in the class.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHYS 0212 - INTRO TO LABORATORY PHYSICS

Minimum Credits: 2
Maximum Credits: 2
This is an introductory physics laboratory associated with the PHYS 0110-PHYS 0111 sequence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: PHYS 0111 or PHYS 0175 or PHYS 0476

PHYS 0219 - BASIC LAB PHYS SCIENCE & ENGRG

Minimum Credits: 2
Maximum Credits: 2
This is an introductory physics laboratory associated with the physics 0104-0105-PHYS 0106 sequence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: PHYS 0175 or PHYS 0476

PHYS 0475 - INTRO PHYS SCIENCE & ENGRG 1

Minimum Credits: 4
Maximum Credits: 4
This is the first term of a two-term honors version of the physics 0104-0105-PHYS 0106 sequence. This term deals with mechanics, waves and thermodynamics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: MATH 0230 or MATH 0235

PHYS 0476 - INTRO PHYS SCIENCE & ENGRG 2

Minimum Credits: 4
Maximum Credits: 4
This is the second term of a two-term honors version of the physics 0104-0105-PHYS 0106 sequence. This term deals with electricity and magnetism, relativity, and an introduction to modern physics and quantum phenomena.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [PHYS 0174 (MIN GRADE 'B') or PHYS 0475 (MIN GRADE 'C')] and (MATH 0230 or MATH 0235); CREQ: MATH 0240

PHYS 0477 - INT THERMAL AND MODERN PHYSICS

Minimum Credits: 4
Maximum Credits: 4
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHYS 0175 (B- or better) or PHYS 0476 (C or better)

PHYS 0478 - THE UNIVERSE

Minimum Credits: 3
Maximum Credits: 3
Intended for honors students who are not physics majors the course will be directed mainly to social science and humanities students. Topics: review of needed mathematics. Survey of objects in the sky. Survey of the basic physics needed for the course: mechanics, gravity, energy, electromagnetic waves, optics, atomic and nuclear physics. Sun, stable stars, instable stars, novas, doublestars. Evolution of stars: pulsars, neutron stars, black holes. Star cluster, globular cluster. Between the stars. Quiet, active and radio galaxies, quasars. Cosmology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHYS 0479 - PRINCIPLES OF MODERN PHYSICS 1

Minimum Credits: 3
Maximum Credits: 3
This is the first term of a two-term, intermediate level course in modern physics. This term deals with special relativity, molecular theory of gases, the development of quantum theory, and an introduction to quantum mechanics and its applications to atomic structure.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [PHYS 0175 (MIN GRAD: 'C') or PHYS 0476 (MIN GRAD: 'C-')]; CREQ: MATH 0240

PHYS 0481 - PRINCIPLES OF MODERN PHYSICS 2

Minimum Credits: 3
Maximum Credits: 3
This is the second term of a two-term intermediate-level course in modern physics. This term deals with further applications of quantum mechanics to atoms, molecules, and solids, as well as an introduction to the physics of nuclei and particles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHYS 0477 or PHYS 0479 MIN GRAD: 'C' for all listed Courses

PHYS 0520 - MODERN PHYSICS MEASUREMENTS

Minimum Credits: 3
Maximum Credits: 3
This honors laboratory course provides an introduction to the scientific questions and techniques in modern physical measurements, including exposure to various current experimental puzzles and accomplishments, hands-on experience with research grade equipment and microcomputer-controlled data acquisition interfaces, data analysis (and simple data analysis programs), prior preparation for data taking, and error estimation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHYS 0175 or PHYS 0476

PHYS 0525 - ANALOG AND DIGITAL ELECTRONICS

Minimum Credits: 3
Maximum Credits: 3
A laboratory course designed to introduce the student to contemporary analog and digital electronics techniques used in basic science and engineering research. Topics include the study of measurement instruments, passive circuits, diode and transistor circuits, operational amplifiers and feedback, digital gates, analog to digital and digital to analog circuits. The course consists of a lecture and a lab.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHYS 0219 or PHYS 0520; MIN GRADE: 'C' for listed Courses

PHYS 0577 - MODERN PHYSICAL MEASUREMENTS

Minimum Credits: 4
Maximum Credits: 4
This is an honors course that provides an introduction to the scientific basis of modern methods of physical measurements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHYS 0679 - PRIN OF MODERN PHYS 1/WRITING

Minimum Credits: 1
Maximum Credits: 1
This is a writing practicum to accompany PHYS 0479.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: PHYS 0479; PLAN: Physics(BS) or Physics and Astronomy(BS, BA)

PHYS 0681 - IDEAS MODERN PHYSICS/WRIT PRAC

Minimum Credits: 0
Maximum Credits: 0
This is a writing practicum to accompany PHYS 0081.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHYS 0959 - APPLD ELECTRICITY & MAGNETISM

Minimum Credits: 3
Maximum Credits: 3
This is an intermediate-level course in electricity and magnetism that is less mathematical and more oriented toward problem-solving than physics 0160.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHYS 1110 - SPECIAL TOPICS

Minimum Credits: 1
Maximum Credits: 9
This course is offered when a particular upper level topic not in the regular curriculum is being offered.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

PHYS 1146 - NUCLR MAGNTC RESON BIOMDCL SCI

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to new advances in the field of NMR in biomedical sciences. It covers the following topics: fundamentals of NMR; new techniques such as NMR imaging and in vivo spectroscopy as well as pulse techniques and NMR microscopy; and applications of NMR to investigate macromolecular structures, interactions, and dynamics as well as cellular structures and metabolism in selected regions of tissues and organs of living animals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHYS 1310 - UNDERGRADUATE SEMINAR

Minimum Credits: 1
Maximum Credits: 1
The undergraduate seminar provides a venue for students to discuss topics of interest in physics and astronomy. It gives students experience presenting research in the form of a poster presentation. The seminar will give the students a taste of what conducting scientific research and presenting scientific results is all about.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PHYS 0477 or PHYS 0479) and (PHYS 0520 or PHYS 0525 or PHYS 1361 or PHYS 1426 or ASTRON 1263) or (PHYS 0219 and ASTRON greater than or equal to ASTRON 1120 or PHYS greater than or equal to PHYS 1321

PHYS 1311 - UNDERGRADUATE SEMINAR

Minimum Credits: 1
Maximum Credits: 1
The undergraduate seminar provides a venue for students to discuss topics of interest in physics and astronomy. It gives students experience presenting research, both as a short oral communication, and in the form of a poster presentation, in formats similar to conference talks and poster papers given by researchers in the field at topical meetings. The seminar will give the students a taste of what conducting scientific research, and presenting scientific results, is all about.
Academic Career: UGRD
Course Component: Seminar

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHYS 1310

PHYS 1313 - PHOTONICS SEMINAR

Minimum Credits: 1
Maximum Credits: 1
The overall aim of the course is to expose students to work on the cutting edge of photonics.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

PHYS 1321 - COMPUTATNAL METHODS IN PHYSICS

Minimum Credits: 3
Maximum Credits: 3
The students will learn how to program a computer rather than to use existing programs. Lectures will explain the strategies in approximation and good programming technique. Then, homework problems will provide the student with their own experiences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: (PHYS 0477 or PHYS 0479) and (PHYS 0219 or PHYS 0520 or CS 0008 or ENGR 0012) and MATH 0240 and (MATH 0290 or MATH 1270)

PHYS 1331 - MECHANICS

Minimum Credits: 3
Maximum Credits: 3
This is an intermediate-level course dealing with classical mechanics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PHYS 0175 or PHYS 0476) and MATH 0240 MIN GRAD: 'C' for listed Courses]; CREQ: (MATH 0280 or MATH 1180 or MATH 1185) and (MATH 0290 or MATH 1270)

PHYS 1341 - THERMDYNMC & STATISCAL MECHANC

Minimum Credits: 3
Maximum Credits: 3
This course deals with the basic ideas of equilibrium thermodynamics and statistical mechanics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PHYS 0477 or PHYS 0479) and MATH 0240 and (MATH 0290 or MATH 1270); MIN GRAD: 'C' for all listed Courses

PHYS 1351 - INTERMEDT ELECTRCITY/MAGNETISM

Minimum Credits: 3
Maximum Credits: 3
This is an intermediate-level course in electricity and magnetism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(PHYS 0175 or PHYS 0476) and MATH 0240; MIN GRAD: 'C' for listed Courses)]; CREQ: MATH 0290 or MATH 1270

PHYS 1361 - WAVE MOTION AND OPTICS

Minimum Credits: 3
Maximum Credits: 3
The overall aim of the two-course series is to present the essential theory of modern photonics methods as actually used in industry and research labs today. ECE 1241 (photonics 2) will focus on the application of photonics techniques to modern devices and materials characterization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ECE 1240 or CHEM 1470 or PHYS 1363; PROG: Swanson School of Engineering

PHYS 1363 - PHOTONICS 1

Minimum Credits: 3
Maximum Credits: 3
The overall aim of the two-course series is to present the essential theory of modern photonics methods as actually used in industry and research labs

today. Physics 1363 (photonics 1) will focus on the basic theory of optics in anisotropic and nonlinear media and the basic methods of modulating and controlling light, while PHYS 1364 (photonics 2) will focus on the application of photonics techniques to modern devices and materials characterization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHYS 1364 - PHOTONICS 2

Minimum Credits: 3
Maximum Credits: 3
The overall aim of the two-course series is to present the essential theory of modern photonics methods as actually used in industry and research labs today. Physics 1364 (photonics 2) will focus on the application of photonics techniques to modern devices and materials characterization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHYS 1365 - PHOTONICS LAB

Minimum Credits: 1
Maximum Credits: 1
The course will have three segments: (1) optical design using the Oslo computer program, (2) high-power lasers, and (3) fiber optics. The course is designed to accompany the photonics 1 and 2 theory course, which have a theoretical text already generated by the instruction team.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

PHYS 1370 - INTRO TO QUANTUM MECHANICS 1

Minimum Credits: 3
Maximum Credits: 3
This is the first-term of a two-term introduction to quantum mechanics. This term introduces the necessary formalism and treats some of its basic applications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PHYS 0477 or PHYS 0479) and (MATH 0280 or MATH 1180 or MATH 1185); CREQ: PHYS 1331 and PHYS 1351; MIN GRAD: 'C' for all listed Courses except PHYS 0477

PHYS 1371 - INTRO TO QUANTUM MECHANICS 2

Minimum Credits: 3
Maximum Credits: 3
This is the second-term of a two-term introduction to quantum mechanics. The quantum formalism developed in the first term will be applied in a variety of physical situations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHYS 1370; MIN GRAD: 'C'

PHYS 1372 - ELECTROMAGNETIC THEORY

Minimum Credits: 3
Maximum Credits: 3
This is an advanced course in which Maxwell's equations are applied to a variety of electromagnetic phenomena.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PHYS 0477 or PHYS 0479) and PHYS 1351 and (MATH 0280 or MATH 1180 or MATH 1185); CREQ: PHYS 1331; MIN GRAD: 'C-' PHYS 1351 / MATH 0280, MATH 1180, MATH 1185

PHYS 1373 - MATHEMATCL METHODS IN PHYSICS

Minimum Credits: 3
Maximum Credits: 3
This course deals with mathematical techniques that are commonly used in physics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: PHYS 1370

PHYS 1374 - SOLID STATE PHYSICS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHYS 0477 or PHYS 0479 or CHEM 0710 or CHEM 1410

PHYS 1375 - FOUNDATIONS OF NANOSCIENCE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PHYS 1376 - INTRO TO BIOLOGICAL PHYSICS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PHYS 0111 or PHYS 0175 or PHYS 0476) and [(MATH 0230 or MATH 0235) or (MATH 0220 and STAT 1000)]

PHYS 1378 - INT TO NUCLR & PARTCL PHYSICS

Minimum Credits: 3
Maximum Credits: 3
This course gives an introduction into the theory concepts and the experimental methods used for nuclear and particle physics research. While some of the basic principles will be discussed from a historical perspective, the emphasis of this course is on modern developments, such as the standard model and the Higgs Boson, supersymmtry, extra dimensions, dark matter, CP-violation and baryogenesis, and neutrino oscillations. The main aspects of physics processes will be understood and calculated from symmetry principles and kinematics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHYS 1370

PHYS 1426 - MODERN PHYSICS LABORATORY

Minimum Credits: 2
Maximum Credits: 2
This is an advanced laboratory course that introduces students to the experimental techniques and equipment used in research laboratories.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PHYS 0525 and (PHYS 0477 or PHYS 0479)

PHYS 1626 - MODERN PHYSICS LAB/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
This is a writing practicum to accompany physics 1226.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: PHYS 1426 or ASTRON 1263; PLAN: Physics(BS) or Physics and Astronomy (BS, BA) or Astronomy (BA)

PHYS 1661 - WAVE MOTION & OPTICS/WRIT PRAC

Minimum Credits: 1
Maximum Credits: 1
This is a writing practicum to accompany PHYS 1361.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: PHYS 0520 or PHYS 1361; PLAN: Physics(BS) or Physics and Astronomy(BS, BA)

PHYS 1900 - INTERNSHIP

Minimum Credits: 1
Maximum Credits: 9
This course places the student in an "on-the-job" setting in which they receive practical experience in a supervised training environment.
Academic Career: UGRD

Course Component: Internship
Grade Component: LG/SNC Elective Basis

PHYS 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 9
This course gives students the opportunity to design and carry out an individual project not covered by any course offerings.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

PHYS 1902 - DIRECTED READING
Minimum Credits: 1
Maximum Credits: 9
This course is designed to give students the opportunity to design a plan of reading to be agreed upon by the student and a supervising faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

PHYS 1903 - DIRECTED RESEARCH
Minimum Credits: 1
Maximum Credits: 9
This course is designed to give students the opportunity to design and carry out a research project to be agreed upon by the student and a supervising faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

PHYS 1917 - MODERN PHYSICS ATOMS & NUCLEI
Minimum Credits: 3
Maximum Credits: 3
This course is an intermediate-level introduction to modern physics with a greater emphasis on applications of atomic and nuclear physics than in physics 1119.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

Physics and Astronomy

ASTRON 0080 - OBSERVATIONAL ASTRONOMY LAB
Minimum Credits: 1
Maximum Credits: 1
This is an observation-oriented course that will meet at Allegheny observatory. It is for students who have a sincere desire to become familiar with the nature and motions of astronomical objects in the night sky and techniques to observe them, including the use of telescopes and astrophotography.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

ASTRON 0086 - OBSERVATIONAL ASTRONOMY
Minimum Credits: 3
Maximum Credits: 3
This course is for students who have a desire to become familiar with the nature and motions of celestial objects in the night sky and techniques to observe them. The course will be given at a level suitable for both science and non-science majors who want to learn how to use a telescope and enjoy observational and practical astronomy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: Any MATH Course or MATH PLACEMENT SCORE (61 or Greater)

ASTRON 0087 - BASICS OF SPACE FLIGHT
Minimum Credits: 3
Maximum Credits: 3
Intended for non-science majors, this course focuses on identifying and understanding the general concepts associated with space flight.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: Any MATH Course or MATH PLACEMENT SCORE (61 or Greater)

ASTRON 0088 - STONEHENGE TO HUBBLE

Minimum Credits: 3
Maximum Credits: 3
A course focusing on practical astronomy and providing a historical perspective of our place in the universe. Phenomena that can be readily observed with the unaided eye or a small telescope are discussed. The historical perspective starts with the earliest views, and discusses scientific discovery as a process leading up to modern ideas of the expanding universe of galaxies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: Any MATH Course or MATH PLACEMENT SCORE (61 or Greater)

ASTRON 0089 - STARS, GALAXIES AND THE COSMOS

Minimum Credits: 3
Maximum Credits: 3
This course deals primarily with astronomical objects lying outside our solar system. The level is appropriate for non-science students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: Any MATH Course or MATH PLACEMENT SCORE (61 or Greater)

ASTRON 0111 - THE SOLAR SYSTEM

Minimum Credits: 3
Maximum Credits: 3
This course is a survey of the solar system at a level appropriate for students of science and engineering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ASTRON 0112 - STARS, GALAXIES AND COSMOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course deals with stars, galaxies, and the large-scale structure and evolution of the universe at a level appropriate for students of science and engineering.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ASTRON 0113 - INTRODUCTION TO ASTRONOMY

Minimum Credits: 3
Maximum Credits: 3
Topics covered include: size scales in the universe; some fundamental physics; telescopes; overview of phenomena in the solar system; stellar distances, motions, luminosities, and temperatures; the HI diagram, stellar interiors and energy generation; the formation of stars and evolution to their final stages (white dwarfs, neutron stars, and black holes); the ism; star clusters; the milky way galaxy; types of galaxies; the expansion of the universe; active galaxies and quasars; dark matter; galaxy formation and clustering; cosmology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0020 or any MATH greater than or equal to MATH 0031 (Min Grade 'C') or MATH PLACEMENT SCORE (61 or greater)

ASTRON 0413 - HONORS INTRODUCTION ASTRONOMY

Minimum Credits: 4
Maximum Credits: 4
This course will be an introduction to astronomy and astrophysics. The 4-credit honors course will consists of all aspects of the 3-credit course, including lectures and homework with additional problems tailored for this course. ASTRON 0413 includes an additional 50-minute class session each week. In these extra sessions, basic topics will be covered in more detail than in ASTRON 0113. These extra sessions will also involve significant problem solving and discussions of the derivations of fundamental results in astronomy and astrophysics. Students considering a major in physics, astronomy, or physics and astronomy are strongly encouraged to take ASTRON 0413 instead of ASTRON 0113.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (MATH 0230 or MATH 0235) and (PHYS 0110 or PHYS 0174 or PHYS 0475)

ASTRON 1100 - SPECIAL TOPICS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ASTRON 1119 - PRINCIPLES OF MODERN ASTRONOMY
Minimum Credits: 3
Maximum Credits: 3
This is an advanced-level survey of astrophysical methods and phenomena.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ASTRON 1120 - STARS; STELLAR STRUCT & EVOLT
Minimum Credits: 3
Maximum Credits: 3
Topics covered include: stellar properties (mass, radius, luminosity, temperature); deductions from binary stars; the sun; the HR diagram; stellar atmospheres and interiors; stars in hydrostatic and thermal equilibrium; equations of state for a perfect gas and for degenerate matter; energy generation and nuclear fusion reactions; opacities; life histories of stars according to mass; star formation; main sequence stars; red giants; white dwarfs; red supergiants; supernovae; neutron stars (pulsars); black holes; evolution of binary systems; results from clusters.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ASTRON 0113 and MATH 0240 and (MATH 1270 or MATH 0290 or MATH 0250); CREQ: PHYS 0477 or 0479

ASTRON 1121 - GALAXIES AND COSMOLOGY
Minimum Credits: 3
Maximum Credits: 3
Topics covered include: the milky way galaxy and its properties; external galaxies and their properties; evolution of galaxies; the expansion of the universe (Hubble Law) and the Extragalactic Distance Scale; Clustering of Galaxies; Dark Matter; Active Galaxies and Quasars (models with supermassive black holes); General Relativity, Cosmology, and the Big Bang Model; the Age and fate of the Universe; the History of the Early Universe (Inflation, Nucleosynthesis of Light Elements, 3 degree background radiation; the IgM and Galaxy Formation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ASTRON 0113 and MATH 0240 and (MATH 1270 or 0290 or 0250); CREQ: PHYS 0477 or 0479

ASTRON 1122 - SOLR SYS EXTRASOLAR PLANETS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

ASTRON 1263 - TECHNIQUES OF ASTRONOMY
Minimum Credits: 3
Maximum Credits: 3
The course will roughly be divided into three parts: (1) telescopes, instrumentation, and detectors for radio, IR/ optical/UV, X-Ray, and gamma-ray astronomy. (2) Theoretical foundations of observational techniques, (astronomical coordinates, data acquisition, and sources of noise), data processing, analysis techniques, statistics, and model fitting. (3) Practical problems in making observations, data processing, and data analysis, with special attention paid to understanding errors and uncertainties in results.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: ASTRON 0113 and (PHYS 0175 or 0476) and (PHYS 0219 or 0520)

ASTRON 1900 - INTERNSHIP
Minimum Credits: 1
Maximum Credits: 9
This course places the student in an on-the-job" setting in which they receive practical experience in a supervised training environment."
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

ASTRON 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 9
This course gives students the opportunity to design and carry out an individual project not covered by any course offerings.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

ASTRON 1902 - DIRECTED READING
Minimum Credits: 1
Maximum Credits: 9
This course is designed to give students the opportunity to design a plan of reading to be agreed upon by the student and a supervising faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

ASTRON 1903 - DIRECTED RESEARCH
Minimum Credits: 1
Maximum Credits: 9
This course is designed to give students the opportunity to design and carry out a research project to be agreed upon by the student and a supervising faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

Polish

POLISH 0010 - ELEMENTARY POLISH 1
Minimum Credits: 4
Maximum Credits: 4
A traditional four-skill language course, with equal emphasis on speaking, reading, writing, and listening. By the end of the first semester, students have developed a good polish accent and the ability to converse on many practical subjects, including family, friends, work, studies, free time and lifestyle.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 0011 - SELF-PACED POLISH 1A
Minimum Credits: 1
Maximum Credits: 1
This course covers one quarter of the textbook material covered in the four-quarter course POLISH 0010. The student works at home with the textbook, tapes, and study guide and hands in homework on a lesson-by-lesson basis, followed by an individual meeting with the instructor. As an option, some of the homework may be completed in the computer lab by using the drill diskettes that accompany the course. The same grading standards are applied as in the regular classroom Polish course.
Academic Career: UGRD
Course Component: Correspondence
Grade Component: LG/SNC Elective Basis

POLISH 0012 - SELF-PACED POLISH 1B
Minimum Credits: 1
Maximum Credits: 1
This course covers one quarter of the textbook material covered in the four-quarter course POLISH 0010. The student works at home with the textbook, tapes, and study guide and hands in homework on a lesson-by-lesson basis, followed by an individual meeting with the instructor. As an option, some of the homework may be completed in the computer lab by using the drill diskettes that accompany the course. The same grading standards are applied as in the regular classroom Polish course.
Academic Career: UGRD
Course Component: Correspondence
Grade Component: LG/SNC Elective Basis

POLISH 0013 - SELF-PACED POLISH 1C
Minimum Credits: 1
Maximum Credits: 1
This course covers one quarter of the textbook material covered in the four-quarter course POLISH 0010. The student works at home with the textbook, tapes, and study guide and hands in homework on a lesson-by-lesson basis, followed by an individual meeting with the instructor. As an option, some of the homework may be completed in the computer lab by using the drill diskettes that accompany the course. The same grading

standards are applied as in the regular classroom Polish course.
Academic Career: UGRD
Course Component: Correspondence
Grade Component: LG/SNC Elective Basis

POLISH 0014 - SELF-PACED POLISH 1D

Minimum Credits: 1
Maximum Credits: 1
This course covers one quarter of the textbook material covered in the four-quarter course POLISH 0010. The student works at home with the textbook, tapes, and study guide and hands in homework on a lesson-by-lesson basis, followed by an individual meeting with the instructor. As an option, some of the homework may be completed in the computer lab by using the drill diskettes that accompany the course. The same grading standards are applied as in the regular classroom Polish course.
Academic Career: UGRD
Course Component: Correspondence
Grade Component: LG/SNC Elective Basis

POLISH 0020 - ELEMENTARY POLISH 2

Minimum Credits: 4
Maximum Credits: 4
A continuation of elementary POLISH 0010, this four-skill language course extends the grammatical coverage to include verbal aspect, numeral expressions, and the locative, dative and genitive cases. Emphasis continues to be on developing spoken language competence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 0021 - SELF-PACED POLISH 2A

Minimum Credits: 1
Maximum Credits: 1
This course covers one quarter of the textbook material covered in the four-quarter course POLISH 0020. The student works at home with the textbook, tapes, and study guide and hands in homework on a lesson-by-lesson basis, followed by an individual meeting with the instructor. As an option, some of the homework may be completed in the computer lab by using the drill diskettes that accompany the course. The same grading standards are applied as in the regular classroom Polish course.
Academic Career: UGRD
Course Component: Correspondence
Grade Component: LG/SNC Elective Basis

POLISH 0022 - SELF-PACED POLISH 2B

Minimum Credits: 1
Maximum Credits: 1
This course covers one quarter of the textbook material covered in the four-quarter course POLISH 0020. The student works at home with the textbook, tapes, and study guide and hands in homework on a lesson-by-lesson basis, followed by an individual meeting with the instructor. As an option, some of the homework may be completed in the computer lab by using the drill diskettes that accompany the course. The same grading standards are applied as in the regular classroom Polish course.
Academic Career: UGRD
Course Component: Correspondence
Grade Component: LG/SNC Elective Basis

POLISH 0023 - SELF-PACED POLISH 2C

Minimum Credits: 1
Maximum Credits: 1
This course covers one quarter of the textbook material covered in the four-quarter course POLISH 0020. The student works at home with the textbook, tapes, and study guide and hands in homework on a lesson-by-lesson basis, followed by an individual meeting with the instructor. As an option, some of the homework may be completed in the computer lab by using the drill diskettes that accompany the course. The same grading standards are applied as in the regular classroom Polish course.
Academic Career: UGRD
Course Component: Correspondence
Grade Component: LG/SNC Elective Basis

POLISH 0024 - SELF-PACED POLISH 2D

Minimum Credits: 1
Maximum Credits: 1
This course covers one quarter of the textbook material covered in the four-quarter course POLISH 0020. The student works at home with the textbook, tapes, and study guide and hands in homework on a lesson-by-lesson basis, followed by an individual meeting with the instructor. As an option, some of the homework may be completed in the computer lab by using the drill diskettes that accompany the course. The same grading standards are applied as in the regular classroom Polish course.
Academic Career: UGRD

Course Component: Correspondence
Grade Component: LG/SNC Elective Basis

POLISH 0030 - INTERMEDIATE POLISH 3

Minimum Credits: 3
Maximum Credits: 3
The continuation of elementary POLISH 0020, this course focuses more on written polish and developing listening comprehension than in the first-year course. Attention is paid to developing a good control of basic idioms, and to the formation of participles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 0040 - INTERMEDIATE POLISH 4

Minimum Credits: 3
Maximum Credits: 3
A continuation of intermediate POLISH 7030, this course attempts to round out the student's basic oral competence in relation to specific matters of polish culture and reality. For many students, this course is preparatory to summer study in Poland.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 0210 - INTENSIVE BEGINNING POLISH

Minimum Credits: 6
Maximum Credits: 6
This is a four-skill intensive course in beginning Polish language which is to be offered as part of the summer intensive workshops in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

POLISH 0211 - BEGN INTNSV POLISH PITT/POLAND

Minimum Credits: 10
Maximum Credits: 10
This is a first-year polish course equivalent to POLISH 0210. Four weeks on campus and four weeks in class in Poland. Part of the East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

POLISH 0212 - BEGN INTENSV POLISH IN POLAND

Minimum Credits: 4
Maximum Credits: 4
This is a first year second semester course equivalent to POLISH 0020. It is taught in Lodz Poland and is part of the East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

POLISH 0220 - INTENSIVE INTERMEDIATE POLISH

Minimum Credits: 6
Maximum Credits: 6
This is a four-skill intensive course in intermediate Polish which is offered as part of the summer intensive workshops in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

POLISH 0221 - INTM INTNSV POLISH PITT/POLAND

Minimum Credits: 10
Maximum Credits: 10
This is a second-year course in Polish equivalent to POLISH 0210. Four weeks on campus and four weeks in class in Poland. Part of the East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

POLISH 0222 - INTM INTENSV POLISH IN POLAND

Minimum Credits: 4
Maximum Credits: 4
This is a second year second semester course equivalent to POLISH 0040. It is taught in Lodz Poland and is part of the East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

POLISH 0223 - INTERMEDIATE POLISH IN POLAND

Minimum Credits: 6
Maximum Credits: 6
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

POLISH 0230 - INTERMEDIATE INTENSIVE POLISH

Minimum Credits: 6
Maximum Credits: 6
This is a four-skill intensive course in intermediate Polish, which is offered as part of the summer intensive workshops.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

POLISH 0233 - ADVANCED POLISH IN POLAND

Minimum Credits: 6
Maximum Credits: 6
This is an advanced-level four-skills Polish language course held in Krakow, Poland, and is part of the Slavic, East European and near eastern summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

POLISH 0325 - SHORT STORY IN POLISH CONTEXT

Minimum Credits: 3
Maximum Credits: 3
An introduction to the formal analysis of the literary genre of the short story, on the example of works of polish literature of the 19th and 20th centuries. The course will examine works both formally and as they reflect the reality or literary-social concerns of given historical periods 19th century positivism, women's issues, prison-camp literature, post-war literature of the absurd, and others.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 0400 - ADVANCED POLISH THROUGH FILM

Minimum Credits: 3
Maximum Credits: 3
A two-semester sequence in polish advanced conversation, reading, and composition. This course aims at developing the student's command of idioms, while thoroughly reviewing all aspects of polish conjugation and declension. Focus is placed on the contemporary colloquial Polish language, as spoken by the young in authentic Polish cultural contexts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 0410 - ADVANCED POLISH 2

Minimum Credits: 3
Maximum Credits: 3
This is the second part of third-year Polish language. (Advanced level).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 0870 - CONTEM POLSH CINEM:LIT ON FILM

Minimum Credits: 3
Maximum Credits: 3
This course presents contemporary Polish cinema from 1945 to the present. Concepts will be studied in their historical, political, philosophical, and

aesthetic perspective. The main trends (schools, movements) in Polish cinema, such as the so-called Polish school and the cinema of moral concern, and the works of most important modern polish filmmakers will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 0871 - CNTMPRY POLISH CINEMA: WAJDA
Minimum Credits: 3
Maximum Credits: 3
This course covers concepts presented in POLISH 0870, but emphasizes the films of director Andrzej Wajda.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 0872 - CONTEM POLSH CINEM: KIESLOWSKI
Minimum Credits: 3
Maximum Credits: 3
This course covers concepts presented in POLISH 0870, but emphasizes the director Kieslowski.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 0873 - CONTEMPORARY POLISH CINEMA
Minimum Credits: 3
Maximum Credits: 3
This is a survey course of the history of film in Poland.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 1260 - SURVEY OF POLISH LIT & CULTURE
Minimum Credits: 3
Maximum Credits: 3
Major literary monuments of polish literature are examined against the background of Polish history and culture. Works are related to the major literary and intellectual currents of the time and are placed in both a Polish and a general European context. Literary works are additionally examined critically from a formalistic literary point of view, the aim being to develop in students the basic concepts and vocabulary of literary criticism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

POLISH 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 3
This course allows students to work independently on individually designed projects.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

Political Science

PS 0200 - AMERICAN POLITICS
Minimum Credits: 3
Maximum Credits: 3
This course is, quite generally, designed to provide students with a basic working knowledge of the basic goals of the constitutional framers, giving students an understanding of the purposes of the American political system; the essential structures (or institutions) within the American political system, the behavior (broadly defined) of the actors within the American political system, the purpose and performance of the linkage institutions in the United States (possibly including political parties, elections, and interest groups); and the types of policies that are often produced by a system with the characteristics of those found in the United States. Depending on the interests, area of expertise, and inclinations of the particular instructor, some of these may be emphasized more heavily than others.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 0234 - TOPICS IN AMERICAN ELECTIONS
Minimum Credits: 3
Maximum Credits: 3

This course examines the upcoming presidential and congressional elections. By studying the electoral process, we will accomplish two objectives. First, we will further our understanding of the state of American politics in the current year. Second, and more broadly, we will consider how elections contribute to our political system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 0300 - COMPARATIVE POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course provides students with basic information about a range of political systems outside the United States and teaches them to use that information to examine major theories about politics. The course is also designed to help students understand the government and the politics of the United States in comparative perspective and to develop some understanding of comparative methodology and the logic of comparison as a social science method. Depending on the interests, area of expertise, and inclinations of the particular instructor, some regions and topics might be emphasized more heavily than others.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 0311 - MOD E ASIA:POLIT, SOCTY,ECONY

Minimum Credits: 3
Maximum Credits: 3
This course is a lower-level, introductory course for freshmen and sophomores. It offers non-majors a thematic overview of contemporary issues occupying two of the world's most enduring yet dynamic societies--China and Japan--from a variety of disciplinary perspectives. Using a common body of materials, they will learn how anthropologists, economists, historians, political scientists, sociologists and other specialists use and interpret those materials to contribute their own unique insights to our understanding of East Asia.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 0312 - (CONFLCTS IN) CNTMPRY EURP

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the basic features of the Europe after 1989, the historical roots of national politics in the current European state order and the significance of the idea of European integration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 0500 - WORLD POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course aims to increase students' knowledge of the history of the modern state system and, in particular, political developments during the past few decades. It introduces students to basic concepts and analytic frameworks that political scientists employ to understand world politics, enhancing students' knowledge of international institutions that play important roles in world politics and exploring current issues in world affairs relating to human welfare and security. Depending on the interests, area of expertise, and inclinations of the particular instructor, some of these may be emphasized more heavily than others.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 0550 - INTRODUCTION TO GLOBAL STUDIES

Minimum Credits: 3
Maximum Credits: 3
This course will introduce students at the freshman and sophomore levels to international studies and to a global perspective. It will be an openly interdisciplinary course and will use the case study methodology to cover issues of global environmental sciences, world politics and language, using history and culture as a guide.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 0600 - POLITICAL THEORY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to the idea of normative political theory and to important authors and concepts in the western political theory tradition. Students will learn to understand both historical and contemporary debates surrounding important political concepts such as

authority, justice, liberty, and democracy, and to appreciate the differences among normative, empirical, logical, and faith-based political claims. Students will learn to read critically and analytically, to make simple normative arguments, and to explain the specific role of normative arguments in political science and political life. Depending on the interests, area of expertise, and inclinations of the particular instructor, some of these may be emphasized more heavily than others.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 0650 - POLITICS AND LIBERAL DEMOCRACY

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to several problems common to philosophy and politics and introduces students to the different theories, modes of argument and techniques of analysis used by the two disciplines to understand them. It is intended to help students deepen their understanding of the dominant political stance of our society.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

PS 0700 - RSRCH METHDS POLITICAL SCIENCE

Minimum Credits: 3
Maximum Credits: 3
The course provides an introduction to scientific inquiry applied to the study of politics. The main emphasis of this course is to introduce political science majors to key analytical concepts and to their application to the study of politics. The course covers the logic of scientific inquiry, research design, and quantitative methods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1000 - HONORS THESIS-MAJORS

Minimum Credits: 3
Maximum Credits: 3
Students prepare a thesis, under guidance of a faculty advisor, which is read and evaluated by a committee of three faculty members.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

PS 1201 - CONSTITUTION & CIVIL LIBERTIES

Minimum Credits: 3
Maximum Credits: 3
The course will explore major topics in the area of civil liberties and civil rights which have concerned the Supreme Court in recent years and which have provoked extensive political and social controversy. Examples include decisions about discrimination, privacy, freedom of speech and assembly, and conflicts between freedom of the press and a fair trial.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PS 0200

PS 1202 - AMERICAN CONSTITUTIONAL LAW

Minimum Credits: 3
Maximum Credits: 3
The United States constitution plays an extraordinarily powerful role in American political life. The primary focus of this course is examination of the role of constitutional law in the American political process. We do this by analyzing constitutional interpretation by the United States Supreme Court and other federal courts in its major decisions. Students will learn how the court reached its decisions, who some significant justices have been, how the court considered contending arguments, and what the consequences of these decisions for our political system have been. Topics include the development of judicial review and close analysis of the way in which the court has addressed the two major structural features of the U.S. Constitution ' separation of powers and federalism in an historic and contemporary setting. Specific issues in these areas are struggles over presidential and congressional power and national versus state power. We also address issues regarding civil liberties and civil rights. Students should find this course helpful in reaching a more sophisticated understanding of the major issues of constitutional law in American life, as well as providing a useful background to the cases and kinds of legal analysis they may pursue in further study in law school or other graduate study.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1203 - JUDICIAL POLITICS

Minimum Credits: 3
Maximum Credits: 3

The course will focus on judicial policy making and the political, social and economic underpinnings influencing cases and their decisions. Areas of focus will be: right of privacy (sexual orientation and abortion), classification (race and gender), speech (freedom of speech and press and the internet), religion (exercise and establishment), and criminal (investigations, trials and punishment).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PS 0200

PS 1204 - WOMEN IN POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course will consider political issues and explore the changing political role of women as citizens, candidates, office-holders, and policymakers. The emphasis will be on the American political experience, although examples will be drawn from other countries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1205 - ETHNIC AND RACIAL POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course deals with the political consequences of ethnic identity in the advanced industrial states of North America and Western Europe. The major theoretical concerns include the sources of ethnic identity, the relationship between ethnicity and social class, and the persistence or resurgence of ethnic political movements in contemporary societies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1211 - LEGISLATIVE PROCESS

Minimum Credits: 3
Maximum Credits: 3
This course provides an analysis of the legislative process in modern democracies with primary attention devoted to the legislative process in the United States. The history and meaning of representation is analyzed as is the behavior of participants in the legislative process. The impact of social-economic forces on decision-making in the United States is studied as are the roles of interest groups, political parties, the executive branch, and the judiciary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1212 - AMERICAN PRESIDENCY

Minimum Credits: 3
Maximum Credits: 3
This course provides an analysis of presidential leadership in the United States. The first part of the course deals with factors helping to explain presidential leadership; how presidents are nominated and elected, the constitutional framework within which the presidency operates, presidential relations with the bureaucracy, and presidential personality. This framework is then used for an intensive analysis of presidential leadership in foreign and domestic policy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: CREQ: PS 0200 or 0206

PS 1213 - LAW AND POLITICS

Minimum Credits: 3
Maximum Credits: 3
Examines the relationship between law and values, law and power, and law and discretion. Legal reasoning is examined as applied to statutory, case, and constitutional law.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1214 - US CONGRESS

Minimum Credits: 3
Maximum Credits: 3
This course will explore the evolution and current place of the U.S. Congress within the American political system beginning with an examination of the theory and history of electing representatives to government. Students will examine the role and structure of the legislative branch as anticipated in the American constitution. Other areas of focus include the congressional election process, the importance of congressional committees and differences in rules for the house and senate, policy making, and how congress relates to the other two branches of government. A key overarching

goal in this course is to assess challenges and changes facing the contemporary U.S. Congress.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

PS 1230 - INTEREST GROUP POLITICS

Minimum Credits: 3
Maximum Credits: 3
Are interest groups vital or vicious? Do interest groups use money to `buy power,' or do they play a key part in the representation of diverse ideas? What roles do, and should, interest groups (i.e., Special interests, pressure groups, lobbyists) play in democracies? This course explores the role of interest groups in the participation and representation of citizens in the United States. Focusing on key themes like liberty and equality, the course examines what interest groups are, what they do, and what implications that has for the laws that get passed and enforced, political campaigns, the ability of different groups (that differ by race/ethnicity, income, religion, and sexual preference) to get their voices heard in the political process, and what could be done to improve or curb their influence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1231 - POLITICAL PARTIES & ELECTIONS

Minimum Credits: 3
Maximum Credits: 3
This course examines the organization and character of American political parties, the impact of environmental factors on party processes and behavior, patterns of party competition, and the role of parties in shaping public policy and in providing a linkage between public and government. Attention is also given to the political behavior of the American public. Recent changes in the organization of party institutions are examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1232 - POLITCL ATTITDE & PUBLIC OPIN

Minimum Credits: 3
Maximum Credits: 3
This course explores the formation and measurement of mass public opinion. Topics include: how individuals gather information; the formation of political ideology, political attitudes, and political preferences; the stability of public opinions across different issues; the relationship between mass public opinion and government policy (both what it is, and what it should be); and methods for measuring public opinion, including public opinion surveys.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1233 - POLITICAL PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
There are numerous ways that we can explain political behavior (including both overt behavior such as voting and latent behaviors such as attitudes and preferences). In this course, we consider a number of such explanations (all from the discipline of psychology), including those rooted in personality, biology, emotions, culture, and environmental influence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1234 - ELECTRL BEHAVR & DEMOCRTC PROC

Minimum Credits: 3
Maximum Credits: 3
This course examines the factors that affect national electoral outcomes in the U.S.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1235 - MEDIA AND POLITICS

Minimum Credits: 3
Maximum Credits: 3
The media is all around us, but what impact does it have? It permeates everything from leisure and entertainment to how candidates communicate with the public and what political decisions get made. This course tackles three broad questions about the intersection of media and politics. First, how is news created and why does it matter? For example, are late night talk shows like Stephen Colbert or the internet news sources; why or why not? Second, how is the media used in political campaigns and how does it influence campaigns? Can a bad tweet (i.e. Anthony Weiner) end a campaign or a political career? Third, how do the media shape the creation of public policies ' the laws that do or do not get passed ' and the decisions that get made? Can media-savvy politicians use the media to help their cause or rally public support for big decisions like going to war?

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1241 - PUBLIC ADMIN & POLITCL SYSTEM

Minimum Credits: 3
Maximum Credits: 3
This course analyses the nature of the public bureaucracy in the United States and its role in governance. Special emphasis is placed on questions of accountability and responsibility.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1251 - URBAN GOVERNMENT AND POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the key structures, procedures and problems of cities and urban areas. Topics covered include: city-suburban conflicts, relations between cities and the federal government, forms of local government and their advantages and disadvantages, property taxes, housing, urban renewal, crime, courts, and education. The principal objective of the course is to help the student develop a well-informed and differentiated view of urban places and problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1252 - STATE GOVERNMENT

Minimum Credits: 3
Maximum Credits: 3
This course will survey political processes and public policy outcomes in the fifty American states. Policy areas to be covered include the environment, era, taxation, crime and law enforcement, and welfare.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1261 - AMERICAN PUBLIC POLICY

Minimum Credits: 3
Maximum Credits: 3
This course will focus on a variety of public policy issues. The issues include social welfare programs, management of the economy, governmental regulation of business activities, environmental programs, urban problems, civil rights, civil liberties, crime control efforts, and foreign policy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1262 - HEALTH POLICY IN UNITED STATES

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to current problems of health care and health policy in the United States. Description and analysis of the proposals, current practices, and the reactions of interest groups will be the central theme of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1264 - AMERICAN POLITICS THROUGH FILM

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1267 - ENVIRONMNTAL POLITICS & POLICY

Minimum Credits: 3
Maximum Credits: 3
This course will be an introduction to environmental politics and policies in the United States. The course will examine both the historical development of environmental policies in the U.S., As well as address the contemporary context in which current environmental policies are formulated, legitimated, and implemented. In doing so, the course will look at some of the key issues, actors, and policies in environmental politics.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1275 - RELIGION & AMERICAN POLITICS

Minimum Credits: 3
Maximum Credits: 3
In recent years religious groups and religious values have played an increasingly prominent role in politics in many countries, including the United States. The purpose of this course will be to consider the public and political aspects of religion in the United States. Religious beliefs and institutions have wide-ranging implications for civic norms, public policy, political leadership, international relations, and the treatment of various social groups. After an historical survey of the role of religion in American politics, the second part of the course will focus on the contemporary impact of American religious groups and values on public opinion, lobbying, and electoral choice. We will also discuss the implications of the doctrine of "separation of church and state" for law, education, and civil liberties.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1281 - CAPSTONE SEM AMERICAN POLITICS

Minimum Credits: 3
Maximum Credits: 3
Capstones are writing intensive courses for senior, PS majors. Subject matter will vary from term to term depending on the interests, area of expertise, and inclinations of the particular instructor.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: PS 0200; PLAN: Political Science (BA or BS or BPH); LVL:Sr

PS 1283 - TOPICS IN AMERICAN POLITICS

Minimum Credits: 3
Maximum Credits: 3
Current topics of interest in American politics. Topics covered vary with instructor and term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1300 - REES CAPSTONE

Minimum Credits: 3
Maximum Credits: 3
The objective of this capstone course in Russia and East European studies is to provide you with the opportunity to draw on and synthesize all of the skills and knowledge gained in the various courses and seminars that you have taken in the process of earning your REES certificate, and apply them to a topic of particular interest to you. The course will culminate in an analytical/research paper on a topic in Russian and East European studies to be chosen by each individual student. In keeping with multidisciplinary objectives of our certificate, the paper must draw on methodologies and literature from multiple disciplines.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

PS 1301 - THRY & CONCPT IN COMP GVRNT

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the role of theory and concepts in comparative political analysis. The theories will be applied to a range of areas of the world, and both system level and individual level theories are considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1302 - POLITICAL DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
This course will examine the major problems involved in the study and understanding of change in "less developed countries," the main approaches and theories applied to these problems, and the criticisms directed at some of these approaches. In particular, it will consider attempts to understand "development" by reference to the earlier experiences of Europe and the United States and will evaluate the relevance of such an approach to the current problems of the underdeveloped world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1303 - MOVEMENT POLITICS
Minimum Credits: 3
Maximum Credits: 3
The subject is "movements"; social banditry, peasant uprisings, working-class movements, messianic religions, rebellions and revolutions. Several theoretical perspectives--Marxist and neo-Marxist, sociological and social psychological--will be employed in an effort to develop a framework for the analysis of movements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1311 - WESTERN EURP GOVERMNT & POLIT
Minimum Credits: 3
Maximum Credits: 3
This course covers the politics and government of Western European countries at the national and local levels. It also considers some aspects of the relationships between the European Union and its member states.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1313 - FRENCH GOVERNMENT AND POLITICS
Minimum Credits: 3
Maximum Credits: 3
This course focuses on political and socioeconomic developments in France since World War II. Students study the workings of political institutions and the formulations of public policies in the context of recent history.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1314 - GERMAN GOVERNMENT AND POLITICS
Minimum Credits: 3
Maximum Credits: 3
This course examines political institutions and developments in Germany following the second World War, first tracing them through the eras of postwar occupation, Cold War partition and consolidation of the two German states, through the East German revolution of 1989 that set the state for unification. The course will pay special attention to the domestic and international public policy challenges facing post-unification Germany.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1315 - ITALIAN GOVERNMENT & POLITICS
Minimum Credits: 3
Maximum Credits: 3
This course presents an overview of Italian politics and society in the post-World War II period. The analysis of contemporary Italy will be placed in a historical context, so that political and social trends from the mid-19th century to the present will be discussed. Topics which will be covered include political parties, parliament, the North-South divide, and terrorism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1316 - ASIAN POLITICS
Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the politics of Asia by examining and comparing the political systems, economic performance, civil society, and the effect of globalization among countries of East and southeast Asia
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1317 - POLITICS OF THE EUROPEAN UNION
Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to the European community. It will provide a historical overview of the immediate post-war period and introduce students to the community's four major governing institutions. It also considers the single European act and its significance and explores the role of the "big four" countries within the community.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1318 - EUROPEAN GOVERNMENT & POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course will encompass the comparative study of the political systems of Western Europe including the UK, France, Germany, Italy, Spain, Poland, and Scandinavia. The primary themes will include political development and institutions, security, European integration, political culture, political economy, and democratization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1321 - LATIN AMERICAN POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course compares and contrasts the governments and political processes throughout Latin America. It offers a detailed look at several countries, and also provides a comparative framework to discuss the rise, fall, and quality of democracy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1322 - LATN AMER POLITICAL DEVELOPMNT

Minimum Credits: 3
Maximum Credits: 3
In this course we will address the following puzzle: why was it so difficult to build stable democracies in Latin America during the twentieth century? We will use the analytical tools provided by political science to illuminate the political history and the current situation of Latin America. Some of the topics that we will deal with in this course are: institutional arrangements, economic policy, and role of the military, elections, and political and social equality. Most of the course we will focus on thematic material using comparative analysis. However, we will also study four Latin American countries in greater detail.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1324 - US-LATIN AMERICAN RELATIONS

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the history, politics, and legitimacy of US policy towards Latin America. How have these relations changed over time? What have been the consequences for the US or for the Latin American countries? What interests and structures have driven us decisions?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1327 - POLITICS OF REVOLUTION

Minimum Credits: 3
Maximum Credits: 3
Politics is often about conflict, but sometimes that conflict takes place within legislative bodies and other times in the streets. Most of what we study in political science courses focuses on conflict within the electoral framework, but this course asks what happens when citizens take conflict into their own hands. This course will examine the conditions that prompt people to organize on behalf of their collective interests, how protest movements evolve, and under what conditions they succeed. The first half of the class will cover theoretical topics: the causes, strategies, and consequences of protest activity. The second half of the class will focus on types of protest (political protests, revolutionary movements, social movements, riots, and guerrillas) through comparative case studies. Most case studies in class will be based on examples within the Western hemisphere (North, central, South America, and the Caribbean) - a geographical region with an enormous variety of types, causes, and consequences of protest movements - but students will be encouraged to become independently familiar with protest movements around the world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1328 - AUTHRTRNISM DEMOCRTZTN IN ASIA

Minimum Credits: 3
Maximum Credits: 3
This course examines how and why the political institutions of major East and southeast Asian countries are coping with pressures for greater democracy and transparency. The course covers a wide range of regimes, with from "Asian tiger" democracies (South Korea, Taiwan), more recent democracies (Indonesia, East Timor), transitional regimes (Burma and Thailand), as well authoritarian systems (China and Vietnam), among others.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1329 - HIST EURPN INTEGRTN SINCE 1945

Minimum Credits: 3
Maximum Credits: 3
This course will examine the motives, significance and progress of the post-World War II movement toward economic and political integration in Europe. We will use methodologies derived from a variety of academic disciplines to look at why Europeans in 1945 were ready for unification; at the progress of the unification movement; at the institutions created and their workings; at the limits and probable future of European integration both for Europe and for the wider world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1330 - EUROPEAN UNION SEMINAR

Minimum Credits: 3
Maximum Credits: 3
Since the end of the cold war, the European Union (EU) has forged ahead its international role to become a leading global authority in the world. The diversity of EU external policies attest to the concerted efforts Europeans have made towards `exporting' their values and norms in the world. Taking a close look into contemporary EU foreign policy, this course is divided in three sections. First, students are introduced to the EU external policies. We consider the competences of the EU in specific policy areas and discuss the role of the EU as a norm setter. Second, we analyze contemporary EU foreign and security issues, especially recently-formed EU `battlegroups' and specific case-studies of EU peacekeeping missions undertaken since 2003. Finally, the focus shifts onto the EU's civilian capacities, in particular development assistance and election monitoring. The objective of the course is to give students a broad understanding of the complexity of the role of the EU in the global arena.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PS 1317

PS 1331 - GOVERMNT & POLITICS SE ASIA

Minimum Credits: 3
Maximum Credits: 3
This course will offer an introduction to the contemporary politics of the nations of Southeast Asia; Thailand, Malaysia, Singapore, Indonesia, the Philippines, Burma, Vietnam, Laos and Kampuchea. An overview of colonial rule, the rise of nationalism and the struggle for independence will set the background for the study of the current political scene.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1332 - GVRNT & POLIT IN CNTMPRY CHINA

Minimum Credits: 3
Maximum Credits: 3
An introductory analysis of contemporary Chinese politics. Topics to be considered include the traditional background, the Chinese revolution, the role of revolutionary ideas and institutions in Chinese political life since 1949, recent and current policy issues, and possible future trends.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1333 - GOVERNMENT & POLITICS OF JAPAN

Minimum Credits: 3
Maximum Credits: 3
This course considers postwar Japanese government and politics in comparative perspective. Topics to be covered include the following: the American occupation, Japanese society, political culture, election system and election campaigns, government and political leader ship, the ruling party, opposition parties, protest movements, the parliamentary and policymaking processes. Frequent comparisons will be made between the Japanese system and other democratic systems in North America and Europe.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1334 - COMP POLITICS THROUGH FILM

Minimum Credits: 3
Maximum Credits: 3
This course analyzes the political aspects of film in a variety of national cinemas (US, Latin American, European, African, Asian), across different decades and genres (including documentary, period epic, Western, and melodrama), and through a range of themes (including macro-themes like war, colonialism, revolution, and ideological and political conflict as well as micro-themes like race, gender, sexuality, and the nuclear family).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1335 - POL ECONY JAPN: GVRNT,BUS,TRAD

Minimum Credits: 3
Maximum Credits: 3
The course will cover the following general topics: 1. The economic, political, and policymaking background for industrial policy in Japan 2. General concepts of the state and industrial policy 3. The specific goals and means of industrial policy in Japan and 4. It will explore the trade/competitiveness crisis between the U.S. and Japan, including specific cases of trade friction, and the debate in the U.S. about whether an industrial policy can and should be adopted here as a way to solve that crisis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1336 - CONTEM CHIN POLIT, SOCTY ECONY

Minimum Credits: 3
Maximum Credits: 3
The program will focus on how contemporary china handles conflict and opportunity between its culture and tradition on the one hand, and modernization and Western influence on the other.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

PS 1338 - POLIT IN DEVELOPING COUNTRIES

Minimum Credits: 3
Maximum Credits: 3
This course explores the question of why it is so hard for many under-developed countries to overcome persistent problems of poverty, bad governance, and civil conflict. We will explore the politics of under-development, looking at the role of geography, institutions, historical legacies of slavery and colonialism, corruption, natural resources, ethnic divisions, and international aid. The course will take us to virtually every part of the globe, from Africa to Latin America to Asia to Europe and the United States.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1341 - GVRNT & POLIT USSR/RUSS FEDRTN

Minimum Credits: 3
Maximum Credits: 3
A survey of the political systems in the USSR (1917-1991) and its major successor, the Russian Federation (1991-present). The first section deals with the period from the Bolshevik Revolution in 1917 until the mid-1980s. The second section examines the efforts to reform the political system under general Secretary Gorbachev. The final section deals with the collapse of the USSR in 1991 and the subsequent development of the Russian Federation as an independent state.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1342 - GOVERMENT & POLITICS EAST EURP

Minimum Credits: 3
Maximum Credits: 3
The politics of Eastern Europe has been shaped by the traditional culture, by the establishment of communist regimes, by the superimposition of Stalinism, and by the search for non-Stalinist alternatives to the process and structure of governing. In this course the nature of contemporary politics in eastern Europe is described and analyzed in the context of the above social and political forces.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1343 - COMP SOCIALIST POLITICAL SYMS

Minimum Credits: 3
Maximum Credits: 3
Discussions will focus on an analysis of political, social and economic changes which have taken place in recent years in the soviet union, china, and the other socialist states of East Europe and Asia.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1345 - POLITICS OF OCEANIA

Minimum Credits: 3
Maximum Credits: 3
This course examines the government and politics of Australia and Australian engagement in the Asia-Pacific region. It does so by surveying similarities with and differences from the North American democratic model and by examining Australia's substantial and abiding interests in the

Asia-Pacific region. By the end of course, students will be aware of the importance of geographical distance and location in the australian story. Students will also be aware of the continuing importance of cultural and political inheritance in the development of Australian public and foreign policy. Students will be encouraged to make comparisons with the US system of government and politics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PS 1346 - POLITICAL EAST EUROPE

Minimum Credits: 3
Maximum Credits: 3
The lives and times of the people and states of "the lands between" of eastern Europe are examined in terms of three forces that have shaped their contemporary cultures, their chronic and multi-dimensional "between-ness" on the political and cultural map of Europe, and the influence of a succession of modern ideologies (from nationalism and liberalism to fascism and communism) on their institutions and behavior.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1347 - (CONFLCTS IN) CNTMPRY EURP

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the basic features of the Europe after 1989, the historical roots of national politics in the current European state order and the significance of the idea of European integration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1348 - XENOPHOBIA IN MODERN EUROPE

Minimum Credits: 3
Maximum Credits: 3
This course will examine Europe's post-war xenophobic, racist and exclusionary policies. We will use memoirs, photo journalism, film and interviews to understand recent discrimination against refugees, guest workers, Jews, linguistic and religious minorities. We will also put the question into scholarly context, as we examine how historians, sociologists, psychologists and anthropologists try to understand the way in which Europeans construct the categories of "us" and the "others".
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1349 - TRNSATLNTC GVRNC AND POLICY

Minimum Credits: 3
Maximum Credits: 3
The economic, political and defense links between North American countries and European countries, and especially the European Union, generate important governance and policy issues. This course examines those issues in light of general theories of governance at the national and international levels. Special attention will be given to on-going trade negotiations and climate change policy.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

PS 1350 - RUSSA, CIS EXPNDNG EURPN UNIN

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to provide the student with an understanding of the dynamics of the relationships between Russia and the CIS with the European Union.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1351 - GOVERMNT & POLITICS MIDDL EAST

Minimum Credits: 3
Maximum Credits: 3
A survey of the developing political systems of the Middle East and their positions in world affairs. Considered are the growth of political institutions in the modern era, the nature of political leadership, the evolution of political attitudes, and the legacy of Western and Soviet imperialisms. The states dealt with are Iran, turkey, Iraq, Lebanon, Jordan, Syria, Egypt, and Israel. The course includes a diplomatic simulation exercise designed to illustrate the complexity of foreign policy interactions in the region.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1352 - INTRODUCTION TO AFRCN POLITICS
Minimum Credits: 3
Maximum Credits: 3
A general introduction to African politics at macro level for freshmen and sophomores with special focus on traditional African political system, European imperialism in Africa, African nationalism, independence and post-independence problems of nation-building and economic development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1353 - AFRICAN LIBERATION MOVEMENTS
Minimum Credits: 3
Maximum Credits: 3
A course on the theories of revolution and national liberation struggles, decolonization and guerrilla warfare, and their special application to continental African experience since the end of World War II.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1361 - COMPARTV POLITCL PRTY SYSTEMS
Minimum Credits: 3
Maximum Credits: 3
This course compares the political party systems, electoral processes, and other institutions of governance in four or more countries, which vary by instructor and term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1362 - COMPARATIVE POLITICAL BEHAVIOR
Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the study of comparative mass political behavior. The course will focus on cross-national differences and similarities in public opinion, voting behavior, and other forms of political participation. The course will attempt to answer several fundamental theoretical questions that have motivated nearly all research in the field: 1) what is the nature of public opinion, and how does it relate to the stability and effectiveness of democratic politics; 2) why do individuals vote for particular candidates or parties in a given election?; And 3) why do individuals participate at all in politics, either by voting or by taking part in other kinds of political activities? In engaging these questions, students will investigate the extent to which theories of political behavior, many of which were originally developed in the U.S., "travel well," that is, whether they are able to account for patterns of public opinion and political participation seen in other countries around the world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1363 - GLOBALIZATION AND LAW
Minimum Credits: 3
Maximum Credits: 3
This course considers the efforts underway to globalize ideas of rule of law. In the movement to promote rule of law governments, human rights, and market economics, conflicts over culture, identity and local politics arise. The course examines how legal institutions emerge and diffuse within diverse social and political settings (Europe, the Americas, East Asia, the Middle East and Africa), the relationship between the rule of law and democracy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PS 1370 - SPECIAL TOPICS
Minimum Credits: 1
Maximum Credits: 3
Current topics of particular sociological interest. Topics covered vary with instructor and term.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

PS 1372 - EURPN ENVIRNMNTL POLCY MAKNG
Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to the variables that shape environmental policy in advanced industrial states, focusing on Western Europe.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1373 - WELFR STATE IN COMP PERSPCTV

Minimum Credits: 3
Maximum Credits: 3
Starting from the mid-nineteenth century the course is an historical and political critique of the main theories of divided equally between the diverse origins of the British, French, Swedish and German welfare states in the nineteenth century; the impact of new social theories and social thought on the design of welfare states early in the century and between the wars; and how the organization and structure of welfare states following the war was influenced by this experience.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1375 - RELIGION AND POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course discusses religion and politics, especially in its contemporary dimensions. Taking a comparative focus that will change from term to term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1376 - RELIGION & POLITICS MIDDL EAST

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the role of religion in the politics of the contemporary Middle East. A general survey of the role of religion in the history of the region, and a cross regional historical-comparative view of the relationship between religious phenomena and political movements and institutions set the context for an investigation of the politics of religion in recent developments in the region.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1378 - BLDG DEMOCRACY AROUND THE WRLD

Minimum Credits: 3
Maximum Credits: 3
Developing a new democracy is a process, with at least two main parts. First the country must move away from authoritarian rule. The first part of the course, therefore, will examine why (or why not) countries make that transition and how they do so. The second part of the course will then examine why some countries are more successful in their transition, based on an examination of civil society and the types of political institutions (such as political parties, the executive system, and the judiciary) that countries develop. What influences these choices and how do these choices affect success and stability of the new democracy? Has international aid been successful in helping countries develop democratic practices?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1379 - IS FASCISM BACK

Minimum Credits: 3
Maximum Credits: 3
In this course we will look at Europe's two strongest and most typical fascist regimes; Mussolini's Italy and Hitler's Germany. We will analyze and compare the factors that made it possible for far-right anti-liberal, para-military groups to take power; contrast the ways in which the regimes functioned; and study their racist, cultural and gender politics. After establishing a historically rooted definition of fascism, we will look at several modern fascist(s) movements; France's Le Pen, Germany's Neo-Nazis, Italy's Neo-Fascist party & the far-right nationalists in modern Russia.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1381 - CAPSTONE SEMINAR COMP POLITICS

Minimum Credits: 3
Maximum Credits: 3
Capstones are writing intensive courses for senior, PS majors. Subject matter will vary from term to term depending on the interests, area of expertise, and inclinations of the particular instructor.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: PS 0300; PLAN: Political Science (BA or BS or BPH); LVL: Sr

PS 1382 - CNTMPRY DEVELP IN THE USSR

Minimum Credits: 3
Maximum Credits: 3
This undergraduate seminar is designed primarily for undergraduate certificate candidates in Russian and East European studies. The course focuses on contemporary political, social, economic, and cultural developments in the USSR and is designed to demonstrate how Soviet published materials can be used to understand the Soviet Union. All reading materials will be in English.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

PS 1383 - POLITICS OF CNTMPRY MIDDL EAST

Minimum Credits: 3
Maximum Credits: 3
The main emphasis of the course will be on conflict and conflict resolution in the Middle East. Conflict has been a constant feature of the region since 1945. This course will be primarily concerned with how and why these conflicts are generated, escalate, become protracted, and are resolved.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1384 - TOPICS IN COMPARATIVE POLITICS

Minimum Credits: 3
Maximum Credits: 3
Current topics of interest in comparative politics. Topics covered vary with instructor and term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1388 - FULBRIGHT SEMINAR ITAL STUDIES

Minimum Credits: 3
Maximum Credits: 3
The Fulbright seminar in Italian studies is a spring-term undergraduate-level course offered by the visiting Fulbright distinguished scholar from Italy. This course is typically offered in the fields of art history, cultural studies, film, history, literature, museum studies, political science, or urban studies. The description will vary each term depending on the field in which it will be offered.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

PS 1390 - STDNG INT'L DVLP SERVC LRNG

Minimum Credits: 3
Maximum Credits: 3
Built around a service learning project, this course offers students of political science the opportunity to study the problems of development both through regular class activities and by working hand in hand with local educators, children, and community members in the field. The course is not limited to any particular geographic region.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1501 - THEORY OF INTERNATIONAL RELTN

Minimum Credits: 3
Maximum Credits: 3
This course explores central concepts and theories employed by political scientists to explain how world politics functions. You will be introduced to theoretical orientations such as realism, institutionalism, and constructivism, and we will discuss how constructs such as power, interests, identity, legitimacy, and order provide insight into political behavior. Much of the material examined in the course is abstract and you will need to think carefully about how the various concepts and arguments can be integrated. By the end of the course, you should have developed a relatively sophisticated conceptual framework with which to analyze events in world politics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PS 0500

PS 1502 - INT'L LAW AND PRBLM WRLD ORDR

Minimum Credits: 3
Maximum Credits: 3
This course considers the role of international law in efforts to solve some current problems of world order. These problems include the control of violence, i.e., The problems of collective security, arms control and disarmament, intervention and nuclear proliferations; human rights; problems of

economic and social development; managing global resources; and protecting the global environment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1503 - INTERNATIONAL ORGANIZATION

Minimum Credits: 3
Maximum Credits: 3
The course will focus on nongovernmental as well as intergovernmental organization, and will be concerned with the economic as well as the political aspects of such organization. Throughout the course, international organization will be approached as an arena for both conflict and cooperation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1504 - NATIONALISM

Minimum Credits: 3
Maximum Credits: 3
Theories of nationalism, ethnicity, and race are examined and are contrasted with theories of modernization and socialism. Particular emphasis is placed on ethnonationalism in developed Western countries, such as Britain, France, Spain, Belgium, and Canada, and on ethnic politics in the U.S. Comparisons are drawn with nationalism in other types of political systems, particularly the USSR, Yugoslavia, and selected Middle East and African countries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1509 - CONFLICT AND WAR THEORY

Minimum Credits: 3
Maximum Credits: 3
The primary objective of this course is to introduce the student to theoretical arguments and empirical evidence concerning the sources of conflict and war in human society, particularly within the international arena. Reading material will be drawn from a number of disciplines, including psychology, sociology, history and political science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1510 - COLDWAR:SOVT UNIN WEST 1917-91

Minimum Credits: 3
Maximum Credits: 3
This course is designed to help students understand the central question in world politics during much of the 20th century-the relationship between the West and the Soviet Union from 1917 to 1991. The course surveys the Western response to the formation of the USSR as the first "socialist" state and to the international communist movement which developed under its leadership from 1917 to 1991.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1511 - AMERICAN FOREIGN POLICY

Minimum Credits: 3
Maximum Credits: 3
This course provides a historical survey of American foreign policy from the end of World War II until the present, an analysis of the decision making process led by the president of the United States, and a discussion of the impact of both the international political system and American domestic politics on this process. There are no prerequisites; however PS 0500 would be useful.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1512 - EURP AFTR COLD WAR:COOPR CONFL

Minimum Credits: 3
Maximum Credits: 3
This course attempts to provide a coherent interpretation of the USSR's foreign policy in the period from 1918 to 1987. Major topics include Soviet foreign policy toward (1) Western Europe and the USE; (2) former "colonial" countries in Asia, the MFA
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1513 - FORGN POLICIES--CHANGNG WORLD

Minimum Credits: 3
Maximum Credits: 3
The aim of this course is to introduce students to the analysis of foreign policy as a form of political behavior and to the specific factors influencing the foreign policies of several of the world's most powerful states. The lectures and readings follow several intertwining themes, covering: 1) the conceptual and analytical tools utilized to investigate and compare the foreign policies of states; 2) the nature of certain phenomena which present countries with complex and dangerous international problems, e.g. security, interdependence; 3) the particular sources, processes and outcomes involved in the foreign policies of several states including the United States, Russia and others. The approach is analytical and though some of the readings and lectures are historical, the emphasis is on the contemporary context. It is also comparative, offering students a look at how these states' domestic culture, processes and institutions affect their foreign policies. (International relations field)
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1514 - POLITICAL STRATEGY INT'L RLTNS

Minimum Credits: 3
Maximum Credits: 3
This course is designed to examine how governments attempt to achieve important foreign policy objectives. The focus will be on describing and evaluating such general strategies as containment, roll back and detente in the Soviet-American conflict.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1516 - TRANSATLANTIC POLICY ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
This new skills based course aims to provide students with crucial analytical and professional skills pertinent to the transatlantic policy world. Among them are: to read analytically and critically and to speak knowledgeably about a range of transatlantic issues that concern political scientists and policy makers, including immigration, environmental protection, social policies, and trade and economic development; and to communicate such policy analysis in a clear and persuasive manner accessible to a wide range of policy focused audiences at the international and national levels.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1518 - GRMNY/EURP: FRGN POLC TRNSFRMD

Minimum Credits: 3
Maximum Credits: 3
This course explores continuity and change in the foreign policy of Germany ' the largest, wealthiest, and arguably most influential European union member state ' from state unification through the present era. (International relations field)
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PS 1521 - EASTRN EURP IN WORLD POLITICS

Minimum Credits: 3
Maximum Credits: 3
Eastern Europe has now seen more than twenty years of dramatic changes encompassing a movement away from one-party dictatorship and state-run economies to democratic politics and market economies. These changes have affected and been affected by developments in Europe, including Russia, Euro-Atlantic relations and international relations more broadly. The aim of this course is to explore the background and dynamics of the remarkable changes in "the other Europe." The course will move quickly over the history of the region generally referred to as "East Europe" and will focus primarily on contemporary developments. A particular focus of the course is the impact on the region of developments elsewhere, especially in the politics and policies of outside powers, and the ripple effect of changes in the region on European and world politics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1522 - LATIN AMERC IN WORLD POLITICS

Minimum Credits: 3
Maximum Credits: 3
Latin American relations are studied as a means of illuminating the global problem of disparities between rich-powerful and poor-weak nations. The focus is on the economic, military-strategic, and political aspects of these relations as exemplified by leading international topics, such as trade and foreign debt, resource development, Cuba, Central America, and human rights.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1523 - EAST ASIA IN WORLD POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course focuses on how the peoples and states of East Asia are affected by and in turn influence the world environment. Students examine the modern history of the region, which is crucial to understanding the contemporary situation. The doctrines that affect governance and international affairs in the region are also examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1529 - COMPARATV FOREIGN POLCY MAKING

Minimum Credits: 3
Maximum Credits: 3
This course aims to introduce students to the political/ military relationship between the United States (US) and the European Union (EU). The course will focus on how foreign and security policies are made in the US and EU. Emphasis will be on actors, decision-making processes, values under pinning the relationship, outputs and how these factors affect the prospect of cooperation or conflict between the us and the EU.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1530 - NEW INT'L RELATIONS OF EUROPE

Minimum Credits: 3
Maximum Credits: 3
The aim of this course is to introduce students to the fundamental ways in which the relations of the peoples and states of Europe have changed since the end of the Cold War. Its methods will include the historical approach, linking the current situation to that of the region before World War II and during the Cold War. But an additional aim of the course will be to introduce students to other analytic approaches utilized in the field of international relations, including realism, liberal institutionalism and constructivism.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

PS 1531 - NATIONAL SECURITY POLICY

Minimum Credits: 3
Maximum Credits: 3
National security is becoming a crucial issue with an impact both in the international system and in the domestic environment. This course will discuss the different approaches to national security and the policies through which they have been implemented, such as military buildup, political and military alliances, military and economic consequences, and nuclear policies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1532 - UNITED STATES NATNAL SECURITY

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the national security policy of the United States. The course surveys the different policies and perceptions about national security sustained by the U.S. In the post-World War II period, as well as the strategic policies of the USSR. The nature of our nuclear policies, the question of the vital interests and current security concerns throughout the world will be examined as well.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1534 - CIVIL WARS

Minimum Credits: 3
Maximum Credits: 3
This course explores why peace sometimes lasts a long time and sometimes falls apart quickly after Civil Wars. We will examine how the international community deals with civil conflicts and what can be done to ensure a long-lasting peace in war-torn countries. Emphasis will be placed on the factors that increase the durability of peace and aid the establishment of long-term prospects for reconciliation to rebuild societies after wars. Students will gain knowledge of theories that explain whether and how peacekeeping forces, agreement design, power-sharing institutions, mediation, foreign aid, and post-war elections help domestic belligerents reach and keep peace.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1536 - HUMAN SECURITY

Minimum Credits: 3
Maximum Credits: 3
This is a topics course in international relations focusing on the politics of human security. The politics of human security is an area of evolving

interest within the field of international relations. Currently, few political science departments offer courses on the topic and there is little agreement on what should be included in such a course. The general consensus is that 'human security' differs from 'national security' in that the latter is concerned with the well-being of the state, while the former is concerned with the well-being of individuals. In this course, we will focus on how violence, political oppression, poverty, and ecological destruction threaten individual welfare and what the international community is (and is not) doing to address these concerns.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1537 - PEACEMAKING & PEACEKEEPING

Minimum Credits: 3
Maximum Credits: 3
This course explores the conditions that lead to initiation, escalation, and termination of Civil Wars as well as the circumstances that promote or restore peace within states. Why do Civil Wars break out in some countries but not others? Why do Civil Wars last as long as they do? How does the international community help resolve Civil Wars? The ultimate goal of this course is not to examine a particular Civil War in detail but rather to provide a broad theoretical treatment of Civil Wars, and a better understanding of international relations. Upon completion of this course, you should be familiar with the factors that mitigate or exacerbate conflict within states and develop informed insights about the mechanisms of conflict management and resolution.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1538 - POLIT OF OIL & NATRL RESORCS

Minimum Credits: 3
Maximum Credits: 3
Oil has played an incredible role in shaping the domestic and international politics of both producer and consumer countries around the globe. Since commercial production first began in the late 19th century, rising world demand for oil coupled with a geographically concentrated and exhaustible supply has defined the nature of global economic competition, economic and political development within countries and geo-political power struggles between countries. This course aims to shed light on why oil (and related natural resources) has had such a powerful effect on world politics to date and what our dependence on oil might mean for the future.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1541 - POLITICS GLOBAL ECON RELATIONS

Minimum Credits: 3
Maximum Credits: 3
This course examines the connections between power and wealth, states and markets, and economics and politics in order to gain a better understanding of the political underpinnings of the global economy as well as the influences that international economics has on national and international politics. It is an introduction to what political scientists call international political economy (or simply IPE).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1542 - GLOBAL ENVIRONMENTAL POLITICS

Minimum Credits: 3
Maximum Credits: 3
In this course we will explore the "politics" of international environmental issues in a way that complements a more scientific-technical treatment of the issues. We will draw upon international relations theories and concepts (e.g. power, dependency, complex interdependence, epistemic communities, regimes, and the logic of collective action) to help us explain environmental politics in the global arena.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1543 - GLOBALIZATION & INT'L POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course examines globalization's political and economic effects on societal welfare around the world. We start by looking at economic globalization historically, comparing the degree and forms of international economic integration during the late 19th century with today. We then consider, in more detail, the domestic consequences of current changes in the international political economy, particularly expanding trade and increased international capital mobility, for both the developed democracies and developing countries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1544 - POL ECONMY OF AMER TRADE POLCY

Minimum Credits: 3
Maximum Credits: 3
This course offers an historical overview and analysis of American trade policy. Through trade policy, we will analyze the interactions between domestic politics and American foreign economic relations, characteristic of increased international economic interdependence. The course will focus on how American trade challenges, politics and policies have evolved since the second World War.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1551 - INTERNATIONAL COOPERATION

Minimum Credits: 3
Maximum Credits: 3
This course studies what makes cooperation difficult among nations and how nations overcome these problems. This course emphasizes theories of cooperation and international institutions. This course also emphasizes empirical tests of these theories. The course covers cooperation over a range of issues, from conflict to trade to the environment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1570 - GERMN LANG TRAILER FOR PS 1518

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

PS 1581 - CAPSTONE SEM INT'L RELATIONS

Minimum Credits: 3
Maximum Credits: 3
Capstones are writing intensive courses for senior, PS majors. Subject matter will vary from term to term depending on the interests, area of expertise, and inclinations of the particular instructor.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: PS 0500; PLAN: Political Science (BA or BS or BPH); LVL: Sr

PS 1583 - TOPCS IN INTRNATNAL RELATIONS

Minimum Credits: 3
Maximum Credits: 3
Current topics of interest in international relations. Topics covered vary with instructor and term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1587 - U.S. FOREIGN POLICY IN AFRICA

Minimum Credits: 3
Maximum Credits: 3
This course will focus on the increasing engagement of the United States in Africa from the late 19th century until the present. Using a case study approach, students will analyze American foreign policy in Africa and explore the varied effects of those policies. These case studies will include the political realities of decolonization, the cold war, and economic aid and the social and cultural ties of black Americans to Africa. The course will identify specific crises in American and African history as focal points for study, but will also provide a larger narrative about American involvement in both the colonial and post-colonial development of Africa.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1601 - ANCIENT & MEDIEVAL POL THOUGHT

Minimum Credits: 3
Maximum Credits: 3
This course surveys the work of major thinkers in the Western political tradition from ancient Greece through the middle ages, such as Plato, Aristotle, Augustine, Aquinas, and others.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1602 - EARLY MODERN POLITICAL THOUGHT

Minimum Credits: 3
Maximum Credits: 3
This course surveys the work of major thinkers in the Western political tradition from the early modern period through the enlightenment, such as Machiavelli, Hobbes, Locke, Rousseau, and burke.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1603 - MODERN & CONTEM POL THOUGHT

Minimum Credits: 3
Maximum Credits: 3
This course surveys the work of major thinkers in the Western political tradition from the French revolution to the present, such as Bentham, mill, Marx, Tocqueville, weber, rails, and Habernas.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1604 - EURPN SOCL THGHT & POL PRACT

Minimum Credits: 3
Maximum Credits: 3
An analysis of the relationship between the development of social thought and social theory since the nineteenth century through the early twentieth century. The major European social and political philosophers will be discussed in terms of the setting within the emerging democracies and their relationships with political leaders and emerging democratic institutions. The method is essentially critical analysis of what the social thinkers had to say about society and politics as it relates to governments and the obstacles to democratic governance.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1605 - MODERN POLITICAL IDEOLOGIES

Minimum Credits: 3
Maximum Credits: 3
This course is designed to familiarize students with a number of belief systems that have or have had significant followings in the 20th century. The course is designed to be a comparative assessment of a number of organized ways of thinking about politics and society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1607 - AMERICAN POLITICAL THOUGHT

Minimum Credits: 3
Maximum Credits: 3
This course provides a survey of American political thinking from the founding to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1610 - POL THRY OF THE AMER FOUNDING

Minimum Credits: 3
Maximum Credits: 3
This course will examine the political theory of the American founding period through reading and discussion of the political thought of some of the leading figures. The main emphasis will be on the thought of Jefferson, Adams, Madison, and Hamilton, along with selections from others such as Franklin, Paine, and the anti-federalists. Major political and constitutional documents from the period, and their background, will also be examined. The materials will largely be from 1760-1800, including pre-revolutionary developments, the revolution, the confederation, transition and how they do so. The second part of the course will then examine why some countries are more successful in their transition, based on an examination of civil society and the types of political institutions (such as political parties, the executive system, and the judiciary) that countries develop. What influences these choices and how do these choices affect success and stability of the new democracy? Has international aid been successful in helping countries develop democratic practices?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1611 - LIBERALISM AND DEMOCRACY

Minimum Credits: 3
Maximum Credits: 3
In this course, we shall attempt to think critically about liberalism and democracy, by means of conducting an historical and analytical examination of these concepts, with a special emphasis on contemporary criticisms of democratic capitalism.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1612 - MARXISM

Minimum Credits: 3
Maximum Credits: 3
This course is concerned with Marxist political theory, with some attention to related philosophical and historical issues as well. Approximately two thirds of the course will be devoted to analysis of the original sources of Marxism-the writings of Marx and Engels; the remainder will consider various developments in the theory of Marxism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1614 - THEORIES OF JUSTICE

Minimum Credits: 3
Maximum Credits: 3
This course addresses the key intersection between two important topics in contemporary political theory: justice and globalization. The first half of the course will cover the highly influential works of john rails as well as reactions from Robert Nozick, Onora O'Neill, and Susan Moller Okin. The second half of the course will weave in the issue of globalization to questions of justice 'again using rails' work and various respondents as a vehicle for doing so. The course ends with a significant applied project on the intersection of globalization and justice that will challenge students to consider the current state of justice in a particular global case of their choosing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1615 - HISTORY OF POLITICAL THOUGHT 1

Minimum Credits: 3
Maximum Credits: 3
An examination of Western social and political ideas from antiquity to the renaissance. Emphasis on contextualized reading of a range of thinkers including Plato, Augustine, and Thomas more.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1616 - HISTORY OF POLITICAL THOUGHT 2

Minimum Credits: 3
Maximum Credits: 3
A survey of social and political thinking in early modern Europe. Authors to be considered include Machiavelli, Bodin, and Locke.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1617 - HISTORY OF POLITICAL THOUGHT 3

Minimum Credits: 3
Maximum Credits: 3
Europeans political thought and thinkers from the enlightenment to the nineteenth century. Readings will include texts by Rousseau, Hegel and Marx.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1618 - UHC ENGLISH REPUBLICANISM

Minimum Credits: 3
Maximum Credits: 3
The establishment of an English republic in 1649 had its practical context in the fiscal and military collapse of British monarchy. To understand the revolution which resulted, however, we must recover the mental world, both Protestant and humanist, which equipped some contemporaries to reject the failed system of monarchy altogether. Our source for the recovery of this ideology is the writing of authors such as john Milton, Marchamont Nedham, James Harrington, John Streater, Henry Vane Jr, Henry Neville, and Algernon Sidney. Stylistically, this constitutes one of the finest bodies of political literature in the English language. Intellectually it requires us to familiarize ourselves with, a range of ideas from classical antiquity, the late medieval period, the renaissance, reformation, and the seventeenth century itself.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1622 - WOMEN AND POLITICAL THEORY

Minimum Credits: 3
Maximum Credits: 3

This course considers the essential three waves of feminist political thought in Western tradition. The course moves from early feminist theorists to modern concerns and questions over whether the third wave of political feminism is still going strong or it is more helpful to discuss a "fourth wave" of feminism. The course concludes with a project for students to explore how to tackle real political gender norms in an applied fashion, generating theoretically-grounded policy and behavioral changes for the world around them.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1623 - PSYCHOLOGY AND POLITICS

Minimum Credits: 3
Maximum Credits: 3
This course will attempt to assess the significance of the insights into human potentialities in light of the traditional views and assumptions of political theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1629 - TOPICS IN POLITICAL THEORY

Minimum Credits: 3
Maximum Credits: 3
This course focuses intensely on a specific topic or problem in political theory; topics vary by instructor and term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1661 - GAME THRONES POLITICAL THEORY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1674 - POLITICS OF GLOBAL INEQUALITY

Minimum Credits: 3
Maximum Credits: 3
This survey course introduces students to three kinds of inequality that cause concern among scholars, activists, and policy-makers and to the politics that surrounds these types of inequality. That is to say, we'll be studying inequality as a set of related phenomena, and we'll also be studying the politics that contribute to and arise from these phenomena. The course combines empirical analysis of inequality with normative analysis of its causes and repercussions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1675 - POLITICS OF HUMAN RIGHTS

Minimum Credits: 3
Maximum Credits: 3
Human rights have become the dominant normative discourse in global politics today. They are invoked by world leaders justifying military or 'humanitarian' interventions and by local and indigenous social movements challenging their domination with existing systems of social relations. They are lauded as essential to human dignity and decried as tools of imperialism and neo-colonialism. They are tools of the oppressor and tools for the oppressed. How can we make sense of these seemingly contradictory uses and understandings of human rights? This course seeks to explain human rights as fundamentally contested political claims. It develops this perspective through attention to the real politics of human rights, surveying existing human rights law and institutions, examining several important contemporary human rights issues, and reflecting on the different tools that political and social science offer for making sense of these controversies. The emphasis is on helping students to acquire a critical understanding of human rights that they can use to assess contemporary events; all students will focus on a particular country and issue of their choosing throughout the course as a way of grounding, focusing, and applying their learning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1681 - CAPSTONE SEM POLITICAL THEORY

Minimum Credits: 3
Maximum Credits: 3
Capstones are writing intensive courses for senior, PS majors. Subject matter will vary from term to term depending on the interests, area of expertise, and inclinations of the particular instructor.
Academic Career: UGRD
Course Component: Seminar

Grade Component: Letter Grade
Course Requirements: PREQ: PS 0600; PLAN: Political Science (BA or BS or BPH); LVL:Sr

PS 1701 - FLD METHODS POLITICAL RESEARCH

Minimum Credits: 3
Maximum Credits: 3
This course is run as a research laboratory. Students design and carry through a political survey. In the process students learn about and gain practical experience in theory building, sampling, questionnaire design, interviewing, coding, data processing and analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1702 - ANLYSIS OF POLITICAL VARIABLES

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the methods and techniques of scientific inquiry in political science. It is designed to help students read and understand empirical social science research on both academic and policy issues. During the course, students will learn how to collect and analyze data and will receive instruction on the University of Pittsburgh computer system using batch and interactive statistical programs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1710 - STRATEGY AND GAMES OF POLITICS

Minimum Credits: 3
Maximum Credits: 3
How can we better understand politics by viewing it as a game of strategy? Campaigns, elections, persuasion, lobbying, conflict, and war involve elements of competition, cooperation, and chance. Learn how to model and analyze strategic interaction by playing classroom games and applying tools from game theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1783 - TOPICS IN POLITICAL METHDOLOGY

Minimum Credits: 3
Maximum Credits: 3
Topics covered vary with instructor and term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1836 - POLITICS THROUGH FILM

Minimum Credits: 3
Maximum Credits: 3
This course uses cinema from a variety of countries to explore, in comparative perspective, central concepts and themes of politics, such as power, authority, conflict, leadership, ideology, propaganda, revolution, justice, and participation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PS 1900 - INTERNSHIP

Minimum Credits: 1
Maximum Credits: 12
Credit for internships per se is normally limited to the Washington center for learning alternatives or other special centers with which the University of Pittsburgh has formal arrangements.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

PS 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6
Independent study is normally associated with internships or special programs like the Washington center on learning alternatives.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

PS 1902 - DIRECTED READING
Minimum Credits: 1
Maximum Credits: 3
Readings on special topics for which courses are not currently offered.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

PS 1903 - DIRECTED RESEARCH
Minimum Credits: 1
Maximum Credits: 3
Research on special topics for which courses are not currently offered.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

PS 1905 - DIRCTED STUDY:FLD TRIP ABROAD
Minimum Credits: 1
Maximum Credits: 6
Readings on special topics for which courses are not currently offered.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

PS 1910 - INSTIT POLITICS INTERNSHP/SEM
Minimum Credits: 4
Maximum Credits: 4
Students selected for the institute of politics internship will register for this course for the experiential component of their internships. The purpose of the internship experience is to provide the student with direct exposure to the process of public decision-making. Each student will spend nine hours a week working with an individual or office directly involved in the policy making process. Students will be given specific responsibilities and will be expected to be an active and integral part of the office in which they are placed. The details and terms of each placement will be carefully worked out and agreed upon by the student, the placement supervisor and the placement sponsor. Utmost care will be taken to insure that the student is placed in a situation that will maximize his/her exposure to all office activities and that the student is not left unsupervised and uninvolved. Students from all disciplines may apply, but preference will be given to students in their junior and senior years. Students must report to their placement for at least nine hours a week and fulfill any agreed upon responsibilities. Students will also be required to keep a written journal which describes and analyzes their internship experience
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

Psychology

PSY 0005 - INTRODUCTION COGNITIVE SCIENCE
Minimum Credits: 3
Maximum Credits: 3
A survey course that utilizes a cross disciplinary approach to cognition, and an introduction to the various disciplines within a single coherent framework. The course covers basic cognitive processes of perception, language and thought, examining how each of these areas is examined within the disciplines of psychology, neuroscience, linguistics, philosophy and artificial intelligence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 0010 - INTRODUCTION TO PSYCHOLOGY
Minimum Credits: 3
Maximum Credits: 3
Summary of our present knowledge in fundamental areas of learning, sensation and perception, biological basis of behavior, developmental patterns, motivation, emotion, personality and adjustment, and measurement of behavior. Information and concepts are applied to problems in understanding human behavior. Additional out-of-class experiments or an equivalent research paper are a part of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 0012 - FOUNDATIONS OF PSYCHOLOGY
Minimum Credits: 3
Maximum Credits: 3
The course deals with the major issues regarding the understanding of human behavior, and provides a general introduction to the science of

psychology. How these issues should be approached using paradigms of an empirical science and the fallacies and misrepresentations that have or can occur when such an approach is not taken are explored. The overall approach will be one of problem solving with the students being required to take an active part in the problem solving process.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 0020 - PSYCHOLOGICAL STATISTICS

Minimum Credits: 4
Maximum Credits: 4
The aim of the course is to provide the student with a basic understanding of statistical techniques of primary interest in psychology, education and behavioral sciences. Topics include frequency distributions, graphing techniques, percentile ranks, measures of central tendency and variability, standard scores, normal curve, probability, combinations and permutations, correlations and regression, sampling distributions, tests of hypotheses, confidence intervals, one and two-way analysis of variance and non-parametric analyses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 0035 - RESEARCH METHODS

Minimum Credits: 4
Maximum Credits: 4
The course introduces students to the fundamentals of psychological research, including the nature of psychology as a science, the selection of a research problem, research designs, writing research proposals and papers using APA style and ethical considerations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0015 or 0101 or 0200) and (STAT 0200 or STAT 1000 or STAT 1100 or PSY 0020 or 0201 or 0270 or MATH 0133)

PSY 0105 - INTRODUCTION TO SOCIAL PSYCH

Minimum Credits: 3
Maximum Credits: 3
An overview of social psychology. The scientific study of how one person's behavior and/or characteristics can influence the thoughts, feelings and behaviors of others. Topics covered include social perception, attitude formation and change; prejudice and discrimination; altruism and aggression; cooperation, competition, and bargaining; group decision making, leadership; and environmental effects on behavior.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 0160 - PSYCHOLOGY OF PERSONALITY

Minimum Credits: 3
Maximum Credits: 3
Survey of major approaches to the study of personality, focusing on their relative abilities to provide coherent explanations for individual behavior. Issues involved in the assessment of personality will also be discussed and several assessment procedures evaluated. Recent research in personality psychology is reviewed and analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 0182 - LAW AND SOCIAL PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the social psychological aspects of the criminal justice system. Topics covered include victim reporting, police discretion, pretrial processes, interaction in the courtroom, juror selection and decision making, the sentencing decision, the prison experience, parole decision making and return to society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 0184 - PSYCHOLOGY OF GENDER

Minimum Credits: 3
Maximum Credits: 3
This course is intended to be an introduction to the theories and current research on the psychological nature of women and the psychology of gender

roles. The male perspective on gender roles will also be included. The effects of cultural factors that determine both female and male roles in our society will be examined as well as how these roles affect different interpersonal relationships between women and men. The potential for change at both the societal and individual level will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or PSY 0105 or 0101 or 0200 or 0203 or 0210

PSY 0186 - CROSS CULTURAL PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
The systematic, scientific study of human behavior takes into account the diverse ecological and cultural settings in which we live. The course covers traditional topics in human psychology-perception, cognition, personality development, intergroup relations and impact of social change. Research data are emphasized. Approach is interdisciplinary, integrating material from anthropology as well as psychology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 0310 - DEVELOPMENTAL PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
The course focuses on development of the child from birth to adolescence, the current theory and research concerning social, emotional, intellectual, perceptual and language development. The organization of the course is topical. Coverage is confined to normal development; what develops, how and why in the average child. Little attention to abnormal development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 0315 - COMPARATIVE ANIMAL BEHAVIOR

Minimum Credits: 3
Maximum Credits: 3
This course covers understanding of human behavior through an appreciation of our evolutionary heritage. The impact of evolutionary theory on the interpretation of human behavior influences how we view such topics as aggression, altruism, learning, motivation, sexual behavior, and parenting. Data from both laboratory and field investigations on a wide variety of animals are examined. Special attention is given to the behavior of man.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 0380 - PSYCHOLOGY OF AGING

Minimum Credits: 3
Maximum Credits: 3
This course is designed to examine the basic psychological changes occurring through adulthood into old age. Particular emphasis will be given to the biological, social, and cultural influences. Discussions with some outside speakers, movies and demonstrations augment the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 0405 - LEARNING AND MOTIVATION

Minimum Credits: 4
Maximum Credits: 4
This course elucidates fundamental principles of learning and motivation as derived predominantly from animal research. Focus is given to the empirical and conceptual processes underlying the facilitation and suppression of behavior, e.g. primary and conditioned reinforcement, non-reinforcement, punishment and avoidance as well as the generalization and discrimination of these processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 0420 - COGNITV PSYCHOLOGY FOR MAJORS

Minimum Credits: 4
Maximum Credits: 4
This course describes how the mind works by considering the processes underlying attention, perception, memory, decision making, thinking, and language. These processes are described on both behavioral and physiological levels. Course is restricted to students who are majoring in psychology.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200 or 0203 or 0210 and PSY 0035 or 0032 or 1031

PSY 0421 - COGNITIVE PSYCH FOR NON-MAJORS

Minimum Credits: 3
Maximum Credits: 3
This course describes how the mind works by considering the processes underlying attention, perception, memory, decision making, thinking, and language. These processes are described on both behavioral and physiological levels. This course is intended for non-psychology majors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 0422 - COGNITIVE PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to core issues, theories, and experimental finding in cognitive psychology. Topics to be covered include sensory perception, attention, memory, imager, language, reasoning, problem solving and decision making.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 0423 - COGNITIVE PSYCHOLOGY LAB

Minimum Credits: 3
Maximum Credits: 3
This course exposes students to the details of experimental methods in cognitive psychology, with a particular focus on experimental laboratory studies. Students will also improve their understanding of research report writing, computer skills, and quantitative data analysis skills. The course is organized according to the research process, which is implemented twice across two projects. For each project, students read background literature, develop research hypotheses, design experiments to test them, conduct the experiments, analyze the results, and write-up the experiments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0101 or 0200) and (PSY 0032 or PSY 0035 or 1031) and PSY 0422; PLAN: Psychology (BS)

PSY 0505 - INTRO TO BIOPSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This is a survey course in which the biological bases of certain classes of behavior are explored. The behaviors studied are limb movement, sleep and wakefulness, feeding, sexual behavior and learning and memory. Each of these behaviors is considered from the point of view of which brain structures and which neurotransmitters are involved in the production of that behavior. Emphasis is also placed on experimental techniques used to obtain relevant data and on the type of inferences which can be made from these experiments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 0510 - SENSATION AND PERCEPTION

Minimum Credits: 3
Maximum Credits: 3
This course examines the nature of the mechanisms that transform sensory input into our perceptual experience of the world. Topics include structure and function of sensory system, perception of color, object, motion, etc. Both information-processing and ecological approaches to the study of perception are considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 0581 - PSYCHOLOGY OF VISUAL ART

Minimum Credits: 3
Maximum Credits: 3
This course emphasizes the application of perceptual theory to the study of painting, photography, and film. One of the central topics to be considered is how properties such as three-dimensionality, color, shape, and motion can be represented on a two-dimensional surface. The general properties of visual images are discussed, followed by a consideration of how color, brightness, size, form, depth, and motion are perceived in the

world and in pictures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 0584 - ESP AND PSEUDOPSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course deals with ESP, hypnosis, altered states of consciousness, the human potential movement, etc. from the skeptical perspective of scientific psychology. Scientific explanations of the various phenomena will be attempted. This is not a course for the true believer in the paranormal. It is designed for the student who seriously wants to know how much one can believe of what is printed about these topics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 0680 - INTRO INDUSTRL/ORGANIZATIONAL

Minimum Credits: 3
Maximum Credits: 3
A survey course of contemporary practice in the field of industrial psychology. Principal topics include employee selection, testing, performance appraisal, training and development, leadership, work motivation, organizational psychology, conditions at work, engineering psychology, employee safety and health, consumer and marketing psychology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1005 - STAT ANAL 1/ADV STATS-UG

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide knowledge and skills needed to plan and conduct analyses using a uniform framework based on the general linear model. Topics to be covered include descriptive statistics, graphic data, sampling distributions, hypothesis testing (including power, effect sizes, and confidence intervals), t-tests, correlations, multiple regression, and polynomial regression. Students will learn to use SAS for statistical computing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1025 - TESTS AND MEASUREMENT

Minimum Credits: 3
Maximum Credits: 3
This course reviews representative examples of current psychological tests and covers, in some detail, the nature of psychological measurement and the elements of test theory and test construction. Topics covered include item analysis, item selection techniques, reliability, validity and validation procedures, standardization and norming, and the conceptual problems in test interpretation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0015 or 0101 or 0200) and (STAT 0200 or STAT 1000 or STAT 1100 or PSY 0020 or 0201 or 0270)

PSY 1050 - TOPICS IN PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
A topics course. Content will vary from term to term depending on instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0200

PSY 1051 - TOPICS IN SOCIAL PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
Topics in social psychology will vary from term to term, depending on instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0105 or 0203 or 0210

PSY 1052 - TOPICS IN CLINICAL PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
Topics in clinical psychology will vary from term to term, depending on instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1053 - TOPICS IN DEVELOPMENTAL PSYCH

Minimum Credits: 3
Maximum Credits: 3
Topics in developmental psychology will vary from term to term depending on instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0015 or 0101 or 0200) and (0202 or 0230 or PSY 0310) and (STAT 0200 or STAT 1000 or STAT 1100)

PSY 1054 - TOPICS IN COGNITIVE PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
Topics in cognitive psychology will vary from term to term, depending on instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0015 or 0101 or 0200) and (PSY 0032 or PSY 0035 or 1031)

PSY 1057 - TOPCS BIOLOGCL & HEALTH PSYCH

Minimum Credits: 3
Maximum Credits: 3
Topics in biological and health psychology will vary from term to term, depending on instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0015 or 0200) and (PSY 0032 or PSY 0035 or 1031)

PSY 1058 - TOPICS IN IND/ORG PSYCH

Minimum Credits: 3
Maximum Credits: 3
Topics in industrial/organizational psychology will vary from term to term depending on instructor.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1059 - TOPCS IN ADVNCD RSRCH METHDS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0035 and (STAT 0200 or STAT 1000 or STAT 1100); PROG: School of Arts & Sciences

PSY 1075 - HISTRY & SYSTEMS OF PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide the student with an integrated view of the development of the field of psychology with emphasis on the philosophical and biological background of the nineteenth century and the systems period of the twentieth century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200; LVL: Jr or Sr

PSY 1110 - PSYCHLGCL ASPCT HUMN SEXUALITY

Minimum Credits: 3
Maximum Credits: 3
The course presents a social-psychological and psycho-biological orientation towards the study of human sexuality. Current research is emphasized. Topics such as sexual attitudes, hormones and behavior, changing sexual behavior, sex education, gender-role development, alternative forms of

sexual expression, and violence and sex are covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: [(PSY 0010 or PSY 0012 or 0015 or 0101 or 0200) and (PSY 0105 or 0203 or 0210)] or (PSY 0160 or PSY 0184 or 0204 or 0240)

PSY 1112 - PSYLGCL ASPCT SEXLTY RES WRIT

Minimum Credits: 3
Maximum Credits: 3
The course presents a social-psychological and psychobiological orientation towards the study of human sexuality. Current research is emphasized. In addition to lectures and exams, students will conduct a class research project on sexual attitudes and write this up in APA style.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0035 or 0032 or 1031) and (STAT 0200 or STAT 1000 or STAT 1100 or PSY 0020 or 0201 or 0270)

PSY 1115 - SOCIAL PSYCH & CRIMNL JUSTICE

Minimum Credits: 3
Maximum Credits: 3
This course applies theory and data in social psychology to decision making in the criminal justice system. Topics covered include: decision making by victims, bystanders, police, prosecutors, defense attorneys, juries, judges, prison guards, probation officers and parole boards. Class activities include films, discussions, student presentations, simulations and field trips to agencies of the criminal justice system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200 and PSY 0182 or 1410

PSY 1116 - SOCIAL PSYCHOLOGY AND HEALTH

Minimum Credits: 3
Maximum Credits: 3
This course will review social psychological theories such as cognitive dissonance, social comparison, and social support and discuss how these theories might be applied to understanding and predicting health behavior and disease. The intersection of social and health psychology has grown substantially over the past 10-15 years. And this course will review research at this intersection. Students will learn how to apply a wide variety of social psychological concepts and findings to designing interventions that promote healthy behavior and reduce disease risk.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1125 - ATTITUDES AND ATTITUDE CHANGE

Minimum Credits: 3
Maximum Credits: 3
Basic concepts and principles of attitude formation and change are considered, and important research findings are reviewed. A variety of theoretical approaches are compared and contrasted. The attitude-behavior question is investigated in some detail. Attention is also devoted to attitude measurement and other problems of methodology. Illustrative areas of practical application are provided.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0105 or PSY 0160 or 0203 or 0204 or 0210 or 0240

PSY 1130 - SPEC TOPC ON PSYCH OF GENDER

Minimum Credits: 3
Maximum Credits: 3
An advanced course which deals with psychological research relating to women and power. Topics covered include physical power, nonverbal perpetuation of power differences, power motivation, social power, power dynamics in the family and political power. Each semester the course has a different focus.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1135 - SOCIAL PERCEPTION & COGNITION

Minimum Credits: 3
Maximum Credits: 3
Historical problems and current issues are identified. Some general principles of perception and cognition are reviewed. Recent research and theoretical formulations are considered in each of these areas; impression formation, interpersonal attraction, causal and moral attribution, prediction of behavior, perceptions of interpersonal relations, group stereotyping and prejudice.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1140 - SOCIAL MOTIVATION

Minimum Credits: 3
Maximum Credits: 3
A survey of current research in human motivation. Topics to be covered include aggression, affiliation, power and achievement motivation. Current theoretical approaches and data will be discussed. Some experimental exercises will be used to aid students in understanding the concepts being explored.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1150 - SOCIAL PSYCH OF SOCIAL CONTROL

Minimum Credits: 3
Maximum Credits: 3
This course presents a psychological perspective on the topic of interpersonal manipulation and control. It is an advanced course for students interested in social psychology. Topics covered include social roles as determinants of attitudes and behaviors; commitment-building in utopian communities; reaction to deviance in groups; group socialization; and impression management techniques.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1155 - PSYCHOLOGY OF SMALL GROUPS

Minimum Credits: 3
Maximum Credits: 3
This course surveys basic principles and research findings involving small groups. Some of the topics covered include social facilitation, conformity, and cohesiveness, social comparison, roles, status, and norms, leadership and inter- group relations. Social processes within both laboratory and natural groups will be studied, and some emphasis will be placed on the practical relevance of small group research to the everyday experience of group membership.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0105 or PSY 0160 or 0203 or 0204 or 0210 or 0240

PSY 1180 - PSYCHOLOGY OF BLACK EXPERIENCE

Minimum Credits: 3
Maximum Credits: 3
An overview of the field of black psychology. The primary emphasis is on detailed coverage of several topics in black psychology; i.e. psychological assessment and IQ testing, the black family, racism, and black American English.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1205 - ABNORMAL PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course provides an overview of the major issues in the area of mental illness. This course emphasizes the scientific approach to understanding the major psychological and behavioral disorders. The research and clinical literatures regarding the etiology, course and treatment of these disorders will be presented.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 1210 - INTRO TO CLINICAL PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is directed toward the student seriously interested in the major issues pertaining to clinical psychology. The course provides an overview of the major therapeutic approaches and incorporates other germane issues such as history of the field, assessment issues, interviewing approaches, community psychology, behavioral medicine, and clinical research and methodology. Present therapeutic approaches are placed in the context of an evolving discipline, anchored in an empirical-scientific approach to the subject matter.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0015 or 0101 or 0200) and (PSY 1205 or 0206 or 1141)

PSY 1215 - HEALTH PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to the major questions and methods which have guided the research in health psychology. This field examines the role of psychological and social factors in the development and progression of medical disease. Three main topics are covered: (1) conceptual underpinnings of health psychology, (2) psychosocial factors and specific diseases, and (3) evaluating behavioral medicine interventions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0015 or 0101 or 0200) and (PSY 0035 or 0032 or 1031) and (PSY 0105 or PSY 0505 or 1500 or 0203 or 0210)

PSY 1225 - PSYCHOLOGY OF EMOTION

Minimum Credits: 3
Maximum Credits: 3
This is an advanced course covering contemporary issues in the study of emotion. Topics considered include expressive, cognitive, biological and social aspects of emotion and the role of emotion in psychopathology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0035 or 0032 or 1031) and (PSY 0105 or PSY 0160 or PSY 0310 or 0202 or 0203 or 0204 or 0210 or 0230 or 0240)

PSY 1230 - PSYCHOLOGY OF DEATH AND DYING

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to widen the student's understanding of human death in its biological, socio-cultural, and primarily psychological dimensions. We will examine the concept of death, psychological reactions to death and dying, and the process of bereavement. We will also explore selected issues such as suicide and euthanasia, children's concepts of death, and the question of life after death. It is hoped that with increased knowledge about death and dying, you will be able to look more critically at materials being published in the popular press.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 1235 - ALCOHOL USE AND ABUSE

Minimum Credits: 3
Maximum Credits: 3
This course covers a range of topics related to alcohol, including history, anthropology, sociology, epidemiology and literature. Topics include psychopharmacology, social-cognitive effects of drinking, etiology of alcoholism, as well as the prevention and treatment of alcoholism. This course also addresses abuse of other selected drugs such as nicotine, cocaine and heroin.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012) and PSY 0035 and PSY 1205 and (PSY 0105 or PSY 0420 or PSY 0422)

PSY 1255 - PRINCIPLES OF BEHAVR MODIFICTN

Minimum Credits: 3
Maximum Credits: 3
Behavior modification techniques are the most commonly used interventions in psychology, education and health psychology. In this course, students will learn basic concepts, theories and research in behavior modification in the context of clinical applications. Most learning will occur through practical, applied exercises. In one set of exercises, students will choose a hypothetical client and apply behavioral methods to their client's case. Students will develop a portfolio of assessment and treatment techniques for their client.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1270 - CHILD PSYCHOPATHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course considers research and theory which bear on the development of psychological disorders in children. Biological and environmental factors which contribute to childhood disorders are considered with special emphasis on the role of the family. Childhood psychosis, hyperactivity, and depression are studied to illustrate theoretical models and empirical findings.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0015 or 0101 or 0200) and (PSY 0310 or 0202 or 0230) and (PSY 1205 or 0206 or 1141)

PSY 1305 - EXPERIMENTAL CHILD PSYCHOLOGY

Minimum Credits: 4
Maximum Credits: 4
This course introduces students to the scientific basis of theories and issues in developmental psychology. In lectures, discussion and structured experiments students learn about and apply basic methods of research in child development, including conceptualization, design, data collection, analysis and write-up. This course exposes students to development over infancy and childhood.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 and PSY 0035 and PSY 0310

PSY 1312 - CHLD DEVELOPMNT & SOCIAL POLCY

Minimum Credits: 3
Maximum Credits: 3
In this course we will examine issues in child development that are also the subject of public policy debates with implications for the well-being of children and families. Topics will include poverty and young children's development, the child care debate, early intervention for children at risk (e.g. head start), issues in child abuse including family preservation, foster care, and children's testimony, and decisions about child custody and visitation following parental divorce.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0202 or 0230 or PSY 0310

PSY 1315 - DEVELOPMENTAL PSYCH: INFANCY

Minimum Credits: 3
Maximum Credits: 3
This course will explore how infants develop during the first two years of life. Some of the specific topics to be covered include: prenatal development, alternative birth techniques, capabilities of the newborn, the development of perceptual and memorial processes during the first year, early language development, and the development of infant parent attachments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0015 or 0101 or 0200) and (PSY 0310 or 0202 or 0230)

PSY 1320 - LANGUAGE DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
This course addresses the question of how children acquire a system of communication that involves an extremely complex set of rules and principles. Students also learn about the structure of the language itself and the nature of linguistic analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0310 or 0202 or 0230

PSY 1325 - DVLPMNTL PSYCH: SOCIAL DEVELP

Minimum Credits: 3
Maximum Credits: 3
This course is an introductory survey of methods, theories, and research on the personality and social development of humans from infancy through early adolescence in the United States. This course examines individual development: how people come to be who they are, and how change and continuity work together over time. First comes an investigation of starting points in development. We will study the infant's first social relationship, and we will try to understand the connection between early temperament and mature personality. Basic concepts of developmental theory will also be introduced. Next we examine how children function within increasingly complex and varied social environments such as families, peer groups, and educational settings. Topics covered include self-development, sex differences and gender role development, achievement motivation, prosocial behavior/altruism, moral development, and antisocial behavior. This upper level course is designed for psychology majors. The course may be of interest to other advanced undergraduate students who are interested in psychology, child and adolescent development, education, and related disciplines.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0015 or 0101 or 0200) and (PSY 0310 or 0202 or 0230) and (PSY 0035 or 0032 or 1031)

PSY 1330 - DVLPMNTL PSYCH: COGNITV DEVELP

Minimum Credits: 3
Maximum Credits: 3
This course covers major areas of cognitive and intellectual development with an emphasis on learning and memory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1355 - ADOLESCENCE

Minimum Credits: 3
Maximum Credits: 3
The period of adolescence will first be studied from both a psychological and sociological perspective. Focus is on the individual as he/she experiences physical, cognitive, and social changes. Contributions of such theorists as Freud, Erikson, and Piaget are highlighted. A number of critical issues and conflicts of adolescence are discussed i.e. the generation gap, sex roles and behaviors, juvenile delinquency.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0010 or PSY 0012 or 0015 or 0101 or 0200) and (PSY 0310 or 0202 or 0230)

PSY 1357 - PSYCHOLOGY OF AGING

Minimum Credits: 3
Maximum Credits: 3
This course is designed to examine the psychological changes that occur through adulthood and into late life from a life-span developmental perspective. Biological, cognitive, emotional, and social aspects of the aging process will be explored in depth. Historical and contemporary perspectives on aging as well as cultural influences on the experience of aging will be examined. Psychological aspects of aging will be explored from individual, familial, and societal viewpoints. Lecture, class discussion, small group work and media presentations will be utilized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 1360 - PSYCHOLOGY OF BLACK CHILDREN

Minimum Credits: 3
Maximum Credits: 3
This course surveys and critically evaluates literature on the development of black children from birth to adolescence. Topics to be covered include prenatal influences on growth and development; structure and socialization practices of black families; black English and language development; cognitive development; psychological testing of black children; self-concept and racial identification.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0035 or 0032 or 1031) and (PSY 0310 or 0202 or 0230) and (STAT 0200 or STAT 1000 or STAT 1100 or PSY 0020 or 0201 or 0270)

PSY 1435 - BEHAVIOR CONTROL IN SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This course provides an overview of the scientific principles used in behavior management and examines some of the uses of behavior management in various work settings, other institutional settings, in governmental control and in open society. The relation of the uses of behavior control procedures to ethics, social planning, and individual freedom are explored. Behavior analysis serves as the basis for examining traditional management of people as it is found in a variety of social situations without the intervention of experts in behavior management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1454 - LANGUAGE COMPREHENSION AND USE

Minimum Credits: 3
Maximum Credits: 3
This course will cover how language is produced, comprehended and used by normal adults-focusing on those processes above the word level. Content areas will include: syntax and pragmatics, major debates in cognitive science related to the study of language, sentence comprehension, discourse comprehension, sentence production, conversation, figurative language, and the relation between language and thought.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1455 - PSYCHOLOGY OF READING

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to psycholinguistics, and includes the following topics: the nature of language as a communication system, linguistics structure, the relationship between language and thinking, experimental psycholinguistics, including speech perception and comprehension, language development, and the effect of social variables on language styles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0420 or 1061

PSY 1460 - MEMORY AND MEMORIZATION

Minimum Credits: 3
Maximum Credits: 3
Why is it that some things seem so easy to learn and others seem so difficult? Is it possible to train memory? What changes in the brain when we learn and remember? In this class you will explore various methods of learning to gain an understanding of the complexities of human memory. You will work on training your memory and determine how much your memory can improve, and how much those improvements generalize from one form of memory to the next. Along the way, you will learn about the major theories of memory and identify which learning techniques result in the best memory performance. You will also gain knowledge about the neural bases of learning and memory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1465 - COGNTV PSYCH & INT'L RELATIONS

Minimum Credits: 3
Maximum Credits: 3
An intensive treatment of higher mental processes, i.e. problem solving, reasoning, and decision making as they relate to foreign policy decision making. The operation of cognitive processes and decision making will be studied from a cognitive perspective. The course will also provide a broad social science background by taking a course which suggests relationships between two apparently disparate domains as psychology and political science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1470 - COGNITION AND THE BRAIN

Minimum Credits: 3
Maximum Credits: 3
This course examines fundamental issues in cognitive neuroscience, an interdisciplinary science covering topics in the neural basis of sensory perception, motor control, attention, short-term and long-term memory, language, emotion, decision-making and consciousness. Some of the areas covered are how strokes affect speech, how perception is unified, how the visual system analyzes color, shape, and location of objects. Research methods and research results are considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200 or NROSCI 1000 or NROSCI 1003

PSY 1471 - MAPPING BRAIN CONNECTIVITY

Minimum Credits: 3
Maximum Credits: 3
This class will cover background and technical methods of mapping high definition fiber tracking of brain connectivity for basic research and clinical imaging. Students will learn to map/quantify anatomical connections of the human brain. These techniques are used to study brain systems, disorders, and development, and to assist in planning neurosurgery. Students may take an optional one-credit laboratory in which they will learn to use advanced computation software to execute research projects including developing of technical methods, mapping brain networks, or clinical analysis of data.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1510 - FOUNDATIONS: PERCEPTION

Minimum Credits: 2
Maximum Credits: 2
The objective of this course is to extend our consideration of the mechanisms underlying perception beyond the introductory level. Basic principles of psychophysics and sensory physiology are examined, then specific topics are studied in greater detail. Topics to be covered include: theoretical approaches to perception; mechanisms of neural coding; cortical organization and its relation to perceptual mechanisms; the perception of color, motion and form; perceptual development; neurophysiological approaches to perception and perception in non-visual senses.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1514 - EVOLUTIONARY PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
The relevance of Darwinian Theory to the study of anatomy and physiology has been obvious for many decades. Only recently however, have evolutionists begun to focus their explanatory tools on cognition, motivation, emotion, perception, and "mind". This course will examine the rationale, contributions, failures and future of evolutionary approaches to psychological phenomena. Initial lectures on the status of Evolutionary Theory will prepare the students for the discussion and evaluation of evolutionary psychology that will follow.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0015 or 0101 or 0200

PSY 1520 - PSYCHONEUROIMMUNOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide a general background in a new interdisciplinary area of research dealing with the effects of physical and psychological stress on the ability of the immune system to withstand illness and disease. Emphasis is placed on experimental studies which demonstrate the ways in which environmental factors alter immunocompetence of animals and humans and on neural and endocrine factors that may mediate such effects. The possible significance of nervous sysimmune system interactions for development of disease states such as cancer is discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1530 - HLTH JUDG & DECISION MAKING

Minimum Credits: 3
Maximum Credits: 3
This course will review the many applications of research on human judgement and decision-making to the health and medical context. Many lay decisions to adopt health behaviors such as hormone replacement therapy or a new exercise regiment, and professional decisions such as diagnosis and recommended therapies, are influenced by biases and risk perceptions that normally influence human decision-making. The purpose of this course is to show how research in these areas might be used to improve decision-making by both laypeople and medical professionals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (PSY 0035 or 0032 or 1031) and (STAT 0200 or STAT 1100 or PSY 0020 or 0201 or 0270)

PSY 1580 - LANGUAGE AND THE MIND

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the study of language as a cognitive science, focusing on the mental representations of the sounds of speech. Throughout the course we will emphasize the scientific methods used by researchers to investigate questions about the sounds of language. Because this course is multidisciplinary in nature, drawing primarily from the fields of linguistics and psychology, students will be introduced to the different methods, techniques, and technologies used by researchers in both fields.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1630 - PERSONNEL PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course surveys theory and practice of personnel psychology. Topics include employee selection, performance appraisal, training and development, leadership, compensation, organizational structure and change, unions. The course is designed to introduce the student to the psychological and legal issues most frequently encouraged in actual personnel practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PSY 1635 - ORGANIZATIONAL PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course will provide broad exposure to the field of industrial/organizational psychology. Course topics will include (but are not limited to) personnel selection, training, worker motivation, job attitudes, performance appraisal, leadership, and career development. The class format will include multiple hands-on assignments to assist the student in understanding how psychological theories can be applied in a work context. Grades

will also be derived from performance on formal tests.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: PSY 0010 or PSY 0012 or 0101 or 0200) and (PSY 0035 or 0032 or 1031) and (STAT 0200 or STAT 1000 or STAT 1100 or PSY 0020 or 0201 or 0270)

PSY 1900 - SUPERVISED FIELD PLACEMENT

Minimum Credits: 1
Maximum Credits: 6
Psychology majors may receive up to 6 credits for field experience in supervised agencies in the community. The experiences vary from term to term.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Satisfactory/No Credit
Course Requirements: PROG: Psychology (BS); LEVEL: Junior or Senior

PSY 1901 - CASE MANAGEMENT FLD PLACEMENT

Minimum Credits: 6
Maximum Credits: 6
Supervised field placement in community agencies for psychology majors enrolled in the case management certificate program
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

PSY 1902 - DIRECTED INDIVIDUAL READING

Minimum Credits: 1
Maximum Credits: 3
Under special circumstances, psychology majors can design an individual reading course with a member of the department and in consultation with the graduate advisor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

PSY 1903 - DIRECTED INDIVIDUAL RESEARCH

Minimum Credits: 1
Maximum Credits: 3
This course involves student participation in individual experimental research supervised by a member of the department faculty. This course is particularly valuable for students interested in graduate study in psychology.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Satisfactory/No Credit

PSY 1905 - UNDERGRADUATE COLLOQUIUM

Minimum Credits: 2
Maximum Credits: 2
This course is designed to provide a survey of research and professional fields of psychology, using appropriate guest speakers and selected readings for each area.
Academic Career: UGRD
Course Component: Colloquium
Grade Component: Satisfactory/No Credit

PSY 1950 - PSYCHOLOGY SENIOR SEMINAR

Minimum Credits: 1
Maximum Credits: 1
This one-credit course is designed for psychology majors in their final year of study (either final or next-to-final term). Course content will include exploration of the field of psychology, self-assessment of learning experiences, identification of marketable skills for career and graduate school paths, and planning for transition to post-college life. Permission to enroll in the course must be obtained from the psychology advising office.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit
Course Requirements: PLAN: Psychology (BS or BPH); LVL: Sr

PSY 1970 - UNDERGRAD TEACHING EXPERIENCE

Minimum Credits: 1
Maximum Credits: 3

This course involves student participation as an undergraduate teaching assistant (UTA) for a psychology course under the supervision of a faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Satisfactory/No Credit

PSY 1973 - HONORS DIRECTED RESEARCH
Minimum Credits: 3
Maximum Credits: 3
This is the first term of research in preparation for the honors major in psychology. Development of the research problem and approval of the theses prospectus.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

PSY 1975 - HONORS THESIS/MAJORS
Minimum Credits: 3
Maximum Credits: 3
Undergraduate honors majors in psychology will register for this course when their thesis proposal has been approved and they are ready to conduct and write up the research.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

Psychology Education

PSYED 0005 - LIFE SPAN DEVELOPMENT
Minimum Credits: 3
Maximum Credits: 3
This course follows the developing person from conception until the end of life. The course combines theory, research and practical applications from developmental psychology. Lecture topics include genetic influences on development; prenatal and birth factors; physical, cognitive, social, personality, and cultural variables which influence development in infancy, childhood, adolescence, early-, middle-, and late adulthood.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1001 - INTRO EDUCATIONAL PSYCHOLOGY
Minimum Credits: 3
Maximum Credits: 3
A survey of current problems in education which psychological theory and research can address. Topics include developmental approaches to teaching, educational applications of learning theory, classroom management, and testing strategies for teachers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1002 - DVLP: CONCPTN THRGH ERLY CHLHD
Minimum Credits: 3
Maximum Credits: 3
This course follows the developing child from the moment of conception until early adolescence. The course content includes the biological foundations of development, physical and motor changes, language, cognition, sex role development, personality, family and peer relationships, school influences, and examples of deviant development. Theory and application are integrated.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Applied Developmental Psych (BS)

PSYED 1003 - DVLP: MIDL CHLHD THRGH ADOLSC
Minimum Credits: 3
Maximum Credits: 3
Adolescence is studied from a developmental perspective. Discussion begins with the history and cultural varieties of adolescence and proceeds to cover psychological accompaniments to puberty. Lectures and readings deal with cognitive growth, identity formation, moral development, family and peer relationships, psychological disturbance and education through the adolescent years.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: PSYED 1002

PSYED 1007 - METHDS/EVIDENCE BASED-PRACTICE

Minimum Credits: 3
Maximum Credits: 3
This course provides an overview of both quantitative and qualitative research methods. Particular attention is paid to methods of observation, interviewing, and summarizing qualitative data. Students use qualitative or mixed methods to produce a final research project.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: CREQ: PSYED 1002

PSYED 1012 - DEVELOPMENTAL DISABILITIES

Minimum Credits: 3
Maximum Credits: 3
A study of developmental disabilities and their impact on child/family development. Includes discussion of philosophy of service, legislation, and service systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: PSYED 1002

PSYED 1013 - DEVELOPMENTAL PSYCHOPATHOLOGY

Minimum Credits: 3
Maximum Credits: 3
Examines the traditional medical-model view of psychopath ology in children and youth, presents alternative ways of looking at this behavior, and gives an introduction to the interpersonal skills needed for therapeutic intervention.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: PSYED 1003

PSYED 1014 - ACTIVTY & ENVIRNMNTL PLANNG 1

Minimum Credits: 3
Maximum Credits: 3
A study of the theoretical rationale for activity and environmental programming, its relationship to the development of children and youth and its therapeutic implications.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1015 - ACTIVTY & ENVIRNMNTL PLANNG 2

Minimum Credits: 3
Maximum Credits: 3
A continuation of PSYED 1014 focusing on the implementation of interventive programming principles for children and youth with varying special needs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1016 - DEVELP CURRICULUM & ACTIVITIES

Minimum Credits: 3
Maximum Credits: 3
Study of the theoretical rationale for activity and environmental programming; its relationship to the development of children and youth; and practical applications in media selection, use, and environmental design for various populations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PLAN: Applied Developmental Psychology(BS)

PSYED 1019 - DEVELOPMNTL ASPCTS CHLDRN PLAY

Minimum Credits: 3
Maximum Credits: 3
An introduction to underlying dynamics and functions of play, and the meanings of play patterns for various developmental stages. Learning experiences include actual participation with play materials.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade

PSYED 1021 - THEORY, MEANING & PRACT/PLAY

Minimum Credits: 3
Maximum Credits: 3
This course provides a comprehensive overview of the role of play and activity in human development, with a particular focus on ways of utilizing play and activity to promote positive growth in social, emotional, physical, and cognitive domains; and on interpreting the meaning of individual and group play and activity. Play and activity in the lives of persons of all ages will be considered with some emphasis on the early and school years. While academic learning is essential in this course, the focus will be on hands-on, real play as the ideal way to learn about it, and encouragement of a life-long playful spirit.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1024 - FAMILY DYNAMICS

Minimum Credits: 3
Maximum Credits: 3
Study of different family types in the American culture and an in-depth analysis of how each family structure contributes to the development (both functionally and dysfunction ally) of all family members, especially the children and youth of the family.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: PSYED 1013

PSYED 1025 - PROFESSIONAL SEMINAR 1

Minimum Credits: 3
Maximum Credits: 3
An introduction to the scope, organization and current issues in the child development and child and youth care field as related to the profession and to the variety of services to children and families. Field experiences include site visits to agencies providing a variety of services.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PLAN: Applied Developmental Psychology(BS)

PSYED 1026 - CHILD AND YOUTH DEVELOPMENT 1

Minimum Credits: 3
Maximum Credits: 3
This course focuses on theories of child development as they are applied in practice. The course covers the theories of Piaget, Freud, Erikson, Gibson, social learning, information-processing and ethology. Students learn the fundamental tenets of the theories as well as new directions of theory and practice. They are required to synthesize the different theoretical perspectives into coherent, well-in formed perspectives guiding their practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1027 - CHILD AND YOUTH DEVELOPMENT 2

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the "ecology" of childhood; the everyday lives of children, with particular regard to changes in social life with development from infancy through adolescence. Students will be oriented with an ecological, life-span perspective and study descriptive accounts of children's lives in families, neighborhoods, and schools, including developmental changes in play, peer relations and family patterns. Students will integrate the course content with actual observations of children's everyday behavior.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1028 - DEVELOPMNTAL PRACTC SEMINAR 1

Minimum Credits: 3
Maximum Credits: 3
A seminar for the integration of theory, research, practice skills, and experience related to developmentally focused child and youth care practice. The seminar is particularly focused on the internship experience and the related know ledge base.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Applied Developmental Psychology(BS); LVL: Sr

PSYED 1029 - DEVELOPMNTAL PRACTC SEMINAR 2

Minimum Credits: 3
Maximum Credits: 3
A continuation of Developmental Practice Seminar 1 for the integration of theory, research, practice skills and experience related to developmentally focused child and youth care practice. The seminar is particularly focused on the internship experience and the related knowledge base.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Applied Developmental Psych (BS)

PSYED 1031 - SENIOR PROJECT

Minimum Credits: 1
Maximum Credits: 3
Student will work with a faculty member or do an independent project relevant to their individual interests.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PLAN: Applied Developmental Psych (BS)

PSYED 1032 - PSYCHOSOCIAL ASPCTS OF ILLNESS

Minimum Credits: 3
Maximum Credits: 3
This course is designed to enable students to understand the nature of and dynamics of pediatric illness, appreciate the impact an acute or prolonged health care experience may have upon children throughout the developmental process, better understand a family health care philosophy and gain an understanding of the multi-faceted role child life specialists play in today's health care environment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

PSYED 1036 - DEVELOPMNTL MEANG CULTL DISTN

Minimum Credits: 3
Maximum Credits: 3
An exploration of major dimensions and issues of cultural diversity with a particular emphasis on their impact on the developing child and their implications for programs for children and youth.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Applied Developmental Psych (BS)

PSYED 1040 - CHILD & YOUTH WORK PRACTICE 1

Minimum Credits: 3
Maximum Credits: 3
A study of applied theory, research and developmental programming and their relationship to the development of children; supervised internships with young children.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PSYED 1041 - CHILD & YOUTH WORK PRACTICE 2

Minimum Credits: 4
Maximum Credits: 4
A continuation of PSYED 1040 with an emphasis on applied theory, research and programming related to adolescence; direct supervised experience with children and/or youth in a practicum setting (145 hours in site during term).
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

PSYED 1042 - CHILD & YOUTH WORK PRACTICE 1

Minimum Credits: 1
Maximum Credits: 6
A university approved, agency based, supervised internship in developmental/interventive practice. This internship may focus on work with and/or for children, youth and families. Fifty hours of placement are required for each credit of registration.
Academic Career: UGRD
Course Component: Practicum

Grade Component: Letter Grade
Course Requirements: PLAN: Applied Developmental Psych (BS)

PSYED 1043 - CHILD & YOUTH WORK PRACTICE 2

Minimum Credits: 1
Maximum Credits: 6
This course is a university approved, agency based, supervised internship in applied developmental practice which may or may not involve intervention practices. The internship may focus on work with and /or for children, youth and /or families. Fifty hours of on-site placement are required for each credit of registration.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: PLAN: Applied Developmental Psych (BS)

PSYED 1050 - SUPRVSN ADM CHLD YTH WRK SETNG

Minimum Credits: 3
Maximum Credits: 3
This course focuses on issues and skill development in areas related to management and supervision in child and youth care programs. A modular format will cover the function of supervision and administration in child care; communication skills; supervisory functions and skills; program development and management; and current issues in child and youth care administration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Applied Developmental Psych (BS)

PSYED 1060 - SEM CHILD YOUTH WRK PRACTICE 1

Minimum Credits: 2
Maximum Credits: 2
Designed for students with professional associate's degree in child and youth care with substantial practicum experience. This course focuses on a study of applied theory, research and developmental programming and their relationship to the development of children.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

PSYED 1061 - SEM CHLD YOUTH WORK PRACTICE 2

Minimum Credits: 2
Maximum Credits: 2
A continuation of PSYED 1060. Students are expected to write observations on child behavior, interview profession also in the field, and participate in class discussion.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

PSYED 1080 - PSYCHOLOGY AND THE MEDIA

Minimum Credits: 3
Maximum Credits: 3
Psychology and the media focuses on impact of electronic media (radio, television and internet) upon society, especially children. Course introduces students to various psychological theories (e.g., Social cognitive theory, information processing, uses and gratifications theory) to explain how we respond to and learn from the media. Topics receiving special attention include media violence, advertising, health-related behaviors, news, media effects upon academic behavior, and cultural issues. A visit to a local radio or television station will be arranged.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1088 - SP TOPICS CHILD DVLP/CHILD CRE

Minimum Credits: 3
Maximum Credits: 3
This course focuses on selected topical areas of special importance for child care.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1089 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
Have you ever wondered why some individuals continue to work hard even when they are faced with challenges while others give up easily or do not

try at all? Have you wondered what might be done to encourage all children to be willing to engage in learning? This course will focus on addressing these types of questions by taking an in-depth look at the development of achievement motivation in different settings from developmental and ecological perspectives. We will examine several different theories of motivation, the major constructs proposed by these theories, and how different contextual characteristics may facilitate student achievement motivation. We will also discuss different student characteristics such as age, gender, social class, and ethnicity and how they might produce individual variation in students' responses to contextual characteristics, as well as variations in the actual experiences they are likely to have in different contexts. Class format will be a mixture of lecture, recitation, and discussion. Readings will stress the theoretical and empirical work and our discussions will focus on the analysis and synthesis of the different theories and research findings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1098 - DIRECTED RESEARCH

Minimum Credits: 1
Maximum Credits: 6
Student pursues research under the direction of a faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

PSYED 1099 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 6
Provides advanced students an opportunity to explore in depth an area of particular interest to them. It is the student's responsibility to find a faculty member willing to undertake such a tutorial.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

PSYED 1141 - CHILD AND YOUTH WORK 1 - INTRO

Minimum Credits: 3
Maximum Credits: 3
This course introduces contemporary issues in the vibrant and growing field of positive youth development. Our developmental-ecological perspective emphasizes both individual growth and the impact of systems on children and youth. Class topics include: settings where child and youth development occurs (e.g. community-based programs, religious and cultural institutions, residential treatment); the impact of popular media, social media, and other technology on youth development; and issues of diversity and privilege. We investigate efforts to support the development of thriving and other positive outcomes, as well as traditional prevention approaches. The course is benchmarked to the child and youth work competencies of the North American competency project and to the certification program of the child and youth care certification board, inc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1143 - CHILD YOUTH WRK 2: ADV ISSUES

Minimum Credits: 3
Maximum Credits: 3
This course expands and deepens on themes introduced in Child and Youth Work I. Topics include the challenges of ecological approaches to learning and development; the roles of decision-makers at multiple levels (government, program directors, youth workers, youth themselves); and the benefits and challenges of youth-adult partnership approaches to child and youth work.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PSYED 1198 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 3
Student pursues study of various topics under the direction of faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

PSYED 1233 - COMMUNITY-BASED ACTION RES 1

Minimum Credits: 2
Maximum Credits: 2
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

PSYED 1605 - CHILD YOUTH CARE BASIC COUSE

Minimum Credits: 3
Maximum Credits: 3
This strategy-based course, offered in partnership with the Allegheny partners for out-of-school time (APOST) of the united way, is attended by both University students and local youth workers. Hands-on, interactive sessions introduce essential concepts and skills in professional child and youth care, geared towards settings including early childhood education, after-school programming, foster parenting, residential treatment, basic care, emergency shelters, recreation, corrections, community youth services, and developmental disabilities. The course prepares participants for child and youth care certification with topics such as professional ethics, assessment, developmentally-based programming, and activity development. University students taking this course for credit will complete reading and writing assignments to accompany the practice-focused sessions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Public Health

PUBHLT 1001 - INTRODUCTION TO GLOBAL HEALTH

Minimum Credits: 3
Maximum Credits: 3
This introductory course covers fundamental concepts in global public health, including determinants of health, key health indicators, global burden of disease, and the relationships among health status, education, and poverty, cross-cutting issues such as culture, ethical and human rights aspects of health, and key actors in global health will also be explored. A variety of teaching modalities will be employed throughout the course including lectures, guest speakers, case studies, class discussion, audio-visual presentations, and student presentations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: LVL: Soph or Jr or Sr

PUBHLT 1002 - SPECIAL TOPICS GLOBAL HEALTH

Minimum Credits: 3
Maximum Credits: 3
This course provides an in-depth look at selected global health issues at a population level. This includes exploration of the determinants of health associated with these issues, prevention and control strategies, and the interplay of behavioral, social, cultural, economic, and political factors that must be considered when addressing the issues. Topics are preselected by the instructor and may vary each term. Examples are accidents and injuries; chronic diseases such as cancer, diabetes, and mental illness; neglected tropical diseases; and reproductive health. In addition, students will be exposed to an array of issues through weekly discussion of current events in global health. A variety of teaching modalities will be employed throughout the course including lectures, guest speakers, case studies, class discussion, audio-visual presentations, and student presentations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: LVL: Soph or Jr or Sr

PUBHLT 1003 - INT TO PUBLIC AND GLOBAL HLTH

Minimum Credits: 4
Maximum Credits: 4
This course is an introduction to public and global health in which students will learn and apply problem solving methodologies to analyze current public health issues from local, national, and global perspectives. Through detailed case studies of communities in the US and across the world, students will gain an in-depth understanding of how biological, behavioral, environmental, and public policy components come together to determine the health of populations. Also, working individually and in groups, students will recommend interventions and evaluation methods to address specific problems. This course has no formal prerequisites. It is intended only for students in the Pitt summer edge in public health and global health program.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: BCHS 2509 or EPIDEM 2110 or PUBHLT 2015; LEVEL: SOPHOMORES, JUNIORS, SENIORS

PUBHLT 1004 - PUBLIC HEALTH EXPLORATIONS

Minimum Credits: 1
Maximum Credits: 1
In this course, students will explore the varied and multidisciplinary aspects of public health by meeting once per week for (1) discussions with a variety of public health researchers, leaders, and field workers, or (2) field trips to local public health institutions. This course has no formal prerequisites. It is intended only for students in the Pitt summer edge in public health and global health program.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: BCHS 2509 or EPIDEM 2110 or PUBHLT 2015; LEVEL: SOPHOMORES, JUNIORS, SENIORS

PUBHLT 1005 - PUBLIC HEALTH RES & PRACTICE
Minimum Credits: 4
Maximum Credits: 4
This course will provide an internship and/or shadowing opportunity with a Pitt public health faculty member. Students will work individually or in pairs with a faculty mentor. There will be opportunities for laboratory, quantitative, or social science research, opportunities to work in the field with community organizations or health agencies, and opportunities to work in clinical settings. This course has no formal prerequisies. It is intended only for students in the Pitt summer edge in public health and global health program.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: CREQ: BCHS 2509 or EPIDEM 2110 or PUBHLT 2015; LEVEL: SOPHOMORES, JUNIORS, SENIORS

PUBHLT 1006IS - GSPH SUMMER EDGE: IN-STATE
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition for the Pitt summer edge in public health and global health program.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

PUBHLT 1006OS - GSPH SUMMER EDGE: OS
Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition for the Pitt summer edge in public health and global health program.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

PUBHLT 1007 - GLOBAL HEALTH ABROAD
Minimum Credits: 3
Maximum Credits: 3
This six-week summer term course is offered as part of a Pitt study abroad program. The course provides an introduction to health issues in the destination country and broader region. Drawing on the fields of public health and medical anthropology in order to foster a more holistic and comprehensive perspective, the course connects classroom learning with first-hand experience and field visits. Although students will learn about the overall health profile of the country, emphasis will be placed on indigenous health, local systems of health and healing, actions of the state healthcare system to address the country's health challenges, and intercultural healthcare efforts. This course is open to and required for students who are participating in the associated Pitt study abroad program.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Public Service

PUBSRV 0020 - INTRODUCTION TO PUBLIC SERVICE
Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the fields of public service. In addition to addressing the concept of public service, it provides students the opportunity to explore the various public service options. These include elected and appointed positions, volunteerism, and work in non-profit organizations. An effort will be made to give students an appreciation of the skills and talents required to effectively serve in these capacities. Classes will involve presentations by a variety of public service professionals, field visits and service learning opportunities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 0030 - PUBLIC POLICY PROCESS
Minimum Credits: 3
Maximum Credits: 3
Objective: to stimulate independent, critical and creative thinking about processes of public policy formulation in complex and rapidly changing environments. Course provides an approach to understanding interrelationships between elements of public policy (policy problems, policy alternatives, policy actions, policy outcomes, policy performance) and specific skills necessary to formulate and implement policies (problem identification, forecasting, recommendation, monitoring, and evaluation).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 0040 - PUBLIC SERVICE TECHNOLOGIES

Minimum Credits: 3
Maximum Credits: 3
This course presents an overview of existing and emerging technologies that may be used by public service professionals to accomplish organizational goals or improve efficiency and effectiveness. Through discussions, readings, internet research and hands-on computer exercises, it will emphasize current information technology concepts, issues, and practices in the United States. In addition, it will provide students with a technology skill set utilized in subsequent courses and in the practice of a public service career.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 0050 - ETHICS AND ACCOUNTABILITY

Minimum Credits: 3
Maximum Credits: 3
In the United States, there exists a fundamental agreement between the people and their government about how the social contract should be carried out. This understanding has led to our current contract notions about public service. Ethics and accountability examines the history, politics and execution of public service as it has developed and is currently experienced. Practicing professionals and community leaders will visit the class throughout the term and group work, student-led discussions and case studies will be at the center of the learning environment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 0150 - INTRODUCTION TO GLOBAL STUDIES

Minimum Credits: 3
Maximum Credits: 3
Introduces students to interdisciplinary approaches to "global studies." Draws on case studies of current global issues and trends requiring students to think analytically and critically how we approach, interpret and respond to "global" phenomena and the consequences for different regions, cultures and localities. In this the usefulness and controversy of the concept of globalization as a key analytical tool is assessed. Students learn to engage with core debates on the impact of globalization on culture, economic and social equality, politics and governance, security and sustainable development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1000 - DEMOCRATIC CITIZENSHIP

Minimum Credits: 3
Maximum Credits: 3
In "democratic citizenship" students will examine, philosophically and pragmatically, their membership in various communities. Conceptions of democratic citizenship will be contrasted with one another and with the experience of serving with a community organization. Throughout, students will critically analyze popular assumptions in American democratic life. Students will integrate their understanding of citizenship into their individual action or inaction regarding all spheres of life, from career choices to political decisions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1020 - GLBLZATN: CHALLENG & OPPORTS

Minimum Credits: 3
Maximum Credits: 3
The course is interdisciplinary combining perspectives from areas such as sociology, political science, economics and philosophy to aid in the understanding of the meaning of globalization, its processes and institutional structures. The course provides an awareness that gives participants the opportunity to shape and reshape their knowledge and skills. These skills are indispensable to participants to compete in the increasingly globalized economies that are now dominating economic and social decisions throughout the world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1100 - PRACTICES IN PUBLIC ADMINSTRTN

Minimum Credits: 3
Maximum Credits: 3
Examines practices, issues and concepts in governmental administration. Course deals with such matters as current and best approaches to administration, administration and politics, organizational structure and behavior, and decision making.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1110 - FINANCIAL MGT IN PUBLIC SECTOR

Minimum Credits: 3
Maximum Credits: 3

Participants are provided with an overview of the financial management concepts and practices. Stress is put on the strengths, weaknesses, and critical roles financial management plays in aiding public service managers to better realize their programmatic goals and objectives.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1120 - HUMN RESOURCS MGT PUBLC SECTOR

Minimum Credits: 3
Maximum Credits: 3
This course is an introductory survey of the understandings and skills needed by both managers and employees to cope with the myriad human resources management systems in public sector organizations. Specific topics include the history and evolution of human resources management, the legal environment, human resources planning, position classification and compensation, recruitment, promotion, termination, performance evaluation and training. Integrated with these topics will be the technical and legal concerns of labor relations and equal employment opportunity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1130 - PLANNING IN THE PUBLIC SECTOR

Minimum Credits: 3
Maximum Credits: 3
This course will introduce the profession of urban planning through a review of the historical development of cities. With this framework we will look at the actual work of the planner: data gathering, analysis, policy, public process and politics. We will address the relation between the physical nature of cities and the quality of community that develops. Course underscores the importance of physical and geographic determinants to city growth, and makes the connection between democratic values and city development policy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1200 - PRACTICES OF NON-PROFIT MGMNT

Minimum Credits: 3
Maximum Credits: 3
Introduction to forms of non-profit organizations and their roles in American society. Course evaluates how non-profit organizations define their policy and service roles and examines the context of how they are organized, governed, financed, staffed, and managed. Other topics to be examined are law and philanthropy, voluntarism, strategic planning and marketing, training and developing boards, staff and volunteers, and ethical behavior.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1210 - FINANCIAL MGT NON-PROFIT ORGNS

Minimum Credits: 3
Maximum Credits: 3
Students are provided with an overview of the theories, practices and critical role of financial management in the non-profit sector. Major attention is focused on the tools and techniques that are necessary for the manager to effectively achieve an expanding mission in the face of a difficult and competitive revenue raising environment.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1220 - HUMN RESORC MGT NPRF ORGNS

Minimum Credits: 3
Maximum Credits: 3
This course is an introductory survey of the understandings and skills needed by both managers and employees to cope with the myriad human resources management systems in non-profit organizations. Specific topics include the history and evolution of human resources management, the legal environment, human resources planning, position classification and compensation, recruitment, promotion, termination, performance evaluation and training. Integrated with these topics will be the technical and legal concerns of labor relations, equal employment opportunity and volunteer management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1230 - FUNDRAISNG FOR NON-PROFT ORGNS

Minimum Credits: 3
Maximum Credits: 3
This course is intended to help students become familiar with the major sources of financial resources available to support the program activities of non-profit organizations. It will introduce students to the basic component of grant proposals and other revenue raising techniques i.e. plan giving, general appeals and endowments.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1250 - SCOPE & METHODS GLOBAL STUDIES

Minimum Credits: 3
Maximum Credits: 3
This honors-level seminar prepares students to conduct independent research in global studies by providing a unified view of relevant research methods and exploring epistemological issues and the role of theory in explaining transnational phenomena. Upon completion of this course, students should be prepared to set out honors thesis projects focused on global research questions.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: ARTSC 0150 or PUBSRV 0150

PUBSRV 1300 - LEGAL ISSUES IN PUBLIC SERVICE

Minimum Credits: 3
Maximum Credits: 3
Examines impact of law upon public service and manner in which legal implications condition formulation, adoption, and implementation of programs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PUBSRV 1305 - HEALTH, LAW AND ETHICS

Minimum Credits: 3
Maximum Credits: 3
This course covers the legal and ethical issues in the health care professions. Students acquire an understanding of the balances between governmental authority and responsibility and personal rights and responsibilities in the public health arena. Topics include: basic constitutional principles, conflicts of interest, the nature of organization-practitioner relationship, rights of practitioners, professional and institutional liability, government regulatory methods, and issues concerning informed consent, confidentiality of health information, termination of care, and medical-moral matters.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1310 - DIVERSTY ISSUES PUBLIC SERVICE

Minimum Credits: 3
Maximum Credits: 3
This course analyzes public service from the perspective of minorities and women. The minorities examined are black American men and women, with lesser attention given to ethnic minorities, those over 45 and the handicapped. The experience and aspirations of these several minorities will be examined in terms of how minority culture illuminates the nature of public service.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1315 - MANAGING PROJECTS & CONTRACTS

Minimum Credits: 3
Maximum Credits: 3
This course provides students with the fundamentals of project management by examining key components of the project cycle, such as: problem identification, results-based planning and design strategies, implementation and scheduling strategies, monitoring and performance indicators, impact learning with evaluation studies, and data management and reporting systems. Students will also be introduced to team building concepts, managing project budgets, writing scopes of work, and legal issues in the management of contracts and administration of grants.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PUBSRV 1320 - GIS IN THE PUBLIC SERVICE

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to geographic information systems software. In addition to familiarizing the student with the software, each student will apply that knowledge to a particular public problem selected by the student in consultation with the instructor. As this is a hands-on course, the format is a combination of lecture and lab/computer time.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1325 - FEDERALISM & INTGVRMNTL RLTNS

Minimum Credits: 3
Maximum Credits: 3
Course concerned with intergovernmental relations between federal, state and local governments. Topics include: how federalism evolved from the establishment of the constitution to present; federal government's involvement in domestic affairs and how federal programs are implemented; selected current issues in IGR including fiscal federalism, federal mandates and court decisions affecting state-federal relations. Special focus is relationships among local government in metropolitan areas. Regional service delivery and governance issues studied comparing the Pittsburgh area to other areas appropriate.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1335 - ADMINISTRATIVE BEHAVIOR

Minimum Credits: 3
Maximum Credits: 3
Explore extra-personal issues such as perception, personality, and needs. At a group level, course covers processes of group dynamics such as communication, conflict, competition, cooperation, leadership, and team building.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1340 - STRATEGIC PLNNG PUBLIC SECTOR

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to strategic planning and its application to the management of public organizations. As an introductory undergraduate course, students will be expected to gain a broad understanding of strategic planning and how it can be applied to mid and long term management of public organizations. Students will be introduced to the terminology used in strategic planning, several types of planning models, their steps and organization, and the importance of mission, vision, and values in strategic planning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1350 - PUBLC & NON-PROFT PERF ACCNTNG

Minimum Credits: 3
Maximum Credits: 3
Emphasis is put on accounting as a strategic means of the public service management control process. Public, nonprofit and private accounting systems are comparatively examined, showing how they can be used to aid and enhance the maximum achievement of goals and objectives. Stress is put on performance reporting and accounting data for management of public service control decisions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PUBSRV 1360 - ADMINISTRATION OF INT'L ORGNS

Minimum Credits: 3
Maximum Credits: 3
This course examines the role that international organizations play in the new global environment. Particular attention is given to the origin, practices and problems associated with managing international agencies. It also examines the role these agencies play in such problem areas as international development, peace keeping, maintenance of human environment, and preservation of natural resources.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1365 - COMPARATV & DEVELOPMENT ADMIN

Minimum Credits: 3
Maximum Credits: 3
This course aims to provide students with analytical tools for understanding the nature of the administrative system in comparative perspective, i.e. for explaining the characteristics of public administration and the societal role that it plays in different countries and, within single countries, or different administrative structures and behaviors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1370 - COMPARATV FOREIGN POLCY MAKING

Minimum Credits: 3
Maximum Credits: 3

This course aims to introduce students to the political/ military relationship between the United States (US) and the European Union (EU). The course will focus on how foreign and security policies are made in the US and EU. Emphasis will be on actors, decision-making processes, values underpinning the relationship, outputs and how these factors affect the prospect of cooperation or conflict between the us and the EU.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1380 - GLOBAL CITIZENSHIP

Minimum Credits: 3
Maximum Credits: 3
Students will examine the historical development and contemporary manifestations of global citizenship, as well as associated ethical and practical difficulties, while living and serving in a distant community. They will critically assess theoretical conceptualizations within the context of their experiences. Students will be encouraged to develop frameworks - whether through global civil society, consumer decisions, political decisions within the state, or something else -through which they are able to exercise global citizenship.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PUBSRV 1390 - THEORIES OF LEADERSHIP

Minimum Credits: 3
Maximum Credits: 3
This course is designed to acquaint students with multiple theories and practices associated with effective leadership. In answering the question, "what is leadership", it examines such theories as situational, participative, transformational, and servant leadership. It also addresses those leadership and administrative skills and practices usually associated with effective community organization and professional management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1400 - ORGANZNG COMMUNTY CTRLD DEVELP

Minimum Credits: 3
Maximum Credits: 3
This course seeks to deepen and expand student's knowledge and understanding of community-based organizing and local economic development and how they can be combined through community-building strategies shaped by participative organizing and advocacy. Students will receive grounding in the factors underlying community distress: social, political and economic, and may be offered a comprehensive "depth" model and critical analysis framework for community controlled renewal that focuses on social strength, political vitality, and economic equity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1410 - HOUSING & COMMUNTY DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
This course examines social and economic issues relating to housing and community development. Particular attention is given to the relationship between home ownership and sustainable development. This includes exploring the rules and practices affecting credit worthiness, community reinvestment, redlining, public and private sector partnerships and other public policy initiatives.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1415 - ENVIRONMNTAL POLCY & MGMNT

Minimum Credits: 3
Maximum Credits: 3
This course is an interdisciplinary examination of environmental policy and management practices. It focuses on various economic, political, social, scientific and technical applications that are used to address environmental issues facing present day society. Attention would be given to the critical balance between regulating industrial production, economic growth and preserving natural resources.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1420 - URBAN AND REGIONAL GOVERNANCE

Minimum Credits: 3
Maximum Credits: 3
This course examines the management service delivery mechanisms for effective governance of metropolitan areas. The focus is on recent innovations that facilitate multi-jurisdictional activities. This includes regional assets districts, metropolitan governments, regional councils of government and special districts.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1425 - PRINCIPLES HOMELAND SECURITY

Minimum Credits: 3
Maximum Credits: 3
This course examines the new problems facing our domestic public service and justice personnel -- the borderless world of globalization and technology. Attention is paid to problems of terrorism, incident management systems, violence incident response procedures, planning for violence, changing federal, state, and local roles and response planning, weapons of mass effects, mass casualty programs, crime scene operations, technology and emergency responses, the evolving role of the intelligence community, and government, private, and non-government security issues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1430 - TRIAL ADVOCACY 1

Minimum Credits: 3
Maximum Credits: 3
This course examines the mechanics of American civil and criminal litigation in both nonjury and jury trials. Topics include basic case analysis, effective advocacy skills, appropriate professional conduct, trial preparation, direct and cross examination of lay witnesses, and an introduction to the legal concepts of relevance and hearsay within the context of the federal rules of evidence. Students will participate in intensive class discussions and in-class presentations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PUBSRV 1435 - TRIAL ADVOCACY 2

Minimum Credits: 3
Maximum Credits: 3
This course further examines more advanced topics relating to the mechanics of American civil and criminal litigation in both nonjury and jury trials. Topics include the authentication and use of evidentiary exhibits such as documents, real evidence and demonstratives, the direct and cross examination of expert witnesses, character evidence, opening statements, and closing arguments. Students will participate in intensive class discussions and in-class presentations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

PUBSRV 1450 - PROGRAM EVALUATION

Minimum Credits: 3
Maximum Credits: 3
This course gives students skills and experience in two areas: 1) developing their own evaluation design, and 2) interpreting the results of existing evaluations. Attention is given to both quantitative and qualitative evaluation designs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1455 - LAW ETHCS PBLC POLC MASS MEDIA

Minimum Credits: 3
Maximum Credits: 3
This course examines a variety of public policy issues as those issues are impacted by the role and significance of the news and entertainment media. It explores mass media law and policy, with particular attention to regulatory practices.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

PUBSRV 1900 - INTERNSHIP SEMINAR

Minimum Credits: 3
Maximum Credits: 3
A supervised placement with a government or non-profit agency, or private sector organization undertaking public services. Students will meet several times during the semester with other students to review and discuss their public service experiences.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

PUBSRV 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6

Allow advanced student to pursue topics and research of special interest, which are not otherwise available. Course requires construction of plan of study or research on topic selected and approval of instructor who will supervise work.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

PUBSRV 1910 - INSTIT OF POLITICS INTSHP/SEM
Minimum Credits: 4
Maximum Credits: 4
While students are obtaining first-hand internship experience working with an official directly involved in policy making for the Pittsburgh region, they will learn in this seminar to analyze the policy-making process as an example of social problem-solving. They will learn the issues confronting the region; they will study the policy-making process; finally they will analyze the method of participant observation.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

PUBSRV 1915 - SERVICE-LEARNING FACILITATION
Minimum Credits: 3
Maximum Credits: 3
This course is open only to service-learning facilitators in selected service-learning courses. Students receive training in service learning theory and practice. Academic integration, intercultural immersion and exchange, reflection, global citizenship and service through community partnership are central topics. Practical knowledge of health, safety, managing interpersonal relationships, and monetary concerns relating to service learning courses will also be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Quant Mthds/Operations Mgt

BUSQOM 0050 - QUANTITATIVE METHODS
Minimum Credits: 3
Maximum Credits: 3
Provides the foundations for two basic business disciplines; optimization and simulation. Various modeling concepts which have origins and have found wide applications in functional areas such as finance, marketing and operations will be studied in depth. The topics studied are linear programming; models of go/no go" decisions and location decisions; "what if" analysis; decision analysis and multiple criteria decision making models; queuing models and statistical foundations to simulate business systems-input/output analysis."
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: STAT 1000 or 1040 or 1100 or 1131 or MGMT 0024 or ECON 0204; LVL: So, Jr, Sr; PROG: College of Business Admin

BUSQOM 1070 - OPERATIONS MANAGEMENT
Minimum Credits: 3
Maximum Credits: 3
Provides foundations for managing operations technology manufacturing & service & discussion of operations management of conversion process. Field is centered on the fundamental problems of managers taking raw materials & transforming them efficiently/effectively into products resulting in satisfied customers. Topics: bottleneck & capacity analysis, capacity expansion; decoupling workstations-buffers versus internal & external variability; economies of scale in materials distribution; reorder point computations; distribution & logistics; & scheduling res; GT, JIT, CIM & FMS.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSQOM 0050; LVL: So, Jr, Sr; PROG: College of Business Admin

BUSQOM 1715 - OPERATIONS MGMNT INDP STUDY
Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of operations management issues or problems to which they have been introduced in other operations management courses. The course involves directed reading and research under the guidance of a full-time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

BUSQOM 1720 - OPERATIONS MGMT INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
The operations management internship provides business credits for project assignments that augment a professional operations management work experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

BUSQOM 1725 - SUPPLY NETWRK MFG CULT LAT AM

Minimum Credits: 3
Maximum Credits: 3
The course provides students with the fundamentals of international supply chain methods with a special focus on Latin America and Uruguay. It will feature a 2-week study visit to Uruguay where students can place their understanding of those concepts within a cultural context. The course involves significant teamwork and allows students to complete an in-depth analysis of the global supply networks and manufacturing culture in Latin America with Uruguay as a reference point.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade
Course Requirements: Restricted for College of Business Administration

BUSQOM 1735 - ENGR & BUS COLLBRTN IN INDIA

Minimum Credits: 3
Maximum Credits: 3
The course focuses on the study of modern engineering and business principles, methods, and tools, within the context of the Indian environment. The three areas of study are: manufacturing systems, service engineering operations, and call centers. Site visits showcase challenges and opportunities available at the corporate and individual levels in this rapidly growing economy. Societal impacts of new technologies and rapid expansion of engineering industries in India are noted. Students may utilize this forum to analyze and visualize service meeting challenges and opportunities around the world.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

BUSQOM 1735IS - ENGR & BUS COLLBRTN INDIA - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

BUSQOM 1735OS - ENGR & BUS COLLBRTN INDIA - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

BUSQOM 1765 - PROJECTS IN GLBL SUPPLY CHAINS

Minimum Credits: 3
Maximum Credits: 3
This project course is an opportunity for students to apply their management skills and develop their understanding of the challenges of supply/value chain management. In this course a select group of students will work closely with a faculty member to create a specific deliverable that meets the needs of a client organization. This course allows students to engage in experiential learning through a project course that specializes in a topic that may touch one or several of these areas: supply chain management, value chain management, supplier diversity and/or global sourcing.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade
Course Requirements: PREQ: BUSQOM 1730; PLAN: Global Management (GLMGT-BSBA) or Supply Chain Mgt (SCMCBA-CR1)

BUSQOM 1790 - SUPPLY CHAIN MGT INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
The supply chain management internship provides business credits for project assignments that augment a professional supply chain management work experience.
Academic Career: UGRD

Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: Restricted for College of Business Administration

BUSQOM 1795 - SUPPLY CHAIN MGT INDP STUDY
Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of supply chain management issues or problems to which they have been introduced in other supply chain management courses. The course involves directed reading and research under the guidance of a full-time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

Rehabilitation Science

PHYS 0091 - CONCEPTUAL PHYSICS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC
Course Requirements: PREQ: MATH 0020 or MATH 0031 or greater (Min Grade 'C' or Math Placement Score 61 or greater

REHSCI 1000 - INTRODUCTION TO RESEARCH
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (STAT 0200 or STAT 1000 or 1020 or 1131) or (PSY 0201 or 0270); MIN GRADE: 'C-' for listed courses; PLAN: Rehabilitation Science (BS, BSH, BPH)

REHSCI 1018 - SURVY HLTH & REHAB PROFESSIONS
Minimum Credits: 3
Maximum Credits: 3
Course will employ an interdisciplinary faculty team to introduce students to health science professions in physician assistant studies, physical therapy, athletic training, occupational therapy, speech language pathology and audiology, rehabilitation counseling, health information management, rehabilitation technology, emergency medicine, and prosthetics and orthotics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

REHSCI 1200 - HUMAN ANATOMY
Minimum Credits: 4
Maximum Credits: 4
Course will focus on gross human anatomy with particular reference to the musculoskeletal system. The course will be primarily lecture-based with some laboratory experience using the anatomy museum. Problem-based formats will be introduced with particular reference to those problems seen in rehabilitation settings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: [(BIOSC 0150 or 0170 or BIOSC 0716) or (BIOL 0110)] and [(BIOSC 0050 or 0070 or BIOSC 0715) or (BIOENG 1070) or (BIOL 0101 or 0111)] or BIOSC 0190; MIN GRADE: 'C-' for listed courses; PLAN: Rehabilitation Science (BS, BSH, BPH))

REHSCI 1205 - HUMAN PHYSIOLOGY
Minimum Credits: 4
Maximum Credits: 4
Basic human physiology course covering general physiological processes, cardiovascular system, blood and lymph, body fluids and renal function, respiration, gastrointestinal system, metabolism, and endocrine system. Problem-based formats will be introduced with particular reference to those problems seen in rehabilitation settings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: [(BIOSC 0150 or 0170 or BIOSC 0716) or (BIOL 0110)] and [(BIOSC 0050 or 0070 or BIOSC 0715) or (BIOENG 1070) or (BIOL 0101 or 0111)] or BIOSC 0190; MIN GRADE: 'C-' for listed courses; PLAN: Rehabilitation Science (BS, BSH, BPH))

REHSCI 1210 - NEUROSCIENCE
Minimum Credits: 4
Maximum Credits: 4
This course studies the basic structure and function of the central and peripheral nervous system. There is an emphasis on the effects of lesions of the nervous system on human function and disability.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (REHSCI 1200 and REHSCI 1205) or (BIOSC 1250 or BIOSC 1070) or (NROSCI 1250) or (NUR 0013 and NUR 0003); MIN GRADE: 'C-' for listed courses; PLAN: Rehabilitation Science (BS; BS-H; BPH)

REHSCI 1215 - EXERCISE PHYSIOLOGY
Minimum Credits: 3
Maximum Credits: 3
Course will focus on the effects of exercise in preventing and treating disability, in optimizing the rehabilitation process, and in maintaining the health of those with dis abilities, effects of exercise on the various body systems, including the cardiovascular, neuromuscular, and musculoskeletal in individuals with disabilities will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: (REHSCI 1205) or (BIOSC 1250 or BIOSC 1070) or (NROSCI 1250) or (NUR 0013 and NUR 0003); MIN GRADE: 'C-' for listed courses; PLAN: Rehabilitation Science (BS; BS-H; BPH)

REHSCI 1217 - ADV HLTH ASMNTS EXRCS PRESCRP
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: REHSCI 1215 (MIN GRADE "C-"); PLAN: Rehabilitation Science (BS, BPH, BS-H)

REHSCI 1218 - EMERGING BIOMEDICAL TECHN
Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to provide the students with an understanding of stem cell biology, tissue engineering, and related applications involved in rehabilitation sciences and regenerative medicine. The course material is designed to aid students considering a future as researchers in biomedical sciences laboratories or biotechnology research and development. It will provide digests of the latest research technologies and clinical applications in these fields. Students will be encouraged to synthesize concepts aimed to test solutions and therapies to improve human health by use of modern biomedical technologies. The lecture and discussion format gives students a broad background and the opportunity to apply critical thinking skills to recent published findings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

REHSCI 1220 - KINESIOLOGY AND BIOMECHANICS
Minimum Credits: 3
Maximum Credits: 3
Course will cover the functional anatomy and biomechanics of the major joints of the human body and the application of mechanics to describe and analyze normal and pathological human movement. Applications to musculoskeletal and neuro muscular disabilities will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: REHSCI 1200 and (PHYS 0101 or PHYS 0110 or 0140 or 0150 or PHYS 0174); MIN GRADE "C-" for all listed courses

REHSCI 1225 - INTRO TO REHABLTTN SCIENCE
Minimum Credits: 1
Maximum Credits: 1
This course will focus on models of disablement beginning with NAGI and moving through those of the world health organization and the institute of medicine. Faculty from SHRS will discuss their research in the context of enabling and disablement models, focusing on physical and psychosocial factors and their influence on disability.
Academic Career: UGRD
Course Component: Lecture
Grade Component: H/S/U Basis
Course Requirements: PLAN: Rehabilitation Science (BS, BSH, BPH)

REHSCI 1230 - REHABILITATION ETHICS

Minimum Credits: 2
Maximum Credits: 2
This course explores ethical issues of: human value development, decision making, basic principles of health care, the nature of rights, confidentiality and management of health care information, professional gate keeping as a function of role fidelity, autonomy and paternalism, justice and the allocation of scarce resources, withholding and withdrawing life support, euthanasia, abortion, aids and health care practice, genetic science, and trans-cultural health. Students will work in teams to create presentations from these various topics for their colleagues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Rehabilitation Science (BS, BSH, BPH)

REHSCI 1235 - MEDICAL TERMINOLOGY

Minimum Credits: 1
Maximum Credits: 1
Basic terms used in the medical and rehabilitation professions will be studied.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

REHSCI 1240 - ISSUES IN HEALTH CARE

Minimum Credits: 3
Maximum Credits: 3
An overview of health care systems in the US, focusing on service delivery, private and public financing, policy formulating, and organizational structures. Special attention will be given to health disparities and health care issues for vulnerable populations. Class participation and assignments will focus on application of principles discussed to current and emerging issues.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Rehabilitation Science (BS, BSH, BPH)

REHSCI 1245 - HUMAN DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
Follows the developing individuals from conception until the end of life. The course combines theory, research, and practical applications from developmental psychology. Lecture topics include genetic influences on development; prenatal and birth factors; physical, cognitive, social, personality, and cultural variables that influence development across the life-span.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: PSY 0010 or 0101 or 0200; MIN GRADE "C-" for all listed courses

REHSCI 1250 - PATHOPHYSIOLOGY/HUMAN DISEASE

Minimum Credits: 4
Maximum Credits: 4
Course will focus on the primary diseases and disease processes in the US that lead to impairment, disability, and handicap infection control and safety issues for the professional and client will be discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: REHSCI 1205 or (BIOSC 1250 or BIOSC 1070) or NROSCI 1250 or (NUR 0013 or NUR 0003); MIN GRADE "C-" for all listed courses; PLAN: Rehabilitation Science (BS or BS-H or BPH)

REHSCI 1255 - EPIDEMIOLOGY OF DISABILITY

Minimum Credits: 3
Maximum Credits: 3
Course focuses on the incidence and prevalence of impairments and disabilities in relation to age, gender, ethnic background, marital status, and living situation. Discussion will focus on the differences in these factors due to geographic variability (country where you live) as well as risk factors for diseases leading to various disabilities and any interventions that would modify them.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: [(STAT 0200 or STAT 1000 or 1020 or 1131) or (PSY 0201 or 0270)]; MIN GRADE "C-" for all listed courses; PLAN: Rehabilitation Science (BS or BS-H or BPH)

REHSCI 1265 - PHARMACOLOGY IN REHABILITATION

Minimum Credits: 3
Maximum Credits: 3
Course serves as a foundation to general pharmacology, focusing on categories of medications and their interaction with body systems. At the completion of this course, student will be able to integrate pathophysiological principles of pharmacology and patient assessment findings to formulate an impression and implement a pharmacologic management plan. Fervent anatomy and pathophysiology emphasis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: REHSCI 1205 or (BIOSC 1250 or BIOSC 1070) or NROSCI 1250 or (NUR 0013 and NUR 0003); MIN GRADE "C-" for all listed courses; PLAN: Rehabilitation Science (BS, BSH, BPH) or Athletic Training (BS, BSH, BPH)

REHSCI 1275 - INTRO TO OCCUPATION SCIENCE

Minimum Credits: 3
Maximum Credits: 3
Course would provide foundation for understanding role of activity and occupational in life-span human development by first considering human behavior in absence of activity/ occupation and in presence of activity/occupation. Consideration of the influence of inactivity and immobility on human systems would include knowledge of disuse syndrome and deleterious effects of living in stimulus deprived environments consideration of human behavior in presence of activity occupation would include role of movement and purposeful activity as determinants of health.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Rehabilitation Science (BS or BS-H or BPH)

REHSCI 1280 - PSYCH AND SOCLGY OF DISABILITY

Minimum Credits: 3
Maximum Credits: 3
This course examines how society perceives and treats individuals with disabilities, as well as the effects of a disability on the individual's self-image and integration into society. The course discusses how society can better accommodate people with disabilities and advance their participation in all sectors of the community.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Rehabilitation Science (BS, BSH, BPH)

REHSCI 1285 - INTRO TO EVIDENCED-BASED REHAB

Minimum Credits: 3
Maximum Credits: 3
Provides basic skills in reading, reviewing, and critiquing the research literature in the rehab sciences. These skills will be applied to the relevant literature in diagnosis, prognosis and intervention strategies within the spectrum of rehab science. Students learn to generate relevant research questions, utilize an evidenced based medicine approach, appraisal and synthesis of current articles within the fore mentioned areas. Will culminate in an individual review project aimed the development and resolution of one research question, using the best, current available literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Rehabilitation Science (BS or BS-H or BPH); PREQ: REHSCI 1000 or PSY 0035 or SOC 0230

REHSCI 1290 - PRACTICAL ISSUES IN DISABILITY

Minimum Credits: 3
Maximum Credits: 3
This course will review several physical disabilities such as Parkinson's disease, spinal cord injury, cerebral palsy and multiple sclerosis (subject to change). Individuals with disabilities are often invited to participate in classroom discussions to share their first-hand experiences of living with a disability. This course will likely include an observational experience outside the classroom. This may include traveling to someone's home with a disability and/or their place of employment via public or via a student's private mode of transportation. Additional details will be reviewed on the first day of class.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Rehabilitation Science (BS, BPH, BPH)

REHSCI 1292 - DIVERSITY/CULTL HEALTH/REHAB

Minimum Credits: 3
Maximum Credits: 3
This course provides a forum for exploring issues of diversity and multiculturalism as they affect both daily interactions and professional practice in health care and rehabilitation. In this course students will build a greater understanding of: personal culture; how factors of culture and diversity influence an individual's health, living needs, and response to stress; international concepts of disability and health & rehabilitation services; and

globalization and its relationship to rehabilitation. In addition, students will learn how to apply concepts of cross-cultural competence and intercultural communication to clinical services and program development.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Rehabilitation Science (BS, BSH, BPH)

REHSCI 1293 - INTER-DISCIPLINARY SERVC LRNG

Minimum Credits: 3
Maximum Credits: 3
This course provides a forum for exploring the practice and effect of providing inter-disciplinary health care in rehabilitation settings.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PLAN: Rehabilitation Science (BS or BS-H or BPH)

REHSCI 1294 - CROSS-CULTURAL SERVICE LEARNG

Minimum Credits: 3
Maximum Credits: 3
Through community service, in-class lecture, readings, student presentations, journaling and other assignments, this course provides a forum for exploring issues of multiculturalism and diversity as they affect both daily interactions and professional practice in health care. In this course students will build a greater understanding of: personal culture; and how factors of culture and diversity influence an individual's health, living needs, and response to stress. In addition, students will practice applying concepts of cross-cultural competence and intercultural communication to interpersonal interactions in local minority and immigrant communities.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

REHSCI 1295 - FIELD EXPERIENCE

Minimum Credits: 1
Maximum Credits: 3
Designed to provide an opportunity to work with individuals with disabilities or other health care needs and with agencies and facilities that work with them. Students will identify an area of interest and choose an SHRS contracted field placement site. Students will work with academic ad visor to make arrangements with facility and faculty advisor to develop a set of objectives for experience. Student will participate 45 hours per credit hours sought.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis

REHSCI 1296 - ATR FIELD EXPERIENCE

Minimum Credits: 1
Maximum Credits: 3
Designed to fulfill the assistive technology in rehabilitation certificate field experience requirement. This course provides an opportunity to interact with assistive technologies, persons who use assistive technologies and with assistive technology researchers and providers.
Academic Career: UGRD
Course Component: Clinical
Grade Component: H/S/U Basis
Course Requirements: PLAN: Assistive Technology in Rehab (ATR-CR2)

REHSCI 1297 - CROSS-CULTURAL INDP STUDY

Minimum Credits: 1
Maximum Credits: 3
Designed to provide an opportunity to fulfill the RS program global citizenship requirement through extensive cross-cultural immersion and independent study. Students will draw from previous cross-cultural experiences or will work with their independent study faculty advisor to identify an appropriate community service agency with which to volunteer. Additional academic work will help student identify the characteristics of their own culture and learn about the culture of the community in which they are working, as well as the issues affecting its members' health including understanding and treatment of disabilities. Academic credits will be assigned according to number of hours spent in the community and academic work completed.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis
Course Requirements: PLAN: Rehabilitation Science (BS or BS-H or BPH)

REHSCI 1299 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6

Provides advanced students an opportunity to explore in depth and area of particular interest to them. It is the student's responsibility to find a faculty member willing to undertake such a tutorial.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SU3 Elective Basis

Religious Studies

RELGST 0025 - MAJOR BIBLICAL THEMES
Minimum Credits: 3
Maximum Credits: 3
An examination of the Jewish and Christian experience of God and the coherent use of major themes throughout the Jewish and Christian Bibles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0045 - HEBREW BIBLE
Minimum Credits: 3
Maximum Credits: 3
An introduction to the religion of Israel through an examination of Hebrew scriptures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0067 - FAMILY AND THE BIBLE
Minimum Credits: 3
Maximum Credits: 3
An examination of kingship, prophecy, cultic sacrifices and community as they were understood by the ancient Israelites.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0083 - MYTHOLOGY IN THE ANCIENT WORLD
Minimum Credits: 3
Maximum Credits: 3
This course examines in cultural context the traditional stories--myth, legend, and folktale--of the ancient Greeks and Romans. Theories drawn from various disciplines are critically evaluated. Attention to connections with ritual practice and to expression in daily life, art, architecture, etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0084 - MYTH IN ANCNT WORLD/WRIT PRAC
Minimum Credits: 1
Maximum Credits: 1
Writing practicum for students taking RELGST 0083 as a writing course.
Academic Career: UGRD
Course Component: Credit Laboratory
Grade Component: LG/SNC Elective Basis

RELGST 0090 - MYTH IN THE ANCIENT NEAR EAST
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0105 - RELIGIONS OF THE WEST
Minimum Credits: 3
Maximum Credits: 3
Introduces students to the history, rituals and principal tenets of Judaism, Christianity and Islam.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0115 - BIBLE AS LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This introductory course acquaints students with what is in the bible and provides background information drawn from various disciplines about the elements and issues that give it its distinctive character. Attention is necessarily given to its religious perspectives, since they govern the nature and point of view of the biblical narratives, but no specific religious view is urged.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

RELGST 0135 - CHRISTIAN BIBLE

Minimum Credits: 3
Maximum Credits: 3
An introduction to the text of the Christian bible.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0175 - CHRISTIANITY

Minimum Credits: 3
Maximum Credits: 3
Historical survey of Western Christianity, its beliefs, practices, and forms of social organization, from the first century to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0205 - INTRODUCTION TO JUDAISM

Minimum Credits: 3
Maximum Credits: 3
Major themes of the Jewish tradition from biblical to modern times are explored.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0215 - ETHICS IN THE JEWISH TRADITION

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to Jewish texts drawn from the classical through the contemporary period on a variety of issues ranging from abortion and business practices to suicide and war.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0225 - TOPICS: MEDIEVAL JEWISH HISTRY

Minimum Credits: 3
Maximum Credits: 3
Jewish experiences in the Christian West and the Muslim East are reviewed and compared.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0255 - MODERN JUDAISM

Minimum Credits: 3
Maximum Credits: 3
The growth and development of Jewish religious movements after the enlightenment are assessed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0265 - MODERN JEWISH THINKERS

Minimum Credits: 3
Maximum Credits: 3
We examine the work of significant Jewish thinkers and writers in the 19th and 20th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0283 - US AND THE HOLOCAUST
Minimum Credits: 3
Maximum Credits: 3
With increasing interest in the Holocaust in Europe, this course focuses on the American side of the Atlantic - on issues of anti-Semitism and anti-immigrant sentiment in this country and on America's response to the holocaust. We will also look at some post-Holocaust issues as well.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0305 - CLASSICS OF CHRISTIAN THOUGHT
Minimum Credits: 3
Maximum Credits: 3
An introduction to some of the major Christian thinkers and their principal themes in the medieval and modern period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0315 - ETHICS: CHRISTIAN TRADITION
Minimum Credits: 3
Maximum Credits: 3
An historical and analytical examination of ethical ideas in Western Christianity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0405 - RELIGION IN EARLY AMERICA
Minimum Credits: 3
Maximum Credits: 3
A survey of American religious history from the colonial period through the Civil War.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0415 - RELIGION IN MODERN AMERICA
Minimum Credits: 3
Maximum Credits: 3
An examination of the major developments in American religion from the Civil War to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0417 - THE BLACK CHURCH
Minimum Credits: 3
Maximum Credits: 3
An introduction to the course and historical development of the black church in America, its contribution to the social and religious progress of black people, black leadership, and struggles including the civil rights movement, black theology and other social movements.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0425 - POPULAR RELIGION IN AMERICA
Minimum Credits: 3
Maximum Credits: 3
A survey of religious behavior and religious beliefs in the United States outside of the formal institutional structures of religion.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0435 - RELIGION, FILM AND LITERATURE
Minimum Credits: 3
Maximum Credits: 3
Alexis de Tocqueville famously called the United States "a nation with the soul of a church." Ironically, his observation refers to a nation whose constitution forbids the establishment of any official religious identity (while simultaneously allowing for "free," voluntary, religious "exercise"). The result--a vibrant spiritual marketplace characterized both by diversity and innovation and a clinging to traditional identities--has marked American culture and the broader stories it tells about itself. In this course we'll read closely in "secular" literary texts (including novels , graphic novels, short

stories, poetry, drama, film, and music) with some attention to short, relevant readings in religious thought, practice, and history, aiming for two related objectives: 1) to observe the overt ways religions appear in and contribute to these texts--symbolically, rhetorically, schematically, etc.--and 2) to consider how presumably "secular" literature functions religiously, giving form and coherence to the ambiguities of American experiences, identities, and crises that remain in flux, constantly under revision. Readings will include both "classic" and more contemporary works by Gwendolyn Brooks, Willa Cather, Mark Twain, Flannery O'Connor, William Styron, Oscar Hijuelos, Art Speigelman, August Wilson, James McBride, the Cohen Brothers, and/or others.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0455 - INTRO TO ISLAMIC CIVILIZATION
Minimum Credits: 3
Maximum Credits: 3
A survey of the significance of Islam in world history; its role as a world religion; and its contributions to science, literature and philosophy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0505 - RELIGION IN ASIA
Minimum Credits: 3
Maximum Credits: 3
An overview of the nature and role of religion in India, China, and Japan set against societal and cultural developments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0515 - RELIGION & CIVLZ IN SOUTH ASIA
Minimum Credits: 3
Maximum Credits: 3
An examination of the major religions of South Asia; Buddhism, Hinduism, Jainism and Islam and their influence in the region.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0517 - HINDU ART
Minimum Credits: 3
Maximum Credits: 3
Hindu beliefs, myths and philosophical ideas are studied in relation to their influence on the architecture, sculpture and paintings of South Asia.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0525 - RELIGION & CULTUR IN EAST ASIA
Minimum Credits: 3
Maximum Credits: 3
Primary focus is on the history of religion in Japan and China and its contributions to the shaping of those societies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0535 - SOUTHEAST ASIAN SOCIETIES
Minimum Credits: 3
Maximum Credits: 3
This course invites students to acquaint themselves with a foreign culture area -- Southeast Asia -- by reading and discussing prose fiction mostly created about their societies by Southeast Asian authors. Through literature, the course intends to provide an introduction to the comparative study of contemporary Southeast Asian societies, examining major issues of social change and tradition in the concrete context of one of the most diverse and explosive regions of the world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0601 - VARIETIES OF RELIG TRADITION
Minimum Credits: 3
Maximum Credits: 3
A survey of the diverse forms of religious experience and expression in both European and Asian contexts.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0625 - DEATH, DYING AND IMMORTALITY

Minimum Credits: 3
Maximum Credits: 3
An examination of the ways in which humanity has dealt with the reality of death.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0705 - APPROACHES-STUDY OF RELIGION

Minimum Credits: 3
Maximum Credits: 3
An examination of recent religious theories and their role in providing an understanding of the psychological, social, cultural and ecological processes in our lives.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0710 - SOCIOLOGY OF RELIGION

Minimum Credits: 3
Maximum Credits: 3
This course will compare and contrast major classical and modern sociological theories of religion, including discussion of the renewed focus on religion in mainstream, general theory. Attention will be narrowed to a focus on the relation between religions, states and individuals in comparative and historical perspective.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0715 - PHILOSOPHY OF RELIGION

Minimum Credits: 3
Maximum Credits: 3
An examination of the arguments for and against the existence of God.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0716 - PHILOSOPHY OF RELIGION

Minimum Credits: 3
Maximum Credits: 3
A critical examination of the rationality of faith in the existence of god. Traditional arguments both for and against the existence of god are considered, along with pragmatic justifications of faith based upon its beneficial consequences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 0717 - PHILOSOPHY RELIGION-WRIT PRAC

Minimum Credits: 4
Maximum Credits: 4
This practicum is the special writing recitation for the lecture course "philosophy of religion".
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

RELGST 0735 - WISDOM

Minimum Credits: 3
Maximum Credits: 3
We read and examine authors who address such basic questions as what can I know? What can I do? What can I hope for?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1010 - HISTORY AND IMMAGINATION

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1100 - ISRAEL IN THE BIBLICAL AGE

Minimum Credits: 3
Maximum Credits: 3
We deal with the origins of biblical thought and the emergence of monotheism and the monarchy in the patriarchal age within the context of the ancient near east.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1110 - SPECIAL TOPICS-ANCIENT

Minimum Credits: 3
Maximum Credits: 3
Special topics in ancient art.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1112 - BIBLE AS LITERATURE 2

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

RELGST 1120 - ORIGINS OF CHRISTIANITY

Minimum Credits: 3
Maximum Credits: 3
An historical investigation of Christian origins against the backdrop of both the Greco-Roman and Jewish worlds.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1130 - VARIETIES OF EARLY CHRISTNITY

Minimum Credits: 3
Maximum Credits: 3
This course will examine the many different and often competing forms of Christianity that existed during the first five centuries of our common era. We will include an historical survey of Mediterranean culture and society in the historical Roman Empire to help us understand the ways in which Christianity developed in relation to the philosophical, sociological, theological, and political environment of this period. We will also focus on the contribution of the early varieties of Christianity to modern Western views of the relationship between the individual body and society. The literature of this period represents a broad variety of beliefs and practices ranging from philosophical views of god and matter (and the nature of each), to notions of life-long celibacy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1132 - PAUL

Minimum Credits: 3
Maximum Credits: 3
An historical and analytical examination of the writings of Paul and his influence on Western thought. Special attention will be given to the manner in which Paul has been read by modern thinkers and the influence that he has had on their work.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1135 - ORTHODOX CHRISTIANITY

Minimum Credits: 3
Maximum Credits: 3
To provide an insight into the history, doctrines and rituals of the orthodox Christian tradition in Eastern Europe from the byzantine through contemporary period. Orthodox rituals will also be reviewed and studied.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1140 - DUALISM IN THE ANCIENT WORLD

Minimum Credits: 3
Maximum Credits: 3
An examination of the development of dualism in ancient Western religions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1142 - CONSTRUCTION OF EVIL

Minimum Credits: 3
Maximum Credits: 3
Why is there evil in the world and who or what is responsible for it? How can we reconcile a belief in a good god, with the existence of evil? Even without the theological underpinning, in secular terms, evil poses a problem about the world's intelligibility. The first half of this course undertakes a historical analysis of the evolution of the concept of "evil" in the West, the character of "the devil," and his role as an instrument of power over the social order. "Good" and "evil" do not exist beyond the social context in which they are constructed and we will discover the relationship between these two polarities and evolving concepts of social justice, both here and beyond (heaven and hell). The second half of the course will critically examine the process of "the personification of evil" in "the other" (women, non-Christians, Christian minorities [heretics], racial and ethnic minorities, the underprivileged, gay and lesbian individuals, and the differently-abled).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1143 - DEATH IN THE NAME OF GOD

Minimum Credits: 3
Maximum Credits: 3
The roman empire understood Christianity to be an illegal and superstitious movement, and a threat to the traditions of their ancestors. Subsequently, many Christians were charged with the crime of "atheism," and put to death, as atheism was equivalent to treason. Who were these people who voluntarily embraced their own deaths as a vindication of their faith, and how did Rome justify their extinction? How were they understood by their pagan and Jewish neighbors? This course explores the cultural, political and religious context of Christian martyrs, beginning in second temple Judaism. We then analyze their stories (metrologies), imperial transcripts and legislation, and examine the later (Christian) imperial legislation against "heretics." This background helps motivate discussions of contemporary "martyrs," such as "suicide bombers," the political ramifications of such behavior, who gets to decide if someone is a martyr, and reactions to the public spectacle of dying as the ultimate religious act.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1144 - CLASSICAL MYTHOLOGY & LIT

Minimum Credits: 3
Maximum Credits: 3
This course examines how authors of classical antiquity used the traditional figures and stories of their culture's mythology as material for works of literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1145 - GRECO-ROMAN RELIGIONS

Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to religious texts and traditions in a formative era of Western civilization and culture. Our focus will be on the variety of religious expression in Greco-Roman culture, which flourished in the geo graphical area of the Mediterranean basin during the first five centuries of the common era. We consider debates about nature of the gods and access to them (through oracles, rituals, and magic), the emergence of the idea of the holy person, and a variety of religious traditions as expressed in prayer, ritual, and art, and religion and politics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1148 - RELIGIONS OF ANCIENT EGYPT

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1150 - BODY & SOCIETY LATE ANTIQUITY
Minimum Credits: 3
Maximum Credits: 3
An investigation of the Christian view of the body as the focus of both sin and salvation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1151 - DEATH IN MEDITERRANEAN WORLD
Minimum Credits: 3
Maximum Credits: 3
In many cultures, people sometimes ask fundamental questions about their existence, including, "what happens after we die?" This course will focus on the evolution of beliefs and rituals related to death and the afterlife in and around the ancient Mediterranean basin, including Egyptian, Greek, Etruscan, and Roman cultures. Using an interdisciplinary approach, we will combine methodologies from anthropology, classics, history, and religious studies. Topics to be covered include myths of the afterlife, books of the dead, magic and death rituals, funeral practices and paraphernalia (disposal of the dead), cults of the dead, divinization, heaven and hell, judgment, and the impact of christianization on the ancient understanding of death.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1160 - JERUSALEM: HISTORY AND IMAGN
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1210 - JEWS & JUDAISM IN ANCNT WORLD
Minimum Credits: 3
Maximum Credits: 3
Judaism in the Hellenistic/Roman period is examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1214 - RABBINIC TEXTS AND TRADITIONS
Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to the various genres of rabbinic literature. It also serves to demonstrate the transition from the religion of biblical Israel to rabbinic or classical Judaism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1220 - JEWS & JUDM IN THE MEDEVL WRLD
Minimum Credits: 3
Maximum Credits: 3
An introduction to the facets of medieval and early modern Jewish life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1222 - JEWISH MYSTICISM
Minimum Credits: 3
Maximum Credits: 3
Mystical traditions in Judaism through the early modern period are assessed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1225 - JEWSH CULTUR IN MEDIEVAL SPAIN
Minimum Credits: 3
Maximum Credits: 3
Medieval Spain was the scene of varied interactions among Jews, Christians, and Muslims. Jews participated vigorously in this culture as they did

nowhere else at the time, producing an enduring heritage that is universal in its appeal.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1228 - EXODUS AND PASSOVER

Minimum Credits: 3
Maximum Credits: 3
Study of exodus story and Passover holiday that develops from it including interpretations in Jewish and non-Jewish sources, development of the holiday and the ritual meal (Seder), changes in the rituals over time, and adaptations and uses of the story and holiday by different modern Jewish and non-Jewish movements and groups.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1230 - ASHKENAZI JEWRY

Minimum Credits: 3
Maximum Credits: 3
Jewish communal life and interactions with Christian society in France, Germany, Poland and Russia through the 20th century are considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1232 - MODERN EASTERN EUROPEAN JEWRY

Minimum Credits: 3
Maximum Credits: 3
This upper level undergraduate course surveys the history of the historically most numerous portion of European Jewry from the medieval period to the present, emphasizing the modernization of east-central European Jews as minorities in the context of their host societies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1240 - JEWS AND THE CITY

Minimum Credits: 3
Maximum Credits: 3
This course will trace the eastern European Jewish diaspora to urban destinations around the world, before training its lens on the Jewish encounter with American cities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1241 - GENDER AND JEWISH HISTORY

Minimum Credits: 3
Maximum Credits: 3
This course will highlight the impact of gender in modern Jewish history, revealing the divergent experiences of Jewish women and Jewish men as they adapted to the modern world. We will take an international approach to this history, tracing the ways in which circumstances in Europe, America, and the Middle East shaped how Jews understood and responded to gender roles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1250 - JEWS & JUDAISM IN MODERN WORLD

Minimum Credits: 3
Maximum Credits: 3
Were we examine the specific challenges that the modern period posed to existing Jewish life and the nature of the responses made by Judaism to those challenges.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1252 - HOLOCAUST HISTORY & MEMORY

Minimum Credits: 3
Maximum Credits: 3
We take a long-range view of the holocaust as we examine it within the contexts of both European and Jewish history.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1254 - AFTER THE HOLOCAUST

Minimum Credits: 3
Maximum Credits: 3
A survey of the impact of the holocaust on Jewish life in the Soviet Union, the Middle East, and the United States in the period 1945-1985.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1256 - MODERN ISRAEL

Minimum Credits: 3
Maximum Credits: 3
We trace the history of modern Israel from the idea of the return in the second half of the 19th century through the state of Israel today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1257 - RUSSIAN JEWRY

Minimum Credits: 3
Maximum Credits: 3
This course examines the experience of Russian Jewry during the 145 year period from its entrance into Russian political life to the end of the empire. We will treat both the internal dynamics within the community as it came to be transformed from a religiously based and clerically dominated leadership to a national-cultural entity that developed a variety of political movements and expressions in order to articulate its new found modern identity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1260 - JEWS IN THE UNITED STATES

Minimum Credits: 3
Maximum Credits: 3
We analyze the Jewish experience in America since the middle of the 18th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1266 - ISRL: STATE & SOCIETY, 1948-88

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the impact of immigration and its role in the shaping of the state, the interaction between religion and politics (state), and the experiences of the Arab citizens of the Jewish state.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1320 - MEDIEVAL HISTORY 1

Minimum Credits: 3
Maximum Credits: 3
Survey course in the social, political, economic and religious history of Europe from the Diocletian reforms to the year one thousand. Special attention to interpreting the primary documents and to integrating various areas of activity (e.g. economic and religious). Focus on France, England, Germany, and Italy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1330 - MEDIEVAL HISTORY 2

Minimum Credits: 3
Maximum Credits: 3
Survey course in the social, political, economic and religious history of Europe from the year 1000 to the black death. Special attention to interpreting the primary documents and to integrating various areas of activity (e.g. economic and religious). Focus on France, England, Germany, and Italy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1335 - MEDIEVAL SPAIN
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1338 - MEDIEVAL WORLD
Minimum Credits: 3
Maximum Credits: 3
Subject: cultural, intellectual, and political activity in the European middle ages. The course concentrates on a few significant aspects of the medieval world, taking them as centers from which to explore interrelated phenomena; a court, a cathedral, the crusades, the divine comedy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1342 - RELIG ISSUES OF THE REFORMATN
Minimum Credits: 3
Maximum Credits: 3
We focus on the religious and theological issues which divided Western Christianity in the 16th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1360 - INTRO TO THE RENAISSANCE
Minimum Credits: 3
Maximum Credits: 3
The idea of the Renaissance is central to Western culture. Many of our values and tastes devolve from--or consciously react against--patterns that were established or reinterpreted five hundred years ago. The student who explores the renaissance, therefore, gains hold of one of the keys of Western civilization. He or she also acquires practice in critical reading, discussion, and the written expression of ideas.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1362 - MAN & COSMOS IN RENAISSANCE
Minimum Credits: 3
Maximum Credits: 3
An exploration of the intellectual and scientific activity of the European Renaissance and its influence in shaping modern man and the discoveries of modern science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1366 - ASTROLOGY AND WITCHCRAFT
Minimum Credits: 3
Maximum Credits: 3
This course deals with both intellectual currents and popular culture in 17th century England, exploring the relationship between magic, science, and religion, as well as the social forces that led to the belief in astrology and witchcraft.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1372 - CATHOLICISM IN THE NEW WORLD
Minimum Credits: 3
Maximum Credits: 3
The course will examine the history of the Roman Catholic Church since 1492 in the Americas using various moments of internal crisis or external conflict as focal points for study. Topics will include: missionary and military contact with new world indigenous populations after 1492; the minority situation of Catholics in the new United States; the Irish famine and its consequences; conflicts between Catholic ethnics; the impact of Catholic support for fascist regimes in the 1930s and 1940s; counter cultural forms of Catholicism (conscientious objectors, civil rights activists, pacifists); Vatican ii and its impact; liberation theology, Marxism and structural reform in Latin America; shifting theological positions on social and moral issues; the current sexual abuse crisis. While the emphasis will rest upon the social, economic, and political dimensions of Catholic history, the course will also address the aesthetic and cultural legacy of Catholicism including sacred architecture, music, and the arts, in elite and vernacular forms.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

RELGST 1375 - CATHOLICISM & GLOBAL MODERNITY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1400 - RELIGION AND CULTURE IN AMERC
Minimum Credits: 3
Maximum Credits: 3
This course will cover issues related to religion and how it intersects with American culture particularly in modern times
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1410 - RELIGION IN AMERICAN THOUGHT
Minimum Credits: 3
Maximum Credits: 3
The story of American religion often focuses on the various religious groups and thinkers that have emerged from a Christian tradition. But what about those individuals and groups that rejected Christianity altogether, and who promoted 'freethinking' as a radical alternative to the religious mainstream of America? In this course we will explore the American tradition of freethought, from its roots in eighteenth century British deism to the current group of 'new atheists.' We will explore how American freethinkers critiqued and sought to reform the religious sensibilities of their fellow Americans, and the often harsh reaction that they received from their pious opponents. This course will deal with the history of freethinking writers and organizations and how they shaped and continue to influence the religious identity of United States.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1412 - MIGRATION IN AMERICAN RELIGION
Minimum Credits: 3
Maximum Credits: 3
Looking at a series of case studies from colonial times to the present, the course will examine how a change of locale influences religious ideas, practices, and identities. Materials will address migration into, within, and away from the United States.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1415 - RACE AND RELIGION IN AMERICA
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1420 - RELG & POLITICS IN LATIN AMERC
Minimum Credits: 3
Maximum Credits: 3
The role of religion as a conservative force supporting existing political structures as well as a critical force challenging those institutions is assessed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1424 - LIBERATION THEOLOGY
Minimum Credits: 3
Maximum Credits: 3
A critical examination of the recent literature seeking to harmonize religion and social change.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1425 - POPULAR RELIGION IN AMERICA
Minimum Credits: 3
Maximum Credits: 3
A survey of religious behavior and religious beliefs in the United States outside of the formal institutional structures of religion.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1427 - RELIGION AND LAW

Minimum Credits: 3
Maximum Credits: 3
Religion and Law examines the role of religious freedom in American history, from colonial days to the present, focusing on documents that predate the first amendment of 1791, as well as upon central supreme court cases that helped define what "legal religion" means as a category in the United States. Students will read court cases and become familiar with arguments for and against the ideal of religious freedom, including court cases involving the Amish, Mormons, Santeria, and the use of religious symbols in public places.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1438 - RELIGION AND POLITICS

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course will be to consider the public and political implications of religion in several different political systems. We will begin with an overview of the implications for politics of various types of religious systems. Religious beliefs and institutions have wide ranging implications for civic norms, public policy, political leadership, and the treatment of various social groups, including women and minorities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1440 - RELIGION & POLITICS MIDDL EAST

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the role of religion in the politics of the contemporary middle east. A general survey of the role of religion in the history of the region, and a cross regional historical-comparative view of the relationship between religious phenomena and political movements and institutions set the context for an investigation of the politics of religion in recent developments in the region.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1454 - ISLAMIC THOUGHT

Minimum Credits: 3
Maximum Credits: 3
An introduction to and critical examination of the principal themes of Islam.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1466 - SOCIOLOGY OF ISLAM

Minimum Credits: 3
Maximum Credits: 3
The main purpose is to provide a sociological introduction to the Islamic tradition for those unfamiliar with it. First, we survey major themes in the sociology of religion. A consideration of the Islamic tradition follows. Throughout we raise questions about continuity and change in Islam.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1500 - RELIGION IN INDIA 1

Minimum Credits: 3
Maximum Credits: 3
Few countries can boast such an extensive and diverse religious heritage as can India. It is the birthplace of Hinduism, Buddhism, Jainism, and Sikhism, home to a large Muslim community, as well as to small, but ancient, communities of Syrian Christians, Parsis, and Jews. The course gives a brief historical overview of these religious traditions, introduces students to basic concepts related to each of them, and illustrates their rich practices through primary and secondary readings, films, art, and music.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1510 - REL INDA 2:STORYT RELIG FORM

Minimum Credits: 3
Maximum Credits: 3

This course focuses on the religious life of India as expressed through storytelling. Central to this life are rich and diverse narrative traditions, both oral and written, some of which have their roots in the ancient Vedic literature, in the famous epics of the Mahabharata and the Ramayana, in popular folk tales and philosophical debates. Through an in-depth exploration of different genres of primarily Hindu narrative traditions, students will be able to see (1) how certain episodes and characters from the selected stories have been used in religious and philosophical teachings about spiritual emancipation and liberation; (2) how the stories and their protagonists have been variously (re)cast over time by members of dominant as well as non-dominant religious and/ or political groups; and also, (3) how they have been appropriated and incorporated in politically sensitive times and situations into a wider narrative of nation(hood). The role of popular media (TV, film, etc.) In linking nation and narration in modern times will also be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1512 - SANSKRIT 1

Minimum Credits: 3
Maximum Credits: 3
An introduction to the basic structure and vocabulary of Sanskrit. Approximately half of the course is devoted to an intensive survey of Sanskrit grammar and half to the reading of a selection from the Mahabharata.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1514 - SANSKRIT 2

Minimum Credits: 3
Maximum Credits: 3
A continuation of Sanskrit 1, this course is devoted to the reading of selected Sanskrit texts. Grammar presented in Sanskrit 1 is reviewed as necessary and some additional grammatical material is introduced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1516 - TEMPLE, ICON & DEITY IN INDIA

Minimum Credits: 3
Maximum Credits: 3
An exploration of theistic religion in India as expressed in the emergence of temple architecture, iconography and devotional literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1517 - MOUNTAINS, MEDL SYS & HEALTH

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1518 - RELIGION AND ECOLOGY

Minimum Credits: 3
Maximum Credits: 3
The Himalayas have inspired more religious thought, given raise to more forms of religious practice and are more distinctively featured in a spectrum of epic religious literature, than almost any other geographic region in the world, with the possible, but unlikely exception of a small parcel of relatively dry hilly ground between Jerusalem and Mecca. In any case, Siddhartha Gautham was born and taught in the shadow of the lower Himalayas, where Buddhism emerged in the 4th century BCE. Many specific mountains, lakes and rivers, as well as the broader geography of the Himalayas, most notably sacred rivers, define the landscape of Hindu mythology, pilgrimage and ritual. The practice of yoga as a metaphysical philosophy is intimately linked to the idea of mystical Himalayan masters. The Western watershed of the Punjab, including the Iponymous five rivers, Indus, Jhelum, Chenab, Ravi and Sutlej, is the heartland of sikh cultural and religious identity. In addition to being a center of medievl Hindu literary learning, Kashmir and the Western Himalayas, extending through the Hindu kush, have defined routes of exchange, communication, conversion and confrontation between Greeks, Persians, Buddhist monks, and mongol armies. More recently ' in terms of centuries ' Tibetan Buddhism has emerged out of a history of development in lhasa ' relocated to Mcleod Ganj in the early 1960s - that combines elements of Tantra from the southeastern Brahmaputra region with transmutations of Buddhism that have taken shape in greater China. Although not inspired by the Himalayas per se, Islam in South Asia has been shaped by geography and the environment in specific ways, and the development of a particular intrepretation of the Koran in a small center of learning in the town of deoband, close to where the epic battle of the Bhagavad Gita is said to have been waged in Kurukshetra, implicates the geography and geopolitics of the Himalayas in the emergence of reform oriented, Orthodox Islam.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1520 - BUDDHIST CIVILIZATION
Minimum Credits: 3
Maximum Credits: 3
An introductory survey of the origins, influence and spread of Buddhism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1530 - TOPICS IN BUDDHST CIVILIZATION
Minimum Credits: 3
Maximum Credits: 3
A variety of themes and issues focusing on Buddhism in China and Japan will be explored.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1540 - SAINTS EAST AND WEST
Minimum Credits: 3
Maximum Credits: 3
A Russian monk once observed that "each saint is a unique event." Indeed, in various religious traditions we encounter men and women who are recognized and venerated as particularly holy and unique witnesses to the divine. Just as each saint is unique within his or her tradition so is each tradition of saints unique in its articulation and expression of the overall religious culture. By looking cross-culturally at the materials on saints selected for this course and discussing (problematizing) the notion of sainthood itself, we examine religious themes, ideas and symbols found in them. These diverse writings are often marked by a very personal tone, a deeply felt relation with the divine (sometimes reflecting a saint), inner struggles, sometimes his/her mystical experience of union), but also by pleas and calls for social and/or religious reforms. Our examples of devotional literature include Hindu, Muslim, and Christian sources, medieval as well as modern. Even though originating in specific religious contexts, many of these narratives raise issues which have wider human appeal and hence relevance for us today, too.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1545 - MYSTICISM: EAST AND EAST
Minimum Credits: 3
Maximum Credits: 3
We shall look into how the spiritual kinship of mysticism is forged from distinct practices in India and in the lands of orthodox Christianity, by examining the selected mystical writings of the Hindu sages and holy men and women of the orthodox church, past and present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1550 - EAST ASIAN BUDDHISM
Minimum Credits: 3
Maximum Credits: 3
Beginning with an introduction to the basic concepts of Indian Buddhism, this course traces the philosophic and meditative development of Buddhism (in historical perspective) as it moves East into China and Japan.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1552 - CHAN/ZEN BUDDHISM
Minimum Credits: 3
Maximum Credits: 3
This seminar examines the relationships between doctrine, practice and institution and the culture(s) in which they grow through examination of major themes and sources of authority in Chan/Zen Buddhism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1554 - DEATH BEYOND BUDDHIST CULTS
Minimum Credits: 3
Maximum Credits: 3
Death and beyond in Buddhist cultures mortality is the human condition. This seminar focuses on the philosophical discourse, beliefs and practices relating to death, dying and the afterlife in Buddhist cultures, both traditionally and in modern times. We explore Buddhist cosmology, karmic causality, death tales, postmortem journeys, ancestor rites, mortuary practices and ghost placation. Through primary texts in translation, secondary scholarship, discussion and film, we see how dealing with death tells us as much about life as it does about what lies beyond.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade

RELGST 1557 - BUDDHIST LIVES

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1558 - BUDDHISM AND PSYCHOLOGY

Minimum Credits: 3
Maximum Credits: 3
This coure examines the relationship between Buddhism and psychology in the modern world from a religious studies perspective
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1560 - CHINESE RELIGIOUS TRADITIONS

Minimum Credits: 3
Maximum Credits: 3
This course serves as a historical, doctrinal and practical introduction to the major religious traditions of china-both classical and modern-day.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1561 - CHINESE THOUGHT

Minimum Credits: 3
Maximum Credits: 3
A survey of major themes in the intellectual history of China from ancient times to the twentieth century, with special attention to the traditions of political and ethical debate. Readings include key texts from the classical canon (e.g. analects, mencius, daodejing), medieval religious traditions (Daoism and Buddhism), and late-imperial metaphysics. The course will conclude with a survey of various attempts at inheriting and disinheriting the past intellectual tradition in the twentieth century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1562 - CONFUCIANISM: BASIC TEXTS

Minimum Credits: 3
Maximum Credits: 3
This course will examine the philosophical, political, and religious dimensions of the analects of Confucius, the Mencius, and the writings of Hsun Tzu and Lao Tzu.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1570 - JAPANESE RELIGIOUS TRADITIONS

Minimum Credits: 3
Maximum Credits: 3
This course serves as a historical, doctrinal and practical introduction to the major religious traditions of Japan both classical and modern-day.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1572 - POPLR RELIGION IN CHANGNG JAPN

Minimum Credits: 3
Maximum Credits: 3
This seminar, through a thematic treatment of popular and civil religion, informed by religious and cultural history, looks at the process through which religion participates in shaping and reshaping worldviews, behaviors, and practices in modern Japan.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1610 - MYTH, SYMBOL AND RITUAL

Minimum Credits: 3
Maximum Credits: 3
Are myths only a thing of the past, or are there contemporary 'myths' that we live by? To what extent are football games and shopping trips "rituals"? How do plants and animals, the cosmos and the human body, or things we associate with bad luck or good health, function as symbols? This course offers a look at how myths, symbols and rituals, in their traditional and contemporary garb, constantly renew themselves as a way for different cultures to give significance to human life. By understanding these three basic forms of human expression we can gain understanding of a wide range of social and religious phenomena. We start with comparative exploration of myths on the origin of the world, humanity, and the gods, and with such rituals as rites of passage, festivals, and pilgrimages, as well as the theories of these expressions and their significance. The course then moves to observations of and reflections on the role of myth, symbol, and ritual in contemporary life, and their relation to such forms of human expression as literature, art, film and our own dreams.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1620 - WOMEN IN RELIGION

Minimum Credits: 3
Maximum Credits: 3
An examination of the place and role of women in Western religious traditions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1624 - WOMEN IN JUDAISM

Minimum Credits: 3
Maximum Credits: 3
This course explores the image and legal status of women in Judaism, from antiquity to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1630 - RITUAL PROCESS

Minimum Credits: 3
Maximum Credits: 3
An interdisciplinary look at ritual from its most visible religious manifestations to its subtler role in shaping our daily actions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1640 - JEWS IN THE ISLAMIC WORLD

Minimum Credits: 3
Maximum Credits: 3
A survey of Jewish life in Spain, North Africa and the Middle East in medieval and early modern times.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1642 - CHRISTIAN-MUSLIM RELATIONS

Minimum Credits: 3
Maximum Credits: 3
This course surveys the historical interaction between Christian and Muslim communities over the past 1400 years and focuses on the art of polemic as an important tool in the human construction of religious concepts. We will begin by understanding the evolution of Islam in the seventh century, and continue with the encounters between Islam and the byzantine empire, and the medieval caliphate's encounters with the West, including the crusades. We will then consider specific elements of the interaction between Christian and Muslim communities, drawing from a variety of Muslim communities in Europe and the United States.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1644 - JEWISH-CHRISTIAN RELATIONS

Minimum Credits: 3
Maximum Credits: 3
The emergence of Christianity from Judaism and the implications of the relationship between Christianity and Judaism have been of critical importance in the history of Europe and the world and both Christians and Jews continue to grapple with the theological, political, and cultural impacts of that relationship in today's world. This course surveys the relationships between Jews and Christians from the time of Jesus through the modern era, as viewed by Jews, Christians, and sometimes those in neither category. Topics include the Jewish origins of Christianity; rabbinic views of Christianity and church fathers' views of Judaism; the status of Jews and Jewish communities in the roman empire and in medieval Europe,

medieval persecution of Jews; interreligious disputations and polemics; the impact of the reformation and the enlightenment; Jewish-Christian relations in modern 'secular' states; the rise of new forms of anti-Semitism; the holocaust; and post-holocaust dialogue and new theologies of interreligious encounter. We will discuss not only the significance of Jewish-Christian interactions for European and American history but also assess Jewish-Christian relations as a case study in the broader history of religious diversity, pluralism, and conflict.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1645 - JESUS AND JUDAISM

Minimum Credits: 3
Maximum Credits: 3
This course examines the complex and often polarized relationship between Jesus and Jews (and by extension, Christianity and Judaism) in both ancient and modern contexts. Students will interact with a wide range of primary sources centered on the figure of Jesus `from the Christian gospels through rabbinic discussions of Jesus to modern portrayals of Jesus and the Jews in cinema and scholarship.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1646 - RABBINIC APPRCH-NON-JEWSH WRLD

Minimum Credits: 3
Maximum Credits: 3
This course explores how biblical religion became Judaism. It also introduces students to various genres of classical Jewish texts, and traces the development of ideas from the biblical period to modernity.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1648 - GENDER & THE JEWISH TRADITION

Minimum Credits: 3
Maximum Credits: 3
Gender and Jewish tradition treats the theme of gender as it is introduced and discussed in Jewish legal literature.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1650 - APPROACHES TO ANTISEMITISM

Minimum Credits: 3
Maximum Credits: 3
We survey historical, sociological, psychological, religious and political approaches to expressions of antisemitism as we study scholarly treatment of the phenomenon in the 20th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1675 - READING THE HEBREW BIBLE

Minimum Credits: 3
Maximum Credits: 3
An introduction to the various methods used by scholars studying the Hebrew bible in both medieval and modern times. Methods will include text criticism, source criticism, feminist criticism, and others.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1680 - HIST & MEMRY IN JEWSH TRADTN

Minimum Credits: 3
Maximum Credits: 3
Students will be introduced to the manner in which historians have studied and understood the Jewish experience from antiquity through the modern age. The role of historical study in the formation of Jewish identity will be especially highlighted.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1710 - PERSPECTIVES ON RELIGION

Minimum Credits: 3
Maximum Credits: 3
A serious introduction to the study of religion is undertaken by reviewing the efforts and insights of the principal scholars in the field in the modern

period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1720 - RELIGION AND CULTURE

Minimum Credits: 3
Maximum Credits: 3
Religion is thought, felt, and acted out in social and cultural contexts. The relationship between religion and culture is the focus of the course. The objectives are to understand religion wherever and whenever found and to understand the anthropological approach in the cross-cultural study of religion. Religious belief, ritual, myth, dogma and religious specialists in industrial and non-industrial societies are compared.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1730 - PROBLEMS IN PHIL OF RELIGION

Minimum Credits: 3
Maximum Credits: 3
A rigorous examination of the arguments for and against the existence of God.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1740 - MEANING, MYSTERY AND PARADOX

Minimum Credits: 3
Maximum Credits: 3
Recent philosophical and social scientific theories of religious language are examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1760 - RELIGION AND RATIONALITY

Minimum Credits: 3
Maximum Credits: 3
This course critically examines how religious and nonreligious thinkers have navigated the relation between faith and reason throughout the history of Western thought. Special attention will be paid to evaluating how the relationship between religion and philosophy within Western religious thought have shaped current debates on the place of religion in science, politics, and the humanities.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1762 - THE GUIDE OF THE PERPLEXED

Minimum Credits: 3
Maximum Credits: 3
This course will study the guide of the perplexed by the great Jewish thinker Moses Maimonides (1138-1204). It will give special attention to the religious language and arguments for the existence of god in the text, and to Maimonides teachings on religious experience, revelation and his views on human perfection and immortality.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1770 - SCIENCE AND RELIGION

Minimum Credits: 3
Maximum Credits: 3
This advanced undergraduate course addresses two questions: does the scientific understanding of the world suffer from a kind of incompleteness that can be remedied by the super naturalist religions? Or is there even a clash between contemporary science and such religion?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RELGST 1780 - CMPTTNL METHDS IN THE HUMANITS

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the use of computational modeling and programming to conduct text-based research in the humanities. Course goals include 1) learning how to identify research questions in the humanities that are amenable to computational analysis and processing and 2) designing and implementing xml-based computational systems to explore those questions. No prior programming experience or knowledge of foreign

languages required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RELGST 1800 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course aims to create a sustained and reciprocal dialogue between bible and film, exploring the intersection of the biblical text with modern cinema. In other words, we will use modern films to facilitate discussion about various dimensions, issues, and themes encoded in select biblical texts and traditions (Jewish and Christian), and conversely we will use the biblical traditions to probe the religious, cultural, and ideological layers embedded within modern cinema. Movies examined in this course will include both overt treatments of the biblical text' in particular, several very different treatments of the figure of Jesus `and subtle, indirect engagements with various biblical themes and teachings.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

RELGST 1900 - INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
A variety of projects may be undertaken by students under the close supervision of a senior faculty member.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

RELGST 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 4
A variety of individual reading and research projects may be undertaken by students under the close supervision of a senior faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

RELGST 1902 - DIRECTED STUDY-UNDERGRADUATE

Minimum Credits: 1
Maximum Credits: 4
A variety of individual reading or research projects may be undertaken by students under the close supervision of a senior faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

RELGST 1903 - DIRCTED RESEARCH-UNDERGRADUATE

Minimum Credits: 1
Maximum Credits: 4
A variety of individual research projects may be undertaken by students under the close supervision of a senior faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

RELGST 1904 - UNDERGRAD RESEARCH ASST

Minimum Credits: 1
Maximum Credits: 4
Students participate in a faculty member's current research project as a research assistant under the guidance of the faculty member. The student is given training in research methods. 1-4 credits available depending on number of hours per week worked. Credits earned will be S/N only. Permission of the department (DUS) and the faculty member is required.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

RELGST 1905 - UNDERGRADUATE TEACHING ASST

Minimum Credits: 1
Maximum Credits: 4
Students serve as an undergraduate teaching assistant in religious studies courses under the supervision of a faculty member. 1-4 credits available depending on number of hours per week worked. Credits earned will be s/n only. Permission of the department (DUS) and the faculty member is required.
Academic Career: UGRD

Course Component: Internship
Grade Component: LG/SNC Elective Basis

Slavic Language Institute - Non-Slavic Languages

SLI 0020 - BEGN INTENSIVE PERSIAN (FARSI)

Minimum Credits: 8
Maximum Credits: 8
This is a four skills intensive course in beginning Persian (Farsi) which is offered as part of the summer intensive workshops in Slavic, East European and near eastern languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLI 0030 - BEGINNING INTENSIVE ARABIC

Minimum Credits: 8
Maximum Credits: 8
This is a four skills intensive course in beginning Arabic which is offered as part of the summer intensive workshops in Slavic, East European and near eastern languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLI 0040 - BEGINNING INTENSIVE TURKISH

Minimum Credits: 8
Maximum Credits: 8
This is a four skills intensive course in beginning Turkish which is offered as part of the summer intensive workshops in Slavic, East European and near eastern languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLI 0050 - BEGINNING INTENSIVE HUNGARIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Hungarian which is offered as part of the summer intensive workshops in Slavic, East European and near eastern languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLI 0052 - BEGN HUNGARIAN PITT-HUNGARY

Minimum Credits: 10
Maximum Credits: 10
This is an intensive course in beginning intensive hungarian which meets for six weeks during summer term in Pittsburgh, followed by four weeks of study in Debrecen, Hungarian. It is part of the Slavic, East European and near eastern summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLI 0053 - INTERMD HUNGARIAN IN HUNGARY

Minimum Credits: 4
Maximum Credits: 4
This is an intensive course in intermediate intensive Hungarian which meets for four weeks during summer term in debrecen, hungary. It is part of the Slavic, East European and near eastern summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLI 0062 - BEGINNING INTENSIVE LITHUANIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Lithuanian which is offered as part of the summer intensive workshops in Slavic, East European and near eastern languages.
Academic Career: UGRD

Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLI 0063 - BEGINNING INTENSIVE ESTONIAN
Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Estonian which is offered as part of the summer intensive workshops in Slavic, East European and near eastern languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLI 0064 - INTERMEDIATE INTENSIVE LATVIAN
Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in intermediate Latvian which is offered as part of the summer intensive workshops in Slavic, East European and near eastern languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLI 0065 - INTRMD INTENSIVE LITHUANIAN
Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in intermediate intensive Lithuanian which is offered as part of the summer intensive workshops in Slavic, East European and near eastern languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLI 0066 - INTRMD INTENSIVE ESTONIAN
Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in intermediate intensive Estonian which is offered as part of the summer intensive workshops in Slavic, East European and near eastern languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLI 0067 - BEGINNING INTENSIVE LATVIAN
Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Latvian which is offered as part of the summer intensive workshops in East European languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

Slavic Languages & Literatures

RUSS 0010 - ELEMENTARY RUSSIAN 1
Minimum Credits: 5
Maximum Credits: 5
A traditional four-skills course, this course meets with the main lecturer and with the drill instructor. The student acquires basic skills in Russian pronunciation, speaking, listening, and writing, commensurate with the grammatical topics covered. During the first semester these topics include, among others; the present and past tenses, the nominative, prepositional, and accusative cases. The course aims to go beyond the confines of the textbook readings and conversations and apply grammar and vocabulary to practical situations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RUSS 0014 - RUSS FOR HERITAGE LEARNERS 1
Minimum Credits: 3
Maximum Credits: 3
This course is designed specifically for "heritage speakers" of Russian (those who grew up speaking or hearing Russian in the family without a native Russian's full educational and cultural background). It focuses on developing speaking, reading, and writing skills and cultural knowledge that will promote the attainment of professional-level proficiency. All students will develop significantly enhanced grammatical awareness, reading and

writing competency, and a sophisticated vocabulary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0015 - RUSS FOR HERITAGE LEARNERS 2

Minimum Credits: 3
Maximum Credits: 3
This course is a continuation of Russian for heritage learners course RUSS 0014. This course will further develop and deepen speaking, reading, and writing skills and cultural knowledge of heritage students challenging them to move toward the level of native speakers of Russian.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0020 - ELEMENTARY RUSSIAN 2

Minimum Credits: 5
Maximum Credits: 5
The continuation of RUSS 0010, this course focuses on aural comprehension of Russian as a means for developing spoken competence, the aim being to sharpen the student's spoken proficiency. Attention is paid to the function of word order and intonation. Grammatical topics covered include the genitive and instrumental cases and verbal aspect. Vocabulary and phraseology are learned in both grammatical and cultural context.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RUSS 0030 - INTERMEDIATE RUSSIAN 1

Minimum Credits: 5
Maximum Credits: 5
The continuation of RUSS 0020, this course completes the introduction to basic Russian grammatical structures. The dative case, participles and gerunds, verbs of motion, and questions of verbal government are dealt with systematically. Extra-textbook material introduces the student to samples of unedited real-language texts. In developing spoken language ability, topics related to cross-cultural comparison receive prominence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RUSS 0040 - INTERMEDIATE RUSSIAN 2

Minimum Credits: 5
Maximum Credits: 5
Russian 0040 is a transitional course between RUSS 0030, which finishes the beginning textbook, and third year Russian, which focuses on conversational skills. An annotated short contemporary soviet novel is used as the basis for written and conversational work. Considerable time is devoted to grammatical review, and to completing any grammatical subjects incompletely covered by the introductory textbook, especially participles and gerunds, and verbal aspect.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RUSS 0090 - RUSSIAN FAIRY TALES

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to Russian folklore through the oral genre of fairy tales so as to acquaint them with popular structures of thought underpinning modes of Russian behavior. A significant component of the course will consist of visual and audio representations of scenes from fairy tales.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0091 - RDG RUSS FAIRY TALES IN RUSS

Minimum Credits: 1
Maximum Credits: 1
This course is a one-credit add-on module for students who are taking (or have taken) Russian fairy tales (RUSS 0090) and who would like to read selected tales and other texts in Russian.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Satisfactory/No Credit

RUSS 0110 - RUSSIAN CONVERSATION PRACTICE

Minimum Credits: 1
Maximum Credits: 1
This course attempts to help students at second-year Russian level to overcome the psychological hurdle of speaking Russian in a group. Students will practice and act out dialogues, augment their vocabulary, and participate in situations that simulate everyday Russian life.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Satisfactory/No Credit

RUSS 0210 - INTENSIVE BEGINNING RUSSIAN

Minimum Credits: 8
Maximum Credits: 8
A thorough introduction to Russian pronunciation, grammar, and syntax. A full, rigorous treatment of the sound and writing systems is followed by the basic categories of the noun and verb: gender, number, case, tense, and aspect. Nominative, accusative, prepositional, and dative case of nouns and adjectives, present and past perfective and imperfective verbs are presented. Emphasis is placed on communicative competence -- active use of new structures in reading, dialogues, free conversation, listening comprehension.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

RUSS 0211 - BEGN INTEN RUSSIAN PITT/MOSCOW

Minimum Credits: 10
Maximum Credits: 10
This is a first-year Russian course, equivalent to RUSS 0010 and RUSS 0020 and RUSS 0210. Four weeks on campus and five weeks in Moscow at Moscow state linguistic university. Part of the Russian summer institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

RUSS 0216 - BEGINNING INTEN RUSSIAN ABROAD

Minimum Credits: 8
Maximum Credits: 8
This is a course in first-year intensive Russian held abroad in a for eight weeks during summer. This course is eight weeks in duration.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

RUSS 0220 - INTENSIVE INTERMEDIATE RUSSIAN

Minimum Credits: 8
Maximum Credits: 8
A rigorous presentation of the basic uses of all nominal and verbal categories: declensions of nouns and adjectives in all cases, singular and plural, deepening of the knowledge of aspect uses, verbs of motion, conditional sentences, imperatives, indefinite pronouns, comparison of adjectives, time expressions, prepositional phrases. Attention paid to phraseology on both oral and written levels, introduction to participles and verbal adverbs. Great emphasis is placed on developing fluency in conversation.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

RUSS 0221 - INTM INTEN RUSSIAN PITT/MOSCOW

Minimum Credits: 10
Maximum Credits: 10
This is a second-year Russian course, equivalent to RUSS 0030 and RUSS 0040 and RUSS 0220. Four weeks on campus and five weeks in Moscow at Moscow state linguistic university. Part of the Russian summer institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

RUSS 0226 - INTM INTENSIVE RUSSIAN ABROAD

Minimum Credits: 8
Maximum Credits: 8
This is a course in second-year intermediate intensive Russian held abroad for eight weeks during summer. This course is eight weeks in duration.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

RUSS 0230 - INTENSIVE ADVANCED RUSSIAN

Minimum Credits: 8
Maximum Credits: 8
This intensive course has two components: the first, conversation, will consist in the preparation of dialogues, debates, and in-class discussions in Russian. The second, grammar, will be based on an accompanying grammar text and on short compositions that will draw on material covered in the text. The course objectives are: to develop a familiarity with the more subtle and complex aspects of Russian grammar; to develop an active vocabulary in practical, everyday topics, suited for travel to the soviet union; to refine composition skills.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

RUSS 0231 - ADV INTEN RUSSIAN PITT/MOSCOW

Minimum Credits: 10
Maximum Credits: 10
This is an advanced-level (third-year) Russian language course, equivalent to RUSS 0400 and RUSS 0410 and RUSS 0230. Four weeks on campus and five weeks in Moscow at Moscow state linguistic university. Part of the Russian summer institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

RUSS 0236 - ROTC ADV RUSSIAN ABROAD

Minimum Credits: 8
Maximum Credits: 8
This study abroad course at the advanced level of Russian, designed for ROTC project go scholarship recipients, develops an active vocabulary and grammar in practical, everyday topics, improves writing and speaking skills, and enriches cultural competency. Students will participate in a combination of intensive language classes, lectures, and cultural excursions.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

RUSS 0240 - INTENSIVE FOURTH-YEAR RUSSIAN

Minimum Credits: 8
Maximum Credits: 8
This intensive course is a survey of 19th century Russian literature aimed at post-third year Russian students. The course will consist of lectures, readings, and discussions covering the major 19th century authors; also translation, grammar review and composition and conversation practice.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

RUSS 0241 - 4TH YR INTEN RUSS PITT/MOSCOW

Minimum Credits: 10
Maximum Credits: 10
This is a fourth-year Russian language course requiring an advanced knowledge of the Russian language. Four weeks on campus and five weeks in Moscow at Moscow state linguistic university. Part of the Russian summer institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

RUSS 0325 - RUSSIAN SHORT STORY IN CONTEXT

Minimum Credits: 3
Maximum Credits: 3
This course will be devoted to reading short stories from 19th and 20th century Russian literature. The authors include 19th century masters Pushkin, Gogol, Dostoevsky, Tolstoy, and Chekhov--to 20th century favorites Babel, Zamyatin and Zoshchenko, right up to contemporary writers Solzhenitsyn, Shalamov, Petrusheuskaya, Tolstaya, and Tokareuy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0400 - ADVANCED RUSSIAN 1

Minimum Credits: 3
Maximum Credits: 3
This three-credit course develops third-year students' reading, writing, and oral skills through grammar review and readings. Students will write compositions in Russian and will summarize and comment in Russian on their reading in addition to participating in grammar review exercises in class.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0410 - ADVANCED RUSSIAN 2

Minimum Credits: 3
Maximum Credits: 3
A continuation of Advanced Russian 1, this three-credit course will focus on developing students' reading, writing, and oral skills through grammar review and readings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0420 - RUSSIAN NEWSPAPERS & MAGAZINES

Minimum Credits: 3
Maximum Credits: 3
This is a 3rd year Russian course. Readings which will be taken from current Russian newspapers and magazines will deal with contemporary Russian life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0430 - READINGS IN RUSSIAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Introduces the student to 19th and 20th century Russian literature through readings of short stories and poems by major Russian authors. At the same time the student will familiarize himself with the lives and creative works of some outstanding Russian writers and with basic principles of literary analysis. Conducted in Russian for third-year Russian students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0450 - INTERMEDIATE CONVERSATION

Minimum Credits: 3
Maximum Credits: 3
This 3-credit course enriches students' vocabulary, improves their command of idioms, and gives them the opportunity to participate in simulated real-life situations (in stores, subways and buses, the university, etc.).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0500 - RUSSIAN CULTURE & CIVILIZATION

Minimum Credits: 3
Maximum Credits: 3
This course for fourth-year students, conducted in Russian, aims at three levels: to increase the student's language proficiency, to give him an introductory knowledge of the forces that have shaped the historical and cultural development of the Russian people from earliest times to the most recent period, and to inspire him to continue his study of Russian so that he might go on to using the original Russian sources for research on the topics dealt with in the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0590 - FRMTV MASTRPIECES: RUSSA 19THC

Minimum Credits: 3
Maximum Credits: 3
This course will be devoted to reading formative literary masterpieces from the 19th century. The authors include Tolstoy, Dostoevsky and Chekhov and others such as Pushkin, Gogol, Turgenev and Ostrovsky.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0600 - RUSSIA

Minimum Credits: 3
Maximum Credits: 3
This course introduces first and second year students to Russian culture through a comprehensive overview of various aspects of Russian life and art from the country's beginnings to the outbreak of World War I. The broad survey aims to provide a sense of the key tendencies that have dominated Russian culture over the centuries.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0710 - EVENING RUSSIAN 1

Minimum Credits: 4
Maximum Credits: 4
This is a first-year, first-semester Russian course conducted in the evening for non-majors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0720 - EVENING RUSSIAN 2

Minimum Credits: 4
Maximum Credits: 4
This is a first-year, second-semester Russian course conducted in the evening for non-majors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0730 - EVENING RUSSIAN 3

Minimum Credits: 4
Maximum Credits: 4
This is a second-year, first-semester Russian course conducted in the evening for non-majors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0740 - EVENING RUSSIAN 4

Minimum Credits: 4
Maximum Credits: 4
This is a second-year, second-semester Russian course conducted in the evening for non-majors.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0800 - MASTERPIECES 19THC RUSSIAN LIT

Minimum Credits: 3
Maximum Credits: 3
This course will focus on selected masterpieces of Russian literature of the nineteenth century. The chosen works will be studied and discussed for their intrinsic literary value and as examples of main literary trends. Readings will include short stories by Pushkin, Gogol, Leskov, and Chekov, as well as Gogol's novel "dead souls", Dostoevsky's "crime and punishment", and Tolstoy's "war and peace".
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0810 - MASTERPIECES 20THC RUSSIAN LIT

Minimum Credits: 3
Maximum Credits: 3
This course will focus on selected masterpieces of twentieth century Russian literature; particularly on four major authors; Bely (Petersburg), Pasternak (Dr. Zhivago), Babel (Red Cavalry), and Solzhenitsyn (Ivan Denisovich). Stories of more contemporary writers, including Rasputin, Bitov, Trifoniv, Iskandar, Sinyavsky, Shukshin, and Voinovich, will also be read. Emphasis is placed on the variety of prose narratives popular in the 20th century, and on the emergence of new problems and perspectives and their expression in the context of Soviet Russia.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0811 - MADNESS & MADMEN IN RUSS CULT

Minimum Credits: 3
Maximum Credits: 3
This course explores the theme of madness in Russian literature from its medieval period through our days. The emphasis will be placed not only on literacy works, but also on painting, music, and cinema, as well as on nonfictional documents, such as Russian medical, judicial, political, and religious treatises and essays on madness. Reading assignments will draw from theoretical (Foucault), cultural history (Billington, Rzhevsky), and literary sources.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0850 - EARLY RUSSIAN CULTURE
Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to the development of Russian culture from 988 through 1825, including Russia's religious, artistic, and ideological writings. Readings will include the chronicles, vitae, apocrypha, epistolary polemics, secular tales, autobiography, and early prose fiction. Visual art and architecture of the Kievan, Novgorod, and Romanov periods of Russian history provide a larger artistic context for the literary works.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0860 - MODERN RUSSIAN CULTURE
Minimum Credits: 3
Maximum Credits: 3
From the reign of Nicholas I to the Gorbachev administration, Russian intellectual and artistic discourse has repeatedly returned to the question of Russia's relationship with the West. This issue will provide the focus for a cultural overview of the last two centuries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0870 - HISTORY OF RUSSIAN FILM 1
Minimum Credits: 3
Maximum Credits: 3
The course presents the history of Russian and Soviet films, filmmaking, and the film industry from the coronation of Tsar Nicholas II to the death of Stalin.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 0871 - HISTORY OF RUSSIAN FILM 2
Minimum Credits: 3
Maximum Credits: 3
The course traces the history of Russo-Soviet cinema from the death of Stalin to the present. Particular attention is paid to the four major periods in Russo-Soviet history since the death of Stalin.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1066 - FORBIDDEN LOVE PAGE & SCREEN
Minimum Credits: 3
Maximum Credits: 3
This course examines the mythology of extramarital transgression. Our primary focus will fall on the screen adaptations of four nineteenth-century novels of adultery: The Scarlet Letter (1850), Madame Bovary (1857), Anna Karenina (1875-1877), and Effi Briest (1895). We will read and analyze graphic novels based on these literary sources. Integrated into the course will be the verbal and visual texts which will allow us to realize that the novels of adultery are on a par with their celluloid and graphic-novel (comics-format) versions constitute the multi-faceted construct resting on the adultery myth.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1200 - RUSSIAN WOMEN'S WRITING: SADUR
Minimum Credits: 3
Maximum Credits: 3
This is a course on Russian writer Nina Sadur.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1202 - DOSTOEVSKY: THE MAJOR NOVELS
Minimum Credits: 3
Maximum Credits: 3
A close contextual examination of Dostoevsky's major novels, beginning with "notes from underground": crime and punishment, the idiot, the devils, raw youth, and the brothers Karamazov. Each text will be analyzed in the context of the cultural and intellectual debates that accompanied its reception in imperial Russia and the Soviet Union. Secondary readings will include representative essays by the social critics, formalists, Marxists, and semioticians.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1203 - TOLSTOY: THE MAJOR NOVELS

Minimum Credits: 3
Maximum Credits: 3
A close textual examination of Tolstoy's major novels, beginning with childhood, boyhood, youth, war and peace, Anna Karenina, resurrection, and Hadji Murat. Each text will be analyzed in the context of the cultural and intellectual debates that accompanied its reception in imperial Russia and the Soviet Union. Secondary readings will include representative essays by the social critics, formalists, Marxists, and semioticians.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1204 - DOSTOEVSKII, TOLSTOI, TURGENEV

Minimum Credits: 3
Maximum Credits: 3
A close contextual examination of short stories and novellas by Dostoevskii, Tolstoi, and Turgenev. Secondary readings provide an introduction to the history of Russian literary criticism; the social critics (Belinskii, Chernyshevskii, Dobroliubov), the formalists (Eikhenbaum, Shklovskii, Tynianov, the Marxists (Lenin, Pereverzev), and the semioticians (Lotman, Ivanov).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1210 - SUPERIOR INDIV IN LIT AND PHIL

Minimum Credits: 3
Maximum Credits: 3
In 1866, in an apartment in St. Petersburg, Russia, Rodion Raskolnikov decides to rid the world of evil by murdering an old pawnbroker with an axe. This course examines literary, cinematic, dramatic, musical and philosophical responses to that murder, examining such questions as: what is a superior individual? What is the role of motivation in action? Must all action have an underlying motivation or is gratuitous action possible? What is the role of confession and legacy in the actions of the superman and his acts of will? What are the obligations of the superman to society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1303 - TURGENEV

Minimum Credits: 3
Maximum Credits: 3
This course deals with Turgenev's artistic evolution and his place and significance in the history of Russian literature. Among Turgenev's works special attention will be devoted to some of his short stories, to his main novels, including Rudin, a gentlefolks' nest, and fathers and sons, to his poems in prose, and to selected articles, literary memoirs, and letters.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1305 - TOLSTOY

Minimum Credits: 3
Maximum Credits: 3
L.N. Tolstoy's life and important stories and short novels will be studied with emphasis on their intrinsic artistic merits and their relation to the author's literary and spiritual development. Lectures on historical and literary background. Textual classroom analysis of the works read by students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1306 - DOSTOEVSKY

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to introduce the student to the artistic legacy of Dostoevsky through analysis of his shorter works and excerpts from his major novels.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1307 - CHEKHOV

Minimum Credits: 3
Maximum Credits: 3
The three major aspects of Chekhov's art will be examined -- the humoristic stories and sketches of his youth, the typical Chekhovian story of his

middle period, and his plays. Chekhov's place in the context of Russian literature and his importance as an original and modern playwright, as well as his lasting contribution to the understanding of modern characters and situations will be assessed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1308 - GONCHAROV

Minimum Credits: 3
Maximum Credits: 3
This course deals with Goncharov's artistic evolution and the place and significance of this important Russian writer in the history of Russian literature. The major emphasis will be on the novel, Oblomov.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1310 - NABOKOV

Minimum Credits: 3
Maximum Credits: 3
A survey of the major writings of Vladimir Nabokov, including novels and short stories from both the Russian and American periods. Discussion topics will include: the semiotics of life-creation, art as perversity, author-hero dynamics, exile and nostalgia, bilingualism and translation, the violence of linguistic play, the manipulation of narrative desire; modernism and postmodernism.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

RUSS 1400 - MORPHOLGY & STRUCTR OF RUSSIAN

Minimum Credits: 3
Maximum Credits: 3
This course reviews Russian nominal, adjectival, and verbal morphology from a structural linguistic perspective. In flectional morphology is viewed against the background of the Russian sound system -- its morphology, and phonemic and phonetic realizations. Students are also made acquainted with basic structural linguistic concepts and terminology as it relates to course content. This course is for fourth year Russian students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1410 - ADVANCED RUSSIAN SYNTAX

Minimum Credits: 3
Maximum Credits: 3
This course deals in Russian syntactic phenomena from both a structural linguistic and a practical point of view. Such matters as participle use, verbal government, complex numeral syntax, and bonded collocations come in for special examination. Students completing this course will be able to parse structures of varying degree of complexity, ranging from simple to multiple complex sentences. An auxiliary aim of the course is to introduce students to Russian grammatical terminology as it relates to course content. This course is for fourth-year Russian students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1420 - FOURTH-YEAR RUSSIAN 1

Minimum Credits: 3
Maximum Credits: 3
The course provides an extensive practice in oral communication at the advanced level. It includes discussions of readings on topics of general sociocultural interest, analysis of interviews with native speakers, and discussions of audio- and video-recordings. Home essays, oral presentations, and mock interviews are designed to emphasize students' management of the Russian discourse.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1430 - FOURTH-YEAR RUSSIAN 2

Minimum Credits: 3
Maximum Credits: 3
The course provides an extensive practice in oral communication at the advanced level. It includes discussions of readings on topics of general socio-cultural interest, analysis of interviews with native speakers, and discussions of audio- and video-recordings. Home essays, oral presentations, and mock interviews are designed to emphasize students' management of the Russian discourse.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1440 - RUSSIAN PROSE TRANSLATION

Minimum Credits: 3
Maximum Credits: 3
Covers the theoretical and practical problems of translating Russian prose into proper English. Translation materials include literary texts, texts of critical prose and history, letters, newspaper and magazine articles, reviews, and other items of specialized interest to the class. Students will also work on individual projects. The complex problems of rendering ideas and values, style, diction, syntax and grammar will be considered. Open to undergrads and graduate students with a minimum of five terms of Russian.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1450 - ADVANCED RUSSIAN CONVERSATION

Minimum Credits: 3
Maximum Credits: 3
In addition to expanding students' vocabulary and idioms, this three-credit course enables students to engage in dialogues and present informal reports on a variety of topics, it also prepares them to sustain conversations on such topics as literature, film or television, music, politics, family relations etc.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1491 - LISTENING CMPRHNSN - SOVIET TV

Minimum Credits: 3
Maximum Credits: 3
This course for fourth-year students is designed to increase listening skills, using unedited soviet audio and video broadcasts. The course will focus on scanning, listening, watching, and notetaking techniques aimed at extracting the key semantic elements of the spoken utterance. Students will perform oral and written exercises, take transcriptions, make recordings, compile vocabulary lists, and perform grammatical analyses aimed at developing listening skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1500 - HISTRY OF RUSSIAN LITERATURE 1

Minimum Credits: 3
Maximum Credits: 3
Covers the first half of 19th century Russian literature from Karamzin to Nekrasov; includes biographies and writing of intensive compositions in Russian. Conducted in Russian for fourth-year Russian students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1510 - HISTRY OF RUSSIAN LITERATURE 2

Minimum Credits: 3
Maximum Credits: 3
Covers the second half of nineteenth century literature, from Turgenev to Chekhov; includes biographies, reading, and writing of intensive compositions in Russian. Conducted in Russian for fourth-year Russian students.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1624 - RUSSIAN LITERATURE IN MUSIC

Minimum Credits: 3
Maximum Credits: 3
This course explores Russian literature as interpreted in music. Students will read works of Russian poetry and prose, then examine the 'transposition' of the works into media such as opera, ballet, and song cycle. The syllabus includes (among others) such authors as Mussorgsky, Tchaikovsky, Rimsky-Korsakov , and Desiatnikov.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

RUSS 1710 - RUSSIAN SHORT STORY

Minimum Credits: 3
Maximum Credits: 3
Traces the development of the short story from Karamzin and Pushkin through the writings of Gogol, Turgenev and Chekhov into the 20th century. Will also include stories by Bely, Babel, Zoshchenko, Zamiatin, Platonov, Aksenov, Iskandar and Tolstaia. The goal of the course is to acquaint students with some of the best small scale fiction of Russia and the soviet union while also teaching principles of literary analysis.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1760 - RUSSIAN DRAMA WORKSHOP

Minimum Credits: 3
Maximum Credits: 3
This course is open to Russian language students at all levels (Russian 1 through graduate level). Students take part in the various aspects of the production of a Russian play to be performed for the public. Student participation varies according to interest (acting, costume and set design, lighting, etc.) And the number of credits for which the student is registered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: H/S/U Basis

RUSS 1771 - HISTORY OF RUSSIAN CINEMA

Minimum Credits: 3
Maximum Credits: 3
Students examine films by major directors of soviet revolutionary cinema (Eisenstein, Pudovkin, Dovzhenko, Bertov), as well as films by more recent directors (Qubenko, Bykov, Mikhalov, Askoldov).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1772 - SOVIET MEDIA UNDER GLASNOST'

Minimum Credits: 3
Maximum Credits: 3
The course examines the radical changes that have occurred since 1985 in Soviet media, both in the "hard media" (books, journals, graphic arts, painting) and in the "soft media" (music, radio, television, and cinema). Special attention will be paid to changes in the relationships between these industries and governmental agencies, and changes in the types of products these industries release.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1775 - NEW RUSSIAN MEDIA

Minimum Credits: 3
Maximum Credits: 3
This course examines the transformation of the Russian media since 1991 with the elimination of direct state control over the media. The course will trace the history of several media: advertising, music, traditional publishing (books, newspapers, journals), radio and television broadcasting, and the internet.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1780 - STALINIST CULT IN THE 1930'S

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1820 - LITERARY ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
This 3-credit undergraduate course introduces students to various critical approaches to a literary text. On the basis of several works of fiction and poetry, students will have the opportunity to learn, and then to demonstrate their acquisition of, critical skills.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1900 - RUSSIAN INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
This course places the student in a work setting where they can gain practical experience in a supervised training environment.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

RUSS 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
This course allows students to work independently on individually designed projects.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

RUSS 1903 - SPECIAL TOPICS
Minimum Credits: 3
Maximum Credits: 3
This course accommodates various topics in Russian literature and culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

RUSS 1990 - 20THC RUSS ART:BETWN EAST/WEST
Minimum Credits: 3
Maximum Credits: 3
This course surveys Russian art of the 20th century - including painting, graphic design, handicrafts, stage design, and architecture - spanning the period from the world of art/Mirisskusstva (1890s) to the present day. It (1) acquaints students with major art groups, movements and their key representatives, (2) traces the role of icons and folklore traditions in works throughout the century, (3) elucidates the system of patronage and museums and galleries, and (4) examines the symbiosis between Russian art and ideology.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SERCRO 0010 - ELEM BOSNIAN/CROAT/SERBIAN 1
Minimum Credits: 4
Maximum Credits: 4
This is a four-skills (listening, speaking, reading, writing) practical introduction to the Bosnian/Croatian/Serbian languages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SERCRO 0020 - ELEM BOSNIAN/CROAT/ SERBIAN 2
Minimum Credits: 4
Maximum Credits: 4
This is a four-skills (listening, speaking, reading, writing) practical introduction to the Bosnian/Croatian/Serbian languages, second-semester first-year.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SERCRO 0030 - INTM BOSNIAN/CROAT/SERBIAN 3
Minimum Credits: 3
Maximum Credits: 3
This is a four-skills (listening, speaking, reading, writing) practical introduction to the Bosnian/Croatian/Serbian languages, first-semester, second-year.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SERCRO 0040 - INTM BOSNIAN/CROAT/SERBIAN 4
Minimum Credits: 3
Maximum Credits: 3
This is a four-skills (listening, speaking, reading, writing) practical introduction to the Bosnian/Croatian/Serbian languages, second-semester, second-year.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SERCRO 0210 - INTENSIVE BEGINNING CROATIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four-skills intensive course in beginning Croatian language which is to be offered as part of the summer intensive workshops in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SERCRO 0211 - INTENSIVE BEGINNING SERBIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Serbian language which is to be offered as part of the summer intensive workshops in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SERCRO 0212 - BEGN BCS PITT- MONTENEGRO

Minimum Credits: 10
Maximum Credits: 10
This is an intensive course in beginning intensive Serbian which meets for six weeks during summer term in Pittsburgh, followed by four weeks of study in Montenegro. It is part of the Russian and East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SERCRO 0213 - INTM BCS IN MONTENEGRO

Minimum Credits: 4
Maximum Credits: 4
This is a four week course in intermediate intensive Serbian conducted in Montenegro which follows the six-week Pittsburgh intensive course. Students must complete the prior course or have had at least three semesters of Serbian language, or a prior intermediate-level knowledge of the language to register for this component.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SERCRO 0220 - INTERMEDIATE INTENSIVE SERBIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four-skills intensive course in intermediate Slovak which is offered as part of a summer intensive workshop in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SERCRO 0221 - INTENSIVE INTERMEDIATE CROAT

Minimum Credits: 6
Maximum Credits: 6
This is a four-skills intensive course in intermediate Croatian which is offered as a part of a summer intensive workshop in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SERCRO 0223 - INT INTEN SRBN PITT MONTENEGRO

Minimum Credits: 10
Maximum Credits: 10
This is an intensive course in intermediate intensive Serbian which meets for six weeks during summer term in Pittsburgh, followed by four weeks of study in Montenegro. It is part of the Russian and East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SERCRO 0230 - ADV INTENSIVE SERBIAN/CROATIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four-skills intensive course in advanced Serbian language which is to be offered as part of the summer intensive workshops in Slavic languages.

Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SERCRO 0231 - ADV INTEN SRBN PITT-MONTENEGRO

Minimum Credits: 10
Maximum Credits: 10
This is an intensive course in advanced intensive Serbian which meets for six weeks during summer term in Pittsburgh, followed by four weeks of study in Montenegro. It is part of the Russian and East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SERCRO 0233 - ADV INTEN SERBIAN - MONTENEGRO

Minimum Credits: 4
Maximum Credits: 4
This is a four week course in advanced intensive Serbian conducted in Montenegro which follows the six-week Pittsburgh intensive course. Students must complete the prior course or have had at least five semesters of Serbian language, or a prior intermediate-level knowledge of the language to register for this component.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SERCRO 0240 - FOURTH YR SERBN/CROAT/BOSNIAN

Minimum Credits: 6
Maximum Credits: 6
This is a fourth-year language course in Serbian/ Croatian/ Bosnian open to those with an advanced knowledge and to heritage speakers who wish to improve their written and spoken communicative competence.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SERCRO 0400 - ADV BOSNIAN/CROATIAN/SERBIAN 5

Minimum Credits: 3
Maximum Credits: 3
This course (third-year first-semester Bosnian/Croatian/Serbian) is a systematic review of grammar and phraseology, which develops the student's vocabulary, grammar and communicative competence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SERCRO 0410 - ADV BOSNIAN/CROATIAN/SERBIAN 6

Minimum Credits: 3
Maximum Credits: 3
This course (third-year second-semester Bosnian/Croatian/Serbian) is a systematic review of grammar and phraseology, which develops the student's vocabulary, grammar and communicative competence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SERCRO 1240 - 4TH YEAR SERBIAN/CROATIAN/BOSN

Minimum Credits: 6
Maximum Credits: 6
This is a fourth-year language course in Serbian/ Croatian/ Bosnian open to those with an advanced knowledge and to heritage speakers who wish to improve their written and spoken communicative competence.
Academic Career: UGRD
Course Component: Workshop
Grade Component: Satisfactory/No Credit

SERCRO 1260 - SURVEY OF SERBIAN LITERATURE

Minimum Credits: 3
Maximum Credits: 3
The course offers a semantic and typological analysis of modern Serbian literature in the post-World War II period. It introduces several generations of writers (whose works have been translated to many languages, including English) and surveys various literary movements and schools (from avant-garde to post modernism).
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SERCRO 1270 - SERBIA TODAY

Minimum Credits: 3
Maximum Credits: 3
This course is intended to introduce students to the contemporary Serbian political system, as well as Serbian literature and culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SERCRO 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 4
This course allows students to work independently on individually designed projects in the Serbian and Croatian languages.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

SLAV 0202 - BEGN INTEN CZECH PITT-PRAGUE

Minimum Credits: 10
Maximum Credits: 10
This is an intensive course in beginning intensive Czech which meets for six weeks during summer term in Pittsburgh, followed by four weeks of study in Prague, Czech republic. It is part of the Russian and East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0210 - BEGINNING INTENSIVE TURKISH

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Turkish which is offered as part of the summer intensive workshops in East European languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0211 - INTENSIVE BEGINNING HUNGARIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Hungarian which is offered as part of the summer intensive workshops in East European languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0212 - INTENSIVE BEGINNING CZECH

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Czech language which is to be offered as part of the summer intensive workshop in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0213 - BEGINNING INTENSIVE BULGARIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four-skills intensive course in beginning Bulgarian which is offered as part of a summer intensive workshop in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0214 - BEGINNING INTENSIVE MACEDONIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four-skills course in beginning Macedonian which is offered as part of a summer intensive workshop in Slavic languages.

Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0215 - INTENSIVE BEGINNING ROMANIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four-skills beginning immersion course in the Romanian language.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0216 - BEGN INTEN BULGARIAN PITT/BULG

Minimum Credits: 10
Maximum Credits: 10
This is a course in beginning intensive Bulgarian language, the first six weeks held in Pittsburgh as part of the summer language institute, followed by four weeks of language study in Sofia, Bulgaria.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0217 - BEGINNING INTENSIVE LATVIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Latvian which is offered as part of the summer intensive workshops in East European languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0218 - BEGINNING INTENSIVE LITHUANIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Lithuanian which is offered as part of the summer intensive workshops in East European languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0219 - BEGINNING INTENSIVE ESTONIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Estonian which is offered as part of the summer intensive workshops in East European languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0222 - INTM INTENSIVE CZECH - PRAGUE

Minimum Credits: 6
Maximum Credits: 6
This is an intensive course in intermediate intensive Czech which meets for six weeks during summer term in Prague, Czech republic. It is part of the Russian and East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0223 - INTM INTNSV BULGARIAN/BULGARIA

Minimum Credits: 4
Maximum Credits: 4
This is a continuation of SLAV 0213, beginning intensive Bulgarian and is equivalent to the first semester of inter mediate second-year Bulgarian. This segment will be con ducted in Bulgaria and is part of the summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0224 - BEGN HUNGARIAN PITT-HUNGARY

Minimum Credits: 10
Maximum Credits: 10
This is an intensive course in beginning intensive Hungarian which meets for six weeks during summer term in Pittsburgh, followed by four weeks of study in Debrecen, Hungarian. It is part of the Russian and East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0225 - INTM HUNGARIAN IN HUNGARY

Minimum Credits: 4
Maximum Credits: 4
This is an intensive course in intermediate intensive Hungarian which meets for four weeks during summer term in Debrecen, Hungary. It is part of the Russian and East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0227 - INTERMEDIATE INTENSIVE LATVIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in intermediate Latvian which is offered as part of the summer intensive workshops in East European languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0228 - INTM INTENSIVE LITHUANIAN

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in intermediate intensive Lithuanian which is offered as part of the summer intensive workshops in East European languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0229 - INTERMEDIATE INTEN ESTONIAN

Minimum Credits: 6
Maximum Credits: 6
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0232 - ADVANCED INTEN CZECH-PRAGUE

Minimum Credits: 6
Maximum Credits: 6
This is an intensive course in advanced intensive Czech which meets for six weeks during summer term in Prague, Czech Republic. It is part of the Russian and East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLAV 0550 - LITERARY MASOCHISM

Minimum Credits: 3
Maximum Credits: 3
This course aims to expose students to the concept's intellectual history in its sociological context, on the one hand, and, on the other, to read/ view prose, poetry, and cinema in the light of the most important theories on masochism. The inter-disciplinary nature of the course is designed to attract students from various departments (Slavic languages and literatures, film, English, psychology).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLAV 0660 - SCI-FI: EAST AND WEST

Minimum Credits: 3
Maximum Credits: 3
This course compares Slavic and Anglophone science fiction to assess how a given culture's dominant values are articulated in a popular genre that enjoys different status in East and West. Those values emerge in works that imaginatively posit "fantastic" situations rooted in biological, spatial, and temporal explorations beyond those verified by science. On the basis of films, film clips, TV shows, stories, novellas, and novels we shall discuss

such topics as utopia, progress, human perfectibility, the limits of science, and the nature of knowledge.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLAV 0880 - VAMPIRE: BLOOD AND EMPIRE

Minimum Credits: 3
Maximum Credits: 3
This course examines the phenomenon of vampirism in verbal and visual texts from different time periods in various cultures (Russia, Poland, France, England, America). We will analyze stories, novels, and films focusing on vampires from a variety of critical perspectives, contextualizing the works in the cultures that produced them.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLAV 1050 - COMPUTATIONAL METHS IN HUMANIT

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the use of computational modeling and programming to conduct text-based research in the humanities. Course goals include 1) learning how to identify research questions in the humanities that are amenable to computational analysis and processing and 2) designing and implementing xml-based computational systems to explore those questions. No prior programming experience or knowledge of foreign languages required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLAV 1220 - HOLOCAUST E EURPN FILM & LIT

Minimum Credits: 3
Maximum Credits: 3
This course examines verbal and visual texts that involve some form of testimony as to events related to the Nazi Holocaust (1939-47). We shall analyze specific texts, the effect of technical aspects of the texts, and the difference between fiction and non-fiction and the effects of Holocaust denial.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLAV 1225 - CROS CLTL REPRSTN PRISON 20THC

Minimum Credits: 3
Maximum Credits: 3
This course examines cultural works produced in and about prison in the 20th century, addressing the function of art within the context of incarceration. In structure the course is composed of three parts: prison writings and criminal culture in America, memoirs from the forced-labor camps of the soviet gulag, and narratives of holocaust concentration camps. This structure allows for a comparison of cultures-- American, Russian, and European--as well as identities-- racial, gender, and religious.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLAV 1710 - UNDERGRADUATE TEACHER TRAINING

Minimum Credits: 1
Maximum Credits: 3
This is an elective course for gaining teaching experience under the supervision of the Slavic department faculty.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

SLAV 1720 - UNDERGRADUATE TEACHING

Minimum Credits: 1
Maximum Credits: 3
This is an elective course for students who wish to gain teaching experience under the supervision of the Slavic department faculty.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

SLAV 1840 - TOPCS SLAV CULT: MYTHS IN LIFE

Minimum Credits: 3
Maximum Credits: 3

This course will deal with specific topics concerning the literature of various central and East European cultures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLAV 1865 - THE YEAR COMMUNISM CRUMBLED

Minimum Credits: 3
Maximum Credits: 3
This course is structured around the chronology of events in central and East Europe leading up to the demise of the old soviet union in 1991. The course will follow the results of the dramatic changes in Poland, Czechoslovakia, East Germany, Hungary, Romania, Bulgaria, Yugoslavia, and some of the former republics of the Soviet Union through the present time.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLAV 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
This course allows students to work independently on individually designed projects.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

SLAV 1903 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course accommodates various topics in Slavic literatures and cultures.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 0010 - ELEMENTARY SLOVAK 1

Minimum Credits: 3
Maximum Credits: 3
This four-skills language course introduces the student to the fundamentals of Slovak pronunciation and speaking, reading, writing and listening, with emphasis on practical conversation. The present tense of verbs, the plural of nouns, and the gradation of adjectives and adverbs is covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 0020 - ELEMENTARY SLOVAK 2

Minimum Credits: 3
Maximum Credits: 3
A continuation of SLOVAK 0010, this course extends the grammatical coverage to include verbal aspects, numeral expressions, and the locative, dative, and genitive cases. Emphasis continues to be on developing spoken language competence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 0030 - INTERMEDIATE SLOVAK 3

Minimum Credits: 3
Maximum Credits: 3
The continuation of SLOVAK 0020, this course focuses more on written Slovak and developing listening comprehension than in the first-year course. Attention is paid to developing a good control of basic idioms, and to the formation of participles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 0040 - INTERMEDIATE SLOVAK 4

Minimum Credits: 3
Maximum Credits: 3
The continuation of SLOVAK 0030, this course attempts to round out the student's basic oral competence in relation to specific matters of Slovak culture and reality. For many students, this course is preparatory to summer study in Slovakia.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 0210 - INTENSIVE BEGINNING SLOVAK

Minimum Credits: 6
Maximum Credits: 6
This is a four-skills intensive course in beginning Slovak language which is to be offered as part of the summer intensive workshops in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLOVAK 0211 - BEGN INTEN SLOVK PITT/SLOVAKIA

Minimum Credits: 10
Maximum Credits: 10
This is an intensive course in intermediate intensive Slovak which meets for six weeks during summer term in Pittsburgh, followed by four weeks of study in Slovakia. It is part of the Russian and East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SU3 Elective Basis

SLOVAK 0212 - BEGN INTEN SLOVAK IN SLOVAKIA

Minimum Credits: 4
Maximum Credits: 4
This is a four week course in beginning intensive Slovak conducted in Slovakia which follows the six-week Pittsburgh intensive course. Students must complete the prior course or have had at least one semester of Slovak language, or a prior elementary knowledge of the language to register for this component.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLOVAK 0220 - INTENSIVE INTERMEDIATE SLOVAK

Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in intermediate Slovak which is offered as part of the summer intensive workshops in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLOVAK 0221 - INTM INTEN SLOVK PITT/SLOVAKIA

Minimum Credits: 10
Maximum Credits: 10
This is an intensive course in intermediate intensive Slovak which meets for six weeks during summer term in Pittsburgh, followed by four weeks of study in Slovakia. It is part of the Russian and East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLOVAK 0222 - INTM INTEN SLOVAK IN SLOVAKIA

Minimum Credits: 4
Maximum Credits: 4
This is a four week course in intermediate intensive Slovak conducted in Slovakia which follows the six-week Pittsburgh intensive course. Students must complete the prior course or have had at lEast three semesters of Slovak language, or a prior intermediate-level knowledge of the language to register for this component.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLOVAK 0230 - ADVANCED INTENSIVE SLOVAK

Minimum Credits: 6
Maximum Credits: 6
This is a four-skills intensive course in advanced Slovak which is offered as part of a summer intensive workshop in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLOVAK 0232 - ADV INTEN SLOVAL/BRATISLAVA

Minimum Credits: 6
Maximum Credits: 6
This is an intensive course in advanced intensive Slovak language which meets for six weeks during summer term in Bratislava, Slovak republic. 140 Contact hours. It is part of the Russian and East European summer language institute.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

SLOVAK 0380 - SLOVAK TRANSATLANTIC CULTURES

Minimum Credits: 3
Maximum Credits: 3
Slovak European history and the interaction of Slovak and American cultures during the 120-year history of Slovak immigration is conveyed through readings in Slovak and Slovak-American literature, and through issues in literary theory that concern this theme. The course is structured around the history of Slovak, and in a broader cultural sense central European, immigration to the United States with a special focus on Pittsburgh. The students are encouraged to investigate Pittsburgh's rich ethnic heritage and to research and write on topics tailored to their individual interests.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 0400 - ADVANCED SLOVAK 1

Minimum Credits: 3
Maximum Credits: 3
This course extends grammatical and conversational skills of those with an intermediate knowledge of Slovak. The course also covers aspects of Slovak culture and makes extensive use of contemporary texts from Slovakia. The students also learn elementary translation skills. Emphasis is put on fluency in conversation and on comprehension of unedited original reading material from newspapers and magazines.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 0410 - ADVANCED SLOVAK 2

Minimum Credits: 3
Maximum Credits: 3
This course continues in developing skills learned in advanced Slovak 1. It extends the range of conversational topics and teaches more complex grammatical structures. It builds elementary skills needed to write brief essays in Slovak. The course also expands the students' translation skills and reading and listening comprehension.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 0890 - SLOVAK, CZECH & CNTR EURPN FLM

Minimum Credits: 3
Maximum Credits: 3
The course presents central European filmmaking in its cultural context, and central European (Czech, Slovak, Hungarian, etc.) Culture through film. The students learn to discuss them in their cultural context against the panorama of life in central Europe, as well as from the American perspective. The focus is both on film aesthetics, and on the social implications of the content of the films, which was considered crucial by central European directors, screenwriters, and audiences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 1250 - A CULTURAL HISTORY OF SLOVAKIA

Minimum Credits: 3
Maximum Credits: 3
This course meets the needs of those interested in Slovak and central European affairs, history, cultures, peoples, languages and traditions. The history of Slovakia mirrors the history of many other central European peoples whose growing national aspirations have changed the area's political map on numerous occasions, most recently after the collapse of communism. The course also meets the needs of students interested in aspects of nationalism in Europe.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 1260 - SURVEY OF SLOVAK LIT & CULTURE

Minimum Credits: 3
Maximum Credits: 3
An undergraduate survey course conducted in English with readings in English and/or Slovak.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 1270 - SLOVAKIA TODAY

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to Slovak history, literature, film, and culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 1280 - MODERN SLOVAK LITERATURE

Minimum Credits: 3
Maximum Credits: 3
This is a course which surveys Slovak literature post World War II to the present.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 1770 - CZECH AND SLOVAK CINEMA

Minimum Credits: 3
Maximum Credits: 3
This is a survey course on Czech and Slovak film.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SLOVAK 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 3
This course allows students to work independently on individually designed projects.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

UKRAIN 0010 - ELEMENTARY UKRAINIAN 1

Minimum Credits: 3
Maximum Credits: 3
A four-skill language course, this course introduces the student to the fundamentals of Ukrainian pronunciation and speaking, reading, writing and listening, with emphasis on practical conversation. The present tense of verbs, the plural of nouns, and the gradation of adjectives and adverbs is covered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

UKRAIN 0020 - ELEMENTARY UKRAINIAN 2

Minimum Credits: 3
Maximum Credits: 3
A continuation of elementary Ukrainian 1, this four-skill language course extends the grammatical coverage to include verbal aspect, numeral expressions, and the locative, dative and genitive cases. Emphasis continues to be on developing spoken language competence.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

UKRAIN 0030 - INTERMEDIATE UKRAINIAN 1

Minimum Credits: 3
Maximum Credits: 3
The continuation of elementary Ukrainian 2, this course focuses more on written Ukrainian and developing listening comprehension than in the first-year course. Attention is paid to developing a good control of basic idioms, and to the formation of participles.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

UKRAIN 0040 - INTERMEDIATE UKRAINIAN 2

Minimum Credits: 3
Maximum Credits: 3
The continuation of intermediate Ukrainian 1, this course attempts to round out the student's basic oral competence in relation to specific matters of Ukrainian culture and reality. For many students, this course is preparatory to summer study in the Ukraine.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

UKRAIN 0210 - INTENSIVE BEGINNING UKRAINIAN
Minimum Credits: 6
Maximum Credits: 6
This is a four skills intensive course in beginning Ukrainian which is offered as part of the summer intensive workshops in Slavic languages.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis

UKRAIN 0400 - ADVANCED UKRAINIAN
Minimum Credits: 3
Maximum Credits: 3
This is a course in advanced Ukrainian language (third-year, first semester) and is a four-skill course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

UKRAIN 0410 - ADVANCED UKRAINIAN 2
Minimum Credits: 3
Maximum Credits: 3
This is a continuation (second semester, third year) course in advanced Ukrainian language.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

UKRAIN 0850 - UKRAINIAN CULT 10TH-20TH CENT
Minimum Credits: 3
Maximum Credits: 3
This course is to present to students a short survey of the development of Ukrainian culture from its earliest period until today. Included will be the following aspects: arts, mythology, folklore, literature, music, religions, philosophy, ethics and law.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

UKRAIN 1260 - SURVEY OF UKRAINIAN LITERATURE
Minimum Credits: 3
Maximum Credits: 3
The aim of this course is to acquaint the student with the main trends and achievements of Ukrainian literature of the 19th and 20th centuries, on the background of Western European literary trends. Students will be introduced to various literary schools and theories; structuralist, formalist, deconstructionist, hermeneutic, modernist, and postmodernist.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

UKRAIN 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 3
This course allows students to work independently on individually designed projects.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

Social Work

SOCWRK 1000 - INTRODUCTION TO SOCIAL WORK
Minimum Credits: 3
Maximum Credits: 3
The objective of this course is to introduce students to the goals, values, and historical development of the profession, as well as its body of knowledge, unique methods, and settings for practice.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

SOCWRK 1001 - INTRO SCL WRK CIVIC ENGAGEMENT

Minimum Credits: 1
Maximum Credits: 3
The objective of this course is to introduce students to the goals, values, and historical development of the profession, as well as its body of knowledge, unique methods, and settings for community practice.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

SOCWRK 1005 - FOUNDATIONS OF WELFARE STATE

Minimum Credits: 3
Maximum Credits: 3
The objective of this course is to examine the nature and structure of social welfare services and institutions; historical and cultural foundations of how societies have provided welfare services for people; current issues in the provision of services.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

SOCWRK 1006 - POLICY ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
The objective of this course is to examine the nature and development of public school policy. A conceptual model for the analysis of social policy will be presented and using this model particular social welfare policies, such as those for mental health and aging, will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SOCWRK 1000 and SOCWRK 1005

SOCWRK 1008 - ETHNICITY AND SOCIAL WELFARE

Minimum Credits: 3
Maximum Credits: 3
This course provides an understanding and working knowledge of the interface of ethnicity and race and the social welfare system. Critical ways in which the social welfare system has been shaped by ethnic and racial factors will be discussed, as well as the effects of race and ethnicity on the ways in which various ethnic and racial groups use the social welfare system, ways in which services/resources are allocated, and reasons that propel individuals and groups to seek out social services and resources.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Social Work students only.

SOCWRK 1009 - CASE MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the fundamental aspects of case management (service coordination), including common case management roles, processes, responsibilities, and employment challenges. Major content areas include: case management roles (including advocate, broker, resource coordinator), the roles and responsibilities of the multidisciplinary team (including nurses, social worker, physicians, and other disciplines), case management with special populations (forensic, geriatric, children, diverse populations), and the responsibilities of a case manager working in health care and mental health settings. Students will be introduced to the employment challenges of case management (types of programs that hire case managers, workforce retention issues, expectations of case manager, and job satisfaction). Students will develop familiarity with how case managers and clients interface with individual, group, and family systems. Students will develop knowledge of case management ethics and explore common ethical dilemmas and boundaries issues that confront case managers.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SOCWRK 1010 or PSY 1210 (MINGRADE: 'C-' for all listed Courses); Plan: Psychology(BS) or Social Work(BSW); LVL: Jr, Sr

SOCWRK 1010 - PRA MODL:HELP PEPL HELP SELVES

Minimum Credits: 3
Maximum Credits: 3
This course identifies generic principles of social work methods of intervention within a systems frame of reference. Didactic and experiential methods will be used.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Social Work students only.

SOCWRK 1011 - SOCIAL WORK W/INDIVS & FMLYS

Minimum Credits: 3
Maximum Credits: 3
Teaches interventive skills in casework with individuals and families, with emphasis on the problem-solving psychosocial, and behavioral approaches.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SOCWRK 1010 (MIN GRADE 'C-')

SOCWRK 1012 - SOCIAL WORK W/COMNYS & ORGNS

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to macro practice through understanding and analyzing organizations and the relationship of organizations to the urban community. The focus is on the acquisition of practice skills in community organization, e.g. locality development, social planning, and social action.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SOCWRK 1010 (MIN GRADE 'C-')

SOCWRK 1013 - SOCIAL WORK WITH GROUPS

Minimum Credits: 3
Maximum Credits: 3
Introduces the student to social group work as a method in social work practice. The history of the development of groups in social work with emphasis on practice in the United States is also presented. Remedial, reciprocal and social goals models will be analyzed in relation to the worker's use of self, group, structure, group process, phase development and the agency functions used to achieve individual and group goals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SOCWRK 1010 (MIN GRADE 'C-')

SOCWRK 1015 - HUMAN BEHAVR & SOCL ENVIRONMNT

Minimum Credits: 3
Maximum Credits: 3
The objective of this course is to view the range of human needs and behavior as related to various conditions of the urban scene. Examines social, political, economic, and cultural factors which influence individual, group, and community social functioning.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: School of Social Work students only.

SOCWRK 1020 - INTRO TO SOCIAL WORK RESEARCH

Minimum Credits: 3
Maximum Credits: 3
This course is oriented to the reader and user of social work research. Using standard methodology texts and actual research studies, the lectures and discussions are designed to enable students to read and assess studies relevant to social work practice. In this process, the development and conduct of social research, as it applies to the issues and concerns of social work practice, is described and analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: Any Statistics Course; PLAN: Social Work (SOCWRK-BSW)

SOCWRK 1023 - PERSNL GROWTH THRGH PSYCHODRAM

Minimum Credits: 3
Maximum Credits: 3
This course includes the 5 philosophical concepts, the 6 operational elements, the format, the procedure and processes, and the basic techniques and strategies of psychodrama as developed by J.L. Mareno. Another aspect of the course is the examination of theories and of current research on the use of psychodrama, sociodrama and as a teaching strategy.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: School of Social Work students only.

SOCWRK 1024 - PRACTICUM SEMINAR AND LAB 1

Minimum Credits: 3
Maximum Credits: 3
The objective of this course is for students to be able to identify their feelings and behaviors as well as those of their clients and colleagues which affect the course of their interventions within their practice area.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: CREQ: SOCWRK 1025

SOCWRK 1025 - PRACTICUM 1

Minimum Credits: 6
Maximum Credits: 6
Placement in an agency will be made according to interest and educational need. Evaluation will be made of the student's ability to use classroom theories to enhance service.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: School of Social Work students only.

SOCWRK 1026 - PRACTICUM SEMINAR AND LAB 2

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to facilitate the student's development of a professional self through the integration of classroom and practicum learning and to provide students an opportunity to amplify their practice learning beyond their immediate placements as a result of guided interactional experiences with other students.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade
Course Requirements: PREQ: SOCWRK 1024 (MIN GRADE 'C-'); CREQ: SOCWRK 1027

SOCWRK 1027 - PRACTICUM 2

Minimum Credits: 6
Maximum Credits: 6
A continuation of Practicum 1.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade
Course Requirements: School of Social Work students only.

SOCWRK 1030 - DIRECTED STUDY

Minimum Credits: 1
Maximum Credits: 6
Directed study provides students with opportunity to explore in-depth a specific social work area beyond that available in regularly scheduled courses. Students must secure a faculty mentor, develop a written plan and receive approval of the plan in order to register for a directed study.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

SOCWRK 1035 - GLOBL PERSPECTIVES SOCIAL WORK

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce students to the international dimensions of the human condition; the global context of responses to human need; and social development as an approach to global social work practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: SOCWRK 1000

SOCWRK 1040 - SOCL INEQUALITY AMERCN SOCIETY

Minimum Credits: 3
Maximum Credits: 3
Poverty, race and opportunity in the United States will be the focus of the course. Of particular interest: patterns of intergroup relationships; the

institutionalization of dominant group perspectives; poverty within systems of capitalism and social welfare; and the strengths and opportunities present within disadvantaged population groups.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Social Work students only.

SOCWRK 1044 - AGING IN MULTICULTURAL SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This course is designed to provide a framework of knowledge, skills and values for culturally competent and responsive social work practice with older adults. It will focus on diversity and differential effects of aging and related service programs that affect the quality of life in old age.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis

SOCWRK 1058 - ECONOMICS AND SOCIAL WORK

Minimum Credits: 3
Maximum Credits: 3
This course provides an understanding of basic economic theory, and discusses its application to social welfare policy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: PREQ: SOCWRK 1000

SOCWRK 1059 - CHILD AND FAMILY ADVOCACY

Minimum Credits: 3
Maximum Credits: 3
This is a practical skills course in legal advocacy for non-lawyers. The emphasis is on practical techniques and courtroom skills to enhance the professional effectiveness of social workers in the courtroom setting. Typical areas of discussion include rules of evidence, legal procedure, expert witnesses, interview techniques, cross-examination, law reform, case review and readings and the legal rights of children.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Social Work students only.

SOCWRK 1061 - CHILDREN'S RIGHTS

Minimum Credits: 3
Maximum Credits: 3
Students will study the rights and responsibilities of government, the family, and the child in raising healthy, adjusted children; will apply conceptual models for understanding rights; will understand historical evolution of these rights.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Social Work students only.

SOCWRK 1062 - THRY & CONCPT IN COMP GVRNT

Minimum Credits: 3
Maximum Credits: 3
An analysis of some of the major problems in constructing "scientific" theories of politics. Focusing on the comparative method, the course considers in detail several of the major approaches to the study of politics employed by contemporary political scientists.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Social Work students only.

SOCWRK 1063 - AFRICAN-AMERICAN HEALTH ISSUES

Minimum Credits: 3
Maximum Credits: 3
Course will focus on black health issues from analytical, theoretical and practical perspectives. These perspectives will be introduced through cross-examination of health topics which are critical to the black population, the development of health policies and conceptual models for health promotion and disease prevention.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: School of Social Work students only.

SOCWRK 1079 - CHILD WELFARE SERVICES
Minimum Credits: 3
Maximum Credits: 3
Engages students in the study of child welfare, its historical roots, the services provided to families and children, the problems and policy issues in the current child welfare system and culturally competent practice. The study will focus on the etiology, rationale for service, and the current and future provision of services, with emphasis given to legislative mandates for service.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: SOCWRK 1000

SOCWRK 1080 - BROWNE LEADERSHIP FELLOWS SEM
Minimum Credits: 1
Maximum Credits: 1
This seminar engages students in a practice that will lead to their own professional growth and development. The primary focus of this seminar will be on the development of the knowledge, values, and skills of a professional. During seminars, browne fellows will begin program design and implementation strategies for the summer program. Fellows will have the opportunity to hear from experts in the field but spend significant time exploring the topics. The final assessment is focused on a presentation and poster session. Only students that have applied to and been accepted into the Browne Leadership Fellows program are eligible to enroll in this course.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SU3 Elective Basis

SOCWRK 1088 - SPECIAL TOPICS
Minimum Credits: 1
Maximum Credits: 3
Given the changing nature of generalist practice, the BASW program occasionally offers courses in new and/or unique content areas. This course is designed to provide skill and knowledge content not covered in other BASW courses.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SU3 Elective Basis

SOCWRK 1098 - GENERLIST FDS SOCL WRK PRACT
Minimum Credits: 3
Maximum Credits: 3
This course is designed to serve as foundations for specialization by providing students with the knowledge, values and skills needed to engage in the generalist practice of social work. Professional social work activity related to various social problems (poverty, racism, sexism), system size (individual, family, group, organization, community, society), and locations of practice (host setting, the urban environment, for example) will be emphasized.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SU3 Elective Basis
Course Requirements: School of Social Work students only.

Sociology

SOC 0002 - SOCIOLOGY OF EVERYDAY LIFE
Minimum Credits: 3
Maximum Credits: 3
This course considers questions of individual behavior and social interaction together with societal phenomena. The interactions among these matters is discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0003 - TECHNOLOGY AND SOCIAL CHANGE
Minimum Credits: 3
Maximum Credits: 3
To acquaint the student with major sociological concepts, approaches and theories that are applicable to the analysis of the interaction between technology and society. The discussions are organized around three issues; 1. The effects of technology upon various aspects of the social structure and functioning, 2. The social conditions which lead to innovations and the diffusion of innovations throughout society, and 3. Technology assessment and environmental impact statement processes as they bear on current national decisions bearing on technology/society interfaces.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0005 - SOCIETIES
Minimum Credits: 3
Maximum Credits: 3
This introductory course is devoted to furthering an understanding of life in America today by comparing it to a variety of societies worldwide. Among the societal aspects explored; political and economic systems, cultural styles, major religions and religious trends.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0007 - SOCIAL PROBLEMS
Minimum Credits: 3
Maximum Credits: 3
The major aims of this course are to understand the nature of important social problems in American society and analyze their causes and consequences. The two competing perspectives, one, that social problems are created when individuals fail to conform to societal norms, and two, that social problems are caused when institutions fail to meet changing needs and aspirations of individuals will be used in our analysis. Future trends and policy alternatives toward amelioration will be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0008 - AMERICAN SOCIETY
Minimum Credits: 3
Maximum Credits: 3
This course offers a focus on contemporary American society, while providing an introduction to sociological principles, perspectives, and matters of concern. For some students, the course serves as a first course in sociology; for others, as a sequel (or prelude) to other, introductory level courses. For still others, the course satisfies curiosity about trends in the United States today.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0010 - INTRODUCTION TO SOCIOLOGY
Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to the discipline of sociology, its development, theories, major findings, and to the sociological interpretation of modern society. Emphasis will be given to the importance of careful empirical investigation for the understanding of recent social and cultural changes. Students should be prepared to encounter basic issues in sociological method and in theory; an inclination toward systematic and abstract reasoning will help.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0140 - CLSSICAL SOCIOLOGICAL THEORIES
Minimum Credits: 3
Maximum Credits: 3
This course will deal with the foundations of modern sociological theory through a study of major social theorists of the 19th and early 20th centuries.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0150 - SOCIAL THEORY
Minimum Credits: 3
Maximum Credits: 3
The aim of this course is to provide a survey of major developments in sociological theory in recent times. The classic background for these developments is included as part of the course. Lectures, readings and discussions help the student to acquire a grasp of the significance of theoretical analysis in sociology and of basic sociological problems addressed by a variety of theorists.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0230 - SOCIAL RESEARCH METHODS
Minimum Credits: 3
Maximum Credits: 3
Students begin to learn to do social research in this course. They learn how to define an appropriate problem, select an appropriate method, collect and analyze data, discuss their results, and draw conclusions. Students study both quantitative and qualitative methods.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0232 - SOCIAL RESEARCH 1

Minimum Credits: 3
Maximum Credits: 3
This first course, in a sequence of two courses, provides an introduction to contemporary social research methods. Issues of problem formulation, conceptualization and operationalization, measurement, sampling, data collection and data processing are covered. Throughout the course there will be extensive use of the departmental computing laboratory to provide hands-on practical experience with real data and real problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

SOC 0233 - SOCIAL RESEARCH 2

Minimum Credits: 3
Maximum Credits: 3
The second course of the two-course sequence is focused on the "analysis" of social scientific information in three research contexts: the first deals with social surveys; the second covers methods for analyzing narratives, observation al evidence and documents; and the third considers social network methods. In all three there will be extensive analyses of real data. Most of the class work will take place in the departmental computing laboratory with the intent that students learn how to do research by doing it with nontrivial substantive problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

SOC 0312 - SCIENCE IN SOCIETY

Minimum Credits: 3
Maximum Credits: 3
The course aims at conveying an understanding of the social significance of science in modern society, dealing with questions of why science is valued, how society supports science, how scientists are selectively recruited and trained, how scientific activity is organized, and how scientific knowledge is utilized in society, especially in the United States and Europe. Focus is on the values attached to science by society, the interest in making new discoveries, organization of research, diffusion and transmission of scientific knowledge.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0317 - GLOBAL SOCIETY

Minimum Credits: 3
Maximum Credits: 3
The aim is to analyze the dynamics of civilization in today's interconnected world. How is people's social and cultural life shaped by their position in the world, by local traditions and distant forces? How have the independently coexisting civilizations of earlier centuries become incorporated into a global civilization in which colonial empires and the communist regime have given way to wider democracy and a capitalist regime with global dynamics? How is Western culture (beliefs, values and symbols) disseminated and embraced, modified or resisted in non-Western societies?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0333 - IDEOLOGIES AND SOCIAL CHANGE

Minimum Credits: 3
Maximum Credits: 3
The role of ideology in promoting, thwarting or preventing change is examined. An inquiry is made into how an ideology is formulated and implemented and what channels are used for its diffusion. Various kinds of political, religious and scientific ideologies are analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0339 - SOCIOLOGY OF RELIGION

Minimum Credits: 3
Maximum Credits: 3
This course will compare and contrast major classical and modern sociological theories of religion, including discussion of the renewed focus on religion in mainstream, general theory. Attention will be narrowed to a focus on relation between religions, states and individuals in comparative and historical perspective.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0351 - SOCIAL CHANGE
Minimum Credits: 3
Maximum Credits: 3
Theories of social change will be evaluated in the light of case studies drawn from history and the contemporary world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0352 - SOCIAL MOVEMENTS
Minimum Credits: 3
Maximum Credits: 3
This course offers ideological, structural, and functional treatment of dominant American movements for social and cultural change in our contemporary world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0354 - SOCIAL STRUCT OF CNTMPRY JAPAN
Minimum Credits: 3
Maximum Credits: 3
This is a basic course to introduce students to sociocultural perspectives on Japanese society.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0359 - GLOBAL ISSUES UNITED NATIONS
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0361 - SOUTHEAST ASIAN SOCIETIES
Minimum Credits: 3
Maximum Credits: 3
This course invites students to acquaint themselves with a foreign culture area--Southeast Asia--by reading and discussing prose fiction mostly created about their societies by Southeast Asian authors. Through literature, the course intends to provide an introduction to the comparative study of contemporary Southeast Asian societies, examining major issues of social change and tradition in the concrete context of one of the most diverse and explosive regions of the world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0362 - LATIN AMERICAN SOCIETIES
Minimum Credits: 3
Maximum Credits: 3
A general survey of Latin American societies from an historical sociological perspective. Emphasis is placed on the emergence of some key social institutions as rooted in the Iberian tradition. Recent theories of development and de pendency are reviewed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0386 - FRENCH REVOLUTION
Minimum Credits: 3
Maximum Credits: 3
This course will consider various theories of the social sources of revolutions and evaluate them in the light of historical research.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0411 - DECEPTION AND BETRAYAL
Minimum Credits: 3
Maximum Credits: 3
Students learn what sociologists and social psychologists have discovered about deception and betrayal in personal relationships, social institutions, national affairs, and international affairs.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0414 - SEXUAL POLICY

Minimum Credits: 3
Maximum Credits: 3
Students consider what policies governments should adopt in regulating sexual behavior and sexual matters. Topics considered include heterosexual and homosexual behaviors, prostitution, pornography, and abortion.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0424 - SMALL GROUPS

Minimum Credits: 3
Maximum Credits: 3
In this course, the study of small groups is viewed as one means of building general sociological knowledge. Such groups exhibit basic social processes, such as the emergence of status structures and of group cultures. Basic theory and research methods on such groups are treated. It is likely that the readings will include case studies of real groups that illustrate how group processes and structures are analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0426 - SOCIETY AND THE CHILD

Minimum Credits: 3
Maximum Credits: 3
This course will study early childhood socialization in contemporary society. The interaction of a biological process of maturation with socio-cultural molding will be examined as will changes in the roles of parents and social institutions outside the family.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0431 - BUREAUCRACIES

Minimum Credits: 3
Maximum Credits: 3
This course examines bureaucratic organizations of all types (industrial, commercial, governmental, religious, educational, social welfare, etc.) giving special attention to decision-making. People make decisions according to bureaucratic rules, in problem-solving groups, and in interest groups which seek to win advantages for themselves and their members. Decisions and other organizational acts will be studied sociologically.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0432 - WEALTH AND POWER

Minimum Credits: 3
Maximum Credits: 3
The interdependence of these two key sociological concepts is discussed in the context of American society. The role of the multi-national corporation as the most important institution in capitalist societies is examined. The pervasive power of some is contrasted with the generalized powerlessness of the majority.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0434 - POLITICAL SOCIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course examines the relationship between political institutions and the institutions of the economy, family, education, religion, and stratification. With a major focus on American society and the conditions underlying stable democracy, these relationships are studied in historical and cross-societal comparative perspective as well as in terms of a society's location in the system of international relations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0436 - SOCIAL ASPECTS OF SEXUALITY

Minimum Credits: 3
Maximum Credits: 3
Students consider the social analysis of human sexual behavior and experience. Topics considered include sexual motivation, masturbation,

premarital intercourse, marital intercourse, extramarital intercourse, homosexuality, and sexual norms and values.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0438 - SOCIOLOGY OF THE FAMILY

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the sociological perspective on the family and analyzes how the structure and nature of family life are shaped by larger historical and social forces. We will look at how changes in the economy and technology affect the family; how ideas concerning gender roles affect male/female relationships and the socialization of children; how race, ethnicity, and class shape family life; and the wide variety of family forms, historical and contemporary.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0441 - PROFESSIONS AND DYING PATIENT

Minimum Credits: 3
Maximum Credits: 3
With a main focus on the professions of medicine, nursing, and the clergy, this course examines dying, death, and bereavement in modern society. Attitudes towards dying and death will be related to ethical issues arising from growth in life-sustaining knowledge and technology, to moral decision making, and the emergence of specialization in terminal care, and bereavement support.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0444 - URBAN SOCIOLOGY

Minimum Credits: 3
Maximum Credits: 3
The modern city is simultaneously many different things. It is an assortment of neighborhoods, it is a workshop with factories and offices, it is a crisscross of transportation arteries, it is a marketplace for the interplay of economic interests, it is an object which several different governments try to understand and control, and it is an astonishing mixture of religious, racial, ethnic, recreational, avocational, professional, educational, medical, political, social, and deviant communities. This urban complex will be studied with a sociological approach.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0446 - SOCIOLOGY OF GENDER

Minimum Credits: 3
Maximum Credits: 3
This course will analyze the various processes and institutions through which gender roles are defined and shaped in our society. It will analyze the interaction between individual conceptions of gender and larger social institutions such as the family, the workforce, the media, religion, etc. The current changes in these roles will be related to changes in other social institutions. We will also examine the multiple forms of inequality in our society--based on sex, race, class, and sexual preference--and see how they interact.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0460 - MINORITY GROUPS

Minimum Credits: 3
Maximum Credits: 3
This is a course presenting the central sociological interpretations of majority/minority relations. The course begins with a consideration of minorities around the world. With world minorities as a frame of reference, the course turns to the United States and its special opportunities and problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0465 - SOCIOLOGY OF SPORTS

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is threefold; first, it is intended to provide the student with a sound introduction to the emerging field of the sociology of sport; second; it applies a sociological perspective to analyze sport as an institution and element of the social order of society; and third, it seeks to demonstrate that sport is a microcosm of the larger society and can neither be isolated nor insulated from the broader social currents.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0466 - SOCIAL CONTROL OF BUSINESS

Minimum Credits: 3
Maximum Credits: 3
This course studies the modern business system as a social and cultural operation. Topics include; materialism and the business culture, the merger of business and technology, prevailing ideologies in the business world, governing norms and customs of the workplace and marketplace, and the place of the individual within the system (including indoctrination, career-striving, decision making, females vis-a-vis males, and equitable treatment).
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0471 - DEVIANCE AND SOCIAL CONTROL

Minimum Credits: 3
Maximum Credits: 3
This course raises questions about what is "deviant" and how certain actions and beliefs come to be considered deviant. It also raises questions concerning the social, structural and cultural determinants of the decision to view something as "deviant" and in need of "control". The course explores changes in the definition of behavior which lead the same behaviors to be considered 'sins', 'crimes', 'illnesses', and 'alternative life-styles'.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0472 - INTRODUCTION TO CRIMINOLOGY

Minimum Credits: 3
Maximum Credits: 3
Criminology refers to the scientific study of crime, its causes, and social responses to it. This course provides a broad overview of the study of crime. It examines the legal definitions and elements of crime; surveys the major categories of crime, i.e. predatory and non-predatory acts; reviews the major measures of crime; identifies the major correlates of crime, reviews and assesses the major theories of crime; differentiates types of offenders and explores various dimensions of their offending; and examines and evaluates the workings of the criminal justice system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0474 - SOCIETY AND THE LAW

Minimum Credits: 3
Maximum Credits: 3
Every society regulates behavior and the means, i.e. Either informal or formal, with which this is done varies according to level of social development. This course examines the regulation of behavior in primitive, transitional, and modern societies and traces the development of law and legal systems and their relationship to different characteristics of social development. We will examine legal jurisprudence and the application of the principles of these philosophies and explore how they have shaped legal action.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0475 - SOCIOLOGY OF AGING

Minimum Credits: 3
Maximum Credits: 3
This course studies the fate of being old in American society in terms of income-adequacy, participation in political life, family relations, the status of retirement as an institution, health, the loss of independence and life in nursing homes. These and related issues are examined in cross-national perspective to assess the level and some nationally distinctive ways in which modern society cares for its elderly.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0476 - WORK AND OCCUPATIONS

Minimum Credits: 3
Maximum Credits: 3
This is a basic course in the sociology of work and the occupational structure.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0477 - MEDICAL SOCIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This is a course on socio-cultural aspects of health, illness, disease and (medical) treatment in American society. The historical transformation of American medicine into a powerful sovereign profession with unparalleled authority, autonomy and control over all aspects of health and illness will

be examined. On the basis of this historical survey, recent empirical studies of distribution of health, disease and medical care will be examined as well as specific substantive issues and contemporary debates.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0478 - YOUTH AND SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This course examines the relationship between youth and socio-cultural change that results from the intersection of psychological development and historical circumstances. The course also compares processes of adult socialization and identity transformation with the more familiar processes of childhood socialization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0479 - SOCIOLOGY OF EDUCATION

Minimum Credits: 3
Maximum Credits: 3
The purpose of the course is to show the place of education as a subsystem within a larger societal structure and to understand the significance of education for the vital area of socialization. Educational values, norms, roles, and institutions, as well as the various aspects of the educational process will be analyzed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 0490 - MASS MEDIA

Minimum Credits: 3
Maximum Credits: 3
This course deals with the many faceted roles of mass media in our society and explains how and why the media have achieved their present prominence and influence on our lives.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1002 - SOCIOLOGY HONORS SEMINAR

Minimum Credits: 3
Maximum Credits: 3
The search for identities is an inseparable component of the postmodern "global" world. Individual and collective identities are in a constant state of formation and change. Using comparative case studies, we will examine various kinds of identity construction and transformation, including identities of race, ethnicity, nation and gender. Through the application of sociological insights, we hope to improve our understanding of these complicated processes
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: (SOC 0150 and SOC 0230); PLAN: Sociology(BA); CUM GPA '3.25'

SOC 1105 - FEMINIST SOCIAL THEORY

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to American feminist social theory. Feminist theory analyzes the male dominance of our society and its institutions and shows how this shapes all aspects of our lives. Feminist critique also extends to the production and dissemination of "knowledge", illustrating how the very subjects studied, and the books chosen as important, reflect the male bias of the researchers. In this course we will study both of these aspects of feminist theory, and examine how feminist thought is beginning to change the shape of American social science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1107 - CULTURAL SOCIOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course begins with a survey of the treatment of culture in a variety of schools of modern social science. Among the schools of thought to be surveyed are: Habermas-centered critical theory; Marxist and neoMarxist approaches including those inspired by the Frankfurt school, Gramsci, Lukacs and Wallerstein; action and functional approaches (derived in part from weber and Durkheim) centered upon the works of Parsons, Geertz, Bellah, Schluchter et al.; Structuralist approaches, including those of Sahlins and Foucault.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1111 - SOCIAL THEORY AND MODELS

Minimum Credits: 3
Maximum Credits: 3
This is a course in the use of formal methods in developing theory in social science. Critical standards are introduced for the evaluation of theoretical models expressed in mathematical form and issues related to such formalization are discussed. There will be some combination of in depth study of one formal social theory and of less intensive study of a variety of theoretical models.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1112 - ECONOMIC SOCIOLOGY

Minimum Credits: 3
Maximum Credits: 3
The aim of this course is to provide a broad macrosociological perspective on the economic aspects of societies. The necessary concepts of macrosociology are introduced as needed. Comparative studies in economy and society are supplemented by analysis of issues and problems in the sociological analysis of modern economic structures. The course may include special foci ranging from the capitalist world system to the changing nature of the work place.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1114 - QUALITATIVE RESEARCH METHODS

Minimum Credits: 3
Maximum Credits: 3
Qualitative research methods (sociology 1114) provides an introduction to qualitative research methods. The course will focus on interviewing and participant observation, the two main "fieldwork" methods. Together, the class will select a topic and design a project that will allow students to practice these methods and gain practical experience in qualitative research and writing. Students will be taught how to engage in participant observation, conduct in-depth interviews, analyze data, and write qualitative research reports.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

SOC 1115 - GLOBAL CHANGE AND MODERN LIFE

Minimum Credits: 3
Maximum Credits: 3
This course is directed at discussion of the processes involved in the making of the modern world into a single sociocultural system. It combines matters usually discussed in courses on modernization, the comparative analysis of whole societies, international relations, and the relationship between individual and societies into a cohesive whole. More specifically it combines the analysis of relations "between" societies with the analysis of changes "within" societies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1119 - GLOBAL PERSPS POPULAR CULTURE

Minimum Credits: 3
Maximum Credits: 3
In this course we will use sociological perspectives to examine the role of popular culture in everyday life, with special emphasis on the global influence of the mass media industry, the relationship between cultural consumption and culture identity, and the social significance of cultural globalization in the 21st century. Specific topics include the rise of Pokémon, franchising Sesame Street, localizing American and Japanese television drama, blurring boundaries between news and entertainment and other.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1160 - ORGNS: THEORY AND RESEARCH

Minimum Credits: 3
Maximum Credits: 3
The course aims at conveying social scientific theory as well as methods for describing organizations. Theoretically, readings and discussions will focus on concept ions of organizations as rational, natural and open systems, on structural features of organizations, on their embeddedness in an environment and on their links with the larger society. Methodologically, hypotheses about organizations will be tested through data analyses on micro-computers; these exercises will facilitate acquisition of principles of social research.
Academic Career: UGRD

Course Component: Seminar
Grade Component: LG/SNC Elective Basis

SOC 1219 - SOCIAL NETWORKS

Minimum Credits: 3
Maximum Credits: 3
Social network analysis is a rapidly growing specialty within the social sciences. It provides a convincing way to study social processes. It involves the study of social objects and the social relations among and between them. The objects can be ideas, individuals, groups, organizations, cities, states, societies, etc. The relationships are equally diverse. Fruitful tools include graph theory, topology, and matrix methods. Social network analysts believe, rightly or wrongly, that they can revolutionize social science.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1231 - INTERORGANIZATIONAL NETWORKS

Minimum Credits: 3
Maximum Credits: 3
Our lives are dominated by organizations. From birth to death we move in and out of them. We take their existence for granted yet their survival is not guaranteed. This course is concerned with how organizations survive, and particularly how they deal with an increasingly turbulent environment. A key survival strategy is to form links with other organizations to get or protect resources -- which also threatens their autonomy. The dynamics of these networks of ties form the core of the course. Social network analysis and real data sets will be used.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1277 - PITTSBURGH AREA STUDY

Minimum Credits: 3
Maximum Credits: 3
This seminar affords participants the opportunity to devise, implement, analyze and write up an actual research project, drawing on data from the Pittsburgh area. The substantive topic varies from year to year; whatever the topical focus, considerable attention is paid to the practical aspects of conducting research.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

SOC 1284 - HOW TO STUDY EVERYDAY LIFE

Minimum Credits: 3
Maximum Credits: 3
This course will introduce students to the theory and practice of qualitative research. Readings and discussions will focus on the various stages of doing fieldwork: choosing a topic and defining questions, gaining entre, learning to observe and describe, participation, interviewing, collecting data, refining questions, coding, analysis and writing up the findings.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

SOC 1286 - RACE AND THE CITY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1317 - SOCIOLOGY OF LITERATURE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1319 - IMMIGRATION IN EUROPE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1321 - APPROACHES TO ANTISEMITISM

Minimum Credits: 3
Maximum Credits: 3
We survey historical, sociological, psychological, religious and political approaches to expressions of antisemitism as we study scholarly treatment of the phenomenon in the 20th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1324 - SOCL PROBLEMS & MORAL CRUSADES

Minimum Credits: 3
Maximum Credits: 3
Social problems and moral crusades (SOC 1324) examines how and why certain issues become recognized as "social problems" and sometimes become the subject of "moral crusades." Using a social constructionist approach, the course examines conflicts over how issues are defined and periods of intense media and public interest in particular problems. We will look at some new issues that are becoming recognized as social problems and we will analyze changes over time in long-standing conflicts, examining the origins of these conflicts, the reasons why they persist, and their likely outcomes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

SOC 1325 - TWO CNTURIES DEMOCRATIZATION

Minimum Credits: 3
Maximum Credits: 3
Democratization has advanced in modern history in several great multicontinental bursts from the late eighteenth century to the present. This course will explore why certain historical eras are such moments of democratization and how the very conception of democracy has developed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1333 - COMPARATV PERSPECTVS ON WOMEN

Minimum Credits: 3
Maximum Credits: 3
This course offers a cross-cultural perspective on the position of women in the world today. It focuses on cross-national comparisons, drawing on recent research on the lives and status of women in different regions of the world, and under different political and economic systems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1342 - MASS SOCIETY IN JAPAN

Minimum Credits: 3
Maximum Credits: 3
This course offers an advanced understanding of thought and behavior in contemporary Japan. We will focus our attention on Japanese social values, attitudes and thought patterns in modern life. We will study the fundamental values through the Japanese life course as they are interwoven in the culture, economy and society, and will use both conventional and unconventional material to achieve this goal. A cross-cultural approach will be taken to address the central question; why do the Japanese think and act as they do?
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1351 - SEMINAR LATIN AMERCN SOCIETIES

Minimum Credits: 3
Maximum Credits: 3
An advanced study of some specific institutions that are considered fundamentals in the fabric of Latin American societies such as the church, the military and the family. The relationship between these institutions and the process of development is discussed. Recent changes in these institutions are examined.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

SOC 1353 - COMPARATIVE COMMUNIST SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
This course will be a comparative study of communist systems. The analysis will focus on the Soviet Union and communist countries of central and eastern Europe.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1354 - JAPAN AND THE USA

Minimum Credits: 3
Maximum Credits: 3
The relationship between Japan and the U.S.A. is one of the most important and debated issues of our time. This course will trace the history of that relationship since its beginning in the mid-nineteenth century, with particular reference to the role of the U.S.A. in opening Japan to the wider world, the basis and impact of American immigration laws restricting Japanese migration to the U.S.A., the tensions of the 1930s leading to the Japanese attack on Pearl Harbor, the American dropping of atomic bombs on Japan in 1945 and other events.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1358 - CONTEMPORARY CHINESE SOCIETY

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the communist revolution of China as a case of radical social change, trying to identify critical facets of a drastic recasting of a society known for its long continuity and conservatism, and the processes by which this is being attempted.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1359 - CONTEMPORARY ARAB SOCIETY

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1360 - PEACE MOVEMENTS & PEACE EDCTN

Minimum Credits: 3
Maximum Credits: 3
This course focuses on two major components in the field of peace studies; peace movements and peace education. Key concepts (e.g. peace, war, violence, conflict, justice, equality, democracy, and citizenship) and theories are discussed. Movements for (inter-personal, inter-group, and international) peace initiated by people in the United States and other countries historically and today will be analyzed. School-, university-, and community-based peace education programs developed in various countries will also be examined.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1362 - REVOLUTIONARY SOCIAL MOVEMENTS

Minimum Credits: 3
Maximum Credits: 3
A broad survey of social revolutionary movements of the past, such as those leading to the French and Russian revolutions, and their influence on various movements taking place in third world countries of today. Emphasis will be placed on movements presently underway in Latin America.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1365 - RACE, GENDER AND DEVELOPMENT

Minimum Credits: 3
Maximum Credits: 3
This comparative course draws together a multidisciplinary set of readings to examine the intersection of race, gender and social and economic development in Latin America and the USA. Readings include theories of inequality and case studies.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

SOC 1366 - SOCIOLOGY OF ISLAM

Minimum Credits: 3
Maximum Credits: 3
The main purpose is to provide a sociological introduction to the Islamic tradition for those unfamiliar with it. First, we survey major themes in the sociology of religion. A consideration of the Islamic tradition follows. Throughout we raise questions about continuity and change in Islam.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1370 - GENDER AND HEALTH WORLDWIDE

Minimum Credits: 3
Maximum Credits: 3
Gender and health worldwide is a mixed-level Undergraduate course focused on gender disparities in health around the world. Through lectures, in-class exercises, films, and course projects, students will explore the threats to women's health in different parts of the world. The course also considers how gender inequalities more broadly affect women's health outcomes and how movements and policymakers seek to address gender gaps in health.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1382 - COMPARATIVE CIVILIZATIONS

Minimum Credits: 3
Maximum Credits: 3
This course is offered to students of the freshman and sophomore years to compare and contrast the characteristics of major clusters of civilizations that are either continuously active from the early days to the present time; being transmitted from one cluster to another along its history of development. These clusters are chosen due to specialties of faculty member who are jointly teaching the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1386 - FRENCH REVOLUTION

Minimum Credits: 3
Maximum Credits: 3
This course will consider various theories of the social sources of revolutions and evaluate them in the light of historical research.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1413 - MARRIAGE

Minimum Credits: 3
Maximum Credits: 3
This course considers husband-wife relations and problems of sex, economic roles, leisure activity, and conflict resolution; family planning, childrearing, and family life and finances are examined; and finally the processes of growth or deterioration among couples are analyzed, including the possibilities of divorce and remarriage.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1414 - SPECIAL TOPICS

Minimum Credits: 1
Maximum Credits: 3
Current topics of particular sociological interest. Topics covered vary with instructor and term.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

SOC 1420 - MIGRATION IN AMERICAN RELIGION

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1435 - SOCIAL CHANGE IN UNITED STATES

Minimum Credits: 3
Maximum Credits: 3
Students will study social change in the United States by analyzing U.S. census databases and other sociological data sources. The course will also teach a variety of research skills, including network information retrieval, database management techniques, statistical analysis, and computer graphics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1437 - COMMUNITY/TOURISM ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
An introductory course on application of sociological, eco logical, and sustainability principles to the analysis of communities engaged in tourism, in terms of their social, economic, political, ecological, and selected contemporary community problems, and an attempt to relate sociology to tourism development. In particular, we aim to comparatively assess a range of tourism development modalities - e.g. ecotourism, sport, cultural, classical, health/botanical tourism, etc. in view of quality of life indicators.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1438 - DEMOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
This course concentrates on the United States but compares its various population phenomena with other societies. Such topics as changes in population, characteristics and their distribution, fertility, mortality and migration will be examined as will the relationships between population variables and changes in the quality of life in the United States. Policy implications of various demographic changes will be highlighted throughout the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1443 - JUVENILE DELINQUENCY

Minimum Credits: 3
Maximum Credits: 3
Course provides an overview to the field of juvenile delinquency. Topics covered include theories and research on causes of juvenile delinquency; law enforcement practices encountered in an attempt to control delinquency; juvenile treatment under law; correctional philosophy and practices in juvenile justice; and impacts of juvenile criminality upon the rest of society. Students emerge from the course with knowledge of causes, prevention, treatment, and control of juvenile delinquency and should be prepared to move into more detailed study of this subject.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1445 - SOCIETY AND ENVIRONMENT

Minimum Credits: 3
Maximum Credits: 3
The state of the environment reaches the pages of our newspapers every day. How did we get to this state? Throughout history, human societies have made use of the environment as all human activity is dependent on through puts of energy and materials. The course will seek to understand the social, economic, and political processes as they lead to impacts on the environment. Far from being 'out there', the state of the environment is integrally related to the ways societies work.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1447 - SCI & TECHNLGY IN US-JAPN-EURP

Minimum Credits: 3
Maximum Credits: 3
A sociological understanding of science and technology is pursued by studying the social conditions and institutions of science and technology, the social structures and processes of cultivation of the traditions of knowledge, and the effects of knowledge upon social life. Focus is on how traditions became established in Europe and then spread, how the traditions are supported unequally around the world, how research is organized and how this affects the dissemination and utilization of knowledge. Science and technology are viewed as global endeavors with centers in the USA and Europe.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

SOC 1448 - WORKING WOMEN

Minimum Credits: 3
Maximum Credits: 3
This course studies traditional patterns of women employment, recent gains and changes, and prospects for the future. One aim of the course is for students to gain an understanding of their own work experiences and career plans, as well as those of various groups of women, in relation to broad social and economic changes that are reshaping work in industrial societies.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1449 - WESTERN MASCULINITY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1450 - HEALTH AND ILLNESS
Minimum Credits: 3
Maximum Credits: 3
This upper-level course examines selected issues of health, illness and medical care. It examines the ways in which medicine and public health have displaced both religion and the law as the dominant forms of social control in the late 20th century and the social transformation of the medical profession over the past fifty years.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1456 - SEPARATION, DIVORCE & CUSTODY
Minimum Credits: 3
Maximum Credits: 3
A structural analysis of the causes and consequences of divorce. The process of divorce in its various psychological, legal, economic and social components is examined. The impact of divorce on the spouses, children and relatives is discussed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1464 - KNOWLEDGE AND SOCIETY
Minimum Credits: 3
Maximum Credits: 3
This course examines the theoretical and empirical approaches to the study of knowledge creation, distribution and use developed in the social sciences. The historical antecedents to current work will be examined, but emphasis will be laid on recent efforts.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1467 - TOPICS MENTAL HEALTH & ILLNESS
Minimum Credits: 3
Maximum Credits: 3
This course challenges some basic assumptions, practices and categories used in the mental health field and widely accepted in contemporary American culture. It introduces the student to the constructionist perspective on deviance and explores its implications for understanding and studying mental health/illness. It also focuses on the relationships between the professional domains of psychotherapy, medicine, religion and the law.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1470 - RESEARCH ON AGING
Minimum Credits: 3
Maximum Credits: 3
This is an advanced course dealing with substantive issues and empirical methods in recent and contemporary research on aging.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1476 - URBAN POLICY AND PLANNING
Minimum Credits: 3
Maximum Credits: 3
This course will provide a brief review of migration and urban growth during the last several decades. The process or urban policy formulation and implementation will be studied. An attempt will be made throughout the course to show the relationships between economic and social conditions and the way they define the parameters of urban policy.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1486 - WAR & MILITRY IN UNITED STATES

Minimum Credits: 3
Maximum Credits: 3
A lecture-discussion course on the roles military systems play in international & national affairs, as well as in the social and economic life of the U.S. The effects that wars and military service have on the individual, the family, the economy, and politics are also addressed. This is not a course on battles, tactics, logistics, strategy, and command. It is concerned with recruitment & social origins of military personnel; training and value inculcation; combat behavior and morale; war crimes and the laws of war; civil military relations; veterans; & inter-service rivalry.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1488 - HISTORY MEDICINE & HEALTH CARE

Minimum Credits: 3
Maximum Credits: 3
Provides an overview of the social history of medicine from prehistory to the present. Focuses on the emergence of medical institutions, education, theories, practices and the orthodox and irregular medical sects. Describes the growth of the separate disciplines of nursing, pharmacy and public health. Examines the impact of socioeconomic factors, religions and war on the evolution of medical science. Discusses the changing roles of government in the development of the American health care system.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1489 - COMPARATIVE MILITARY SYSTEMS

Minimum Credits: 3
Maximum Credits: 3
This course deals comparatively with the nature of military systems and their relationships with the societies they serve (or dominate). Topics include: early mankind's record of warfare, the social origins of military personnel, their training, inter- and intra-service rivalries, mutinies, war crimes, civil-military relations, and coups d'état.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1500 - CAPSTONE RESEARCH PRACTICUM

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SOC 0150 and SOC 0230

SOC 1505 - EXMNG UNIVS & COLLEGE LIFE

Minimum Credits: 3
Maximum Credits: 3
In this class, we take a step away from simply being in college to examine universities and college life from a sociological perspective. We will concentrate on aspects of college that we see every day and that are hidden from view but are worth a closer look. This course assumes substantial knowledge of sociology and sociological methods. We will use that knowledge to interrogate problems in the college system. Most readings will be research articles, with some essays and opinion pieces. You will demonstrate understand of course material through essay exams.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1515 - ST STUDY ABROAD

Minimum Credits: 3
Maximum Credits: 3
Current topics of particular sociological interest, topics will be covered from various universities through the study abroad program.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1771 - KINSHIP AND THE FAMILY

Minimum Credits: 3
Maximum Credits: 3
In this course Western and nonwestern forms of kinship, family, and marriage will be discussed and analyzed. Special attention will be given to the history of European marriage, to family organization and industrialization, and to women's relation to kinship and family order. The differences in European and non-European reactions to industrialization will be compared in some detail. Europe, China, India, and Japan will receive special attention.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1799 - HIMALAYAN POLITICAL ECOLOGY
Minimum Credits: 3
Maximum Credits: 3
The Himalayan region is characterized by dramatic climatic and geological variation, a tremendous range of biodiversity and a complex ecology. Within the region there is also profound cultural variation. This course seeks to provide a critical perspective on the ecology and environment of the Himalayas by examining how different groups at the village, state, national and international level are implicated in the political ecology of the mountains. We will look at the way in which village farming communities use natural resources, what kind of pressure is put on resources as a result of development and population growth, how the mountain environment shapes the politics and resource distribution at the level of the state and, finally, how environmental and energy issues shape national policy and international relations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SOC 1900 - INTERNSHIP
Minimum Credits: 1
Maximum Credits: 6
A sub-category of independent study, in which the student is in some sense employed (usually as a volunteer but sometimes for pay) in a non-academic position, typically under the direct supervision of someone other than an F.A.S. faculty member, in which the experience gained by the student is directly related to an academic discipline, and which the student's learning is evaluated and graded by a faculty member.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

SOC 1901 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
The student undertakes, under specific conditions, an independent program of study, research, or creative activity usually off-campus and with less immediate and frequent guidance from the sponsoring faculty member than is typically provided in directed reading and directed research courses.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

SOC 1902 - DIRECTED READING
Minimum Credits: 1
Maximum Credits: 6
The student undertakes a specified course of study, comparable in character to a regular course, under the direct supervision of a faculty member.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

SOC 1903 - DIRECTED RESEARCH
Minimum Credits: 1
Maximum Credits: 6
The student undertakes a defined task of research on campus under the supervision of a faculty member of an appropriate department, and in which the fruits of the research are embodied in a thesis, extended paper, laboratory report, or other appropriate form.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

Statistics

STAT 0200 - BASIC APPLIED STATISTICS
Minimum Credits: 4
Maximum Credits: 4
This course teaches methods of descriptive and inferential statistics. Topics include data collection and description, hypothesis testing, correlation and regression the analysis of variance, and contingency tables. Students will learn how to use a statistical computer package.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

STAT 0800 - STATISTICS IN THE MODERN WORLD
Minimum Credits: 3
Maximum Credits: 3

The course introduces statistical reasoning to a diverse audience. The main goal is the understanding of some basic statistical principles so that the student can understand research reports involving statistics and applications of statistics reported in the media. Statistical reasoning will be taught through the use of examples. An important part of the course will be a nontechnical discussion of controlled and randomized experiments. The subject matter will emphasize examples from the health and social sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

STAT 1000 - APPLIED STATISTICAL METHODS

Minimum Credits: 4
Maximum Credits: 4
This course is an intensive introduction to statistical methods. It is designed for students who want to do data analysis and to study further ideas in applied statistics beyond this course. The topics covered include descriptive statistics, elementary probability, random sampling, controlled experiments, hypothesis testing, regression and the analysis of variance. Emphasis will be placed on the statistical reasoning underlying the methods. Students will also become proficient at the use of a statistical software package.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

STAT 1100 - STAT & PROBLTY FOR BUS MGT

Minimum Credits: 4
Maximum Credits: 4
This is a one-term introduction to statistics and probability. Both modeling and data analysis will be emphasized. Various probability models for discrete and continuous variables will be analyzed. Inferential, descriptive and data analysis techniques will be covered with examples from management. A statistical package will be introduced and used to conduct data analyses.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0120 or MATH 0126 or MATH 0220

STAT 1151 - INTRODUCTION TO PROBABILITY

Minimum Credits: 3
Maximum Credits: 3
This course presents at both a theoretical and applied level the basic probability concepts required for statistical inference. Topics include set theory and basic probability, independence and Bayes' theorem, discrete random variables and their distributions--Bernoulli, Binomial, Poisson, and geometric, continuous random variables and their distributions--uniform, exponential, gamma, beta, and normal, transformation of random variables, moment and moment generating functions, multivariate discrete distribution, marginal and conditional distribution and independent variables.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: MATH 0230 or MATH 0235 or MATH 0240 or MATH 0245

STAT 1152 - INTRO TO MATHEMATCL STATISTICS

Minimum Credits: 3
Maximum Credits: 3
This course introduces the elementary concepts of statistical inference. Topics include functions of random variable, sampling distributions, decision criterion, estimation, hypothesis testing, regression, analysis of variance, and non-parametric methods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 1151

STAT 1201 - APPLD NONPARAMETRIC STATISTICS

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course will be to prepare students to use standard nonparametric tests for problems that frequently occur in applications. The Wilcoxon, Fisher (sign), Ansari-Bradley, Miller (jackknife), Kruskal-Wallis, Kendall, and Kolmogorov-Smirnov tests will be discussed. Minitab subroutines will be used to facilitate computation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 0200 or STAT 1000 or STAT 1100 or STAT 1152; MIN GRADE: STAT 0200 B-

STAT 1211 - APPLD CATEGORICAL DATA ANLYSIS

Minimum Credits: 3
Maximum Credits: 3

The purpose of this course is to provide contingency table techniques for research workers in the social sciences, medical sciences and other areas where it is necessary to investigate relationships between areas where it is necessary to investigate relationships between qualitative variables. The course deals with the chi-square test and standard 2x2 and RXC contingency tables, as well as log linear and other special types of contingency tables analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 0200 or STAT 1000 or STAT 1100 or STAT 1152; MIN GRADE: STAT 0200 B-

STAT 1221 - APPLIED REGRESSION

Minimum Credits: 3
Maximum Credits: 3
This course covers simple linear regression (one variable) and one way analysis of variance followed by more complicated regression models. More complex ANOVA models are treated if time permits. Some computer applications will usually be considered.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 0200 or STAT 1000 or STAT 1100 or STAT 1152; MIN GRADE: B-

STAT 1223 - APPLD REGRESSN WRIT COMPONENT

Minimum Credits: 1
Maximum Credits: 1
This course satisfies the writing course requirement for statistics majors and must be taken in conjunction with STAT 1221 applied regression.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 0200 or STAT 1000 or STAT 1100 or STAT 1152; CREQ: STAT 1221; MIN GRADE: STAT 0200 B-

STAT 1231 - APPLIED EXPERIMENTAL DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course teaches students to design valid statistical experiments and to analyze them. Among the designs considered are completely randomized designs, randomized block designs, Latin lemmas, factorial designs, and complete block designs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 0200 or STAT 1000 or STAT 1100 or STAT 1152; MIN GRADE: STAT 0200 B-

STAT 1241 - APPLIED SAMPLING

Minimum Credits: 3
Maximum Credits: 3
This course considers basic applied principles and approaches for conducting a sample survey. The following will be discussed: how to design a survey, how to analyze a survey with attention paid to different types of survey techniques and corresponding statistical methods. The course will provide survey skills for the social sciences, psychology, economics, marketing and management, and health sciences.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 0200 or STAT 1000 or STAT 1100 or STAT 1152; MIN GRADE: STAT 0200 B-

STAT 1251 - STATISTICAL QUALITY CONTROL

Minimum Credits: 3
Maximum Credits: 3
This course is involved with statistical methods for quality and process control. It is intended for all students who will use statistics in an industrial setting. Introductory topics include probability models and statistical estimation for quality. The main focus will be on control charts and tolerances. Acceptance sampling will also be discussed. A final but quite important topic will be Taguchi methods.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 0200 or STAT 1000 or STAT 1100 or STAT 1152; MIN GRADE: STAT 0200 B-

STAT 1291 - TOPICS APPLIED STAT 1

Minimum Credits: 3
Maximum Credits: 3
Various topics concerning the applications of statistics will be taught on an irregular basis depending on faculty interests and students' needs. Example of possible topics include resampling techniques in statistics; statistical graphics; cluster analysis; and classification methods.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

STAT 1301 - STATISTICAL PACKAGES

Minimum Credits: 3
Maximum Credits: 3
This course will cover a variety of topics concerning computing and statistics. Basic statistical analysis packages such as BMPD, SPSS, Minitab, and IMSL will be discussed and compared. Other computational issues that will be discussed include simulation, graphics, elementary database management, and certain stand-alone statistical programs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 1221

STAT 1311 - APPLIED MULTIVARIATE ANALYSIS

Minimum Credits: 3
Maximum Credits: 3
We start with the basic concepts of regression and correlation. After developing the necessary linear algebra, we will study the multivariate normal and then go on to do one or more of the following: cluster analysis, discriminant analysis, directional data, and factor analysis. We will make use of the Minitab and BMDP computer packages.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 1221

STAT 1321 - APPLIED TIME SERIES

Minimum Credits: 3
Maximum Credits: 3
The objective of the course is to present at the elementary level, a unified and reasonably complete exposition of statistical methods used in time series analysis. Serious consideration is given to both time and frequency domain approaches. Real data from a number of subject fields will be analyzed as they occur in the exposition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 1221

STAT 1631 - INTERMEDIATE PROBABILITY

Minimum Credits: 3
Maximum Credits: 3
This course is the first half of a two term sequence in mathematical statistics intended for undergraduate students and graduate applied statistics majors. Topics to be covered include probability concepts, random variable, discrete and continuous variables, joint distributions, functions of random variables, and some sampling distributions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 1151 and MATH 0240

STAT 1632 - INTERMEDIATE MATHEMATICAL STAT

Minimum Credits: 3
Maximum Credits: 3
This course is the second half of a two term course. Topics to be covered include estimation, inference, linear models, and an introduction to Bayesian estimation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 1631 and MATH 0240

STAT 1651 - BAYESIAN STATISTICS

Minimum Credits: 3
Maximum Credits: 3
This is an introduction to theory and methodology of optimal statistical decision and Bayesian statistical inference.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

STAT 1661 - LINEAR REGRESSION

Minimum Credits: 3
Maximum Credits: 3
The topics to be covered include: fitting a straight line, examination of residuals, two independent variables, polynomial models, selection procedures, and model building.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 1221 and (STAT 1152 or STAT 1632)

STAT 1662 - NONLINEAR REGRESSION
Minimum Credits: 3
Maximum Credits: 3
This is a continuation of Regression and Linear Model Theory 1. Topics covered include fitting a straight line, examination of residuals, two independent variables, polynomial models, selection procedures, and model building.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 1221 and (STAT 1152 or STAT 1632)

STAT 1731 - STOCHASTIC PROCESSES
Minimum Credits: 3
Maximum Credits: 3
This course provides an introduction to stochastic processes and its applications. The major topics are Markov chains, Poisson processes, Brownian motion, and branching processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 1151 or STAT 1631

STAT 1741 - APPLIED PROBABILITY THEORY
Minimum Credits: 3
Maximum Credits: 3
The course will begin with an introduction to conditional probability. Topics to be covered include the Poisson process, queueing processes, renewal processes, and reliability theory.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: STAT 1151 or STAT 1631

STAT 1791 - TOPICS PROBABILITY & STAT 2
Minimum Credits: 3
Maximum Credits: 3
Various topics concerning the theory of probability and statistics will be taught depending on faculty interests.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

STAT 1900 - INTERNSHIP
Minimum Credits: 1
Maximum Credits: 3
Under faculty supervision the student participates in a statistics project.
Academic Career: UGRD
Course Component: Internship
Grade Component: H/S/U Basis

STAT 1902 - DIRECTED STUDY
Minimum Credits: 1
Maximum Credits: 9
With approval from an instructor, the student will participate in a program of directed study in statistics or probability.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

Strategic Planning & Policy

BUSSPP 0020 - MANAGING IN COMPLX ENVIRONMNTS

Minimum Credits: 3
Maximum Credits: 3
Introduces the challenge of managing in complex environments a team-based emphasis promotes student awareness of real-world business issues. Students acquire practical skills as well as fundamental knowledge and abilities. Emphasizes a strategic inquiry of the driving forces of competitive markets, the importance of history, the complexity of resource allocation under uncertainty, and the need to develop firm specific capabilities that are flexible and responsive to changing situations. Considers construction of criteria for firm success that reflect legal, economic, etc. demands.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSSPP 0021 - MCE HONORS +1

Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSSPP 0035 - MCE+3 INT'L FLD PROJ-CZECH REP

Minimum Credits: 3
Maximum Credits: 3
Provides students with the opportunity to apply concepts and tools acquired in BUSSPP 0020 managing in complex environments and new concepts and tools to the study of firms in a non-U.S. environment. Students work in teams with engineering students on research projects that are linked to specific firms and industries. Business environment and practices abroad are compared to those in the U.S. The trip abroad includes company visits, lectures, and cultural excursions during a two-week study period in the Czech Republic under the guidance of a faculty member.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: Restricted for College of Business Administration

BUSSPP 0036 - MCE+3 INT'L FIELD PROJ-GERMANY

Minimum Credits: 3
Maximum Credits: 3
Provides students with the opportunity to apply concepts and tools acquired in BUSSPP 0020 managing in complex environments and new concepts and tools to the study of firms in a non-U.S. environment. Students work in teams with engineering students on research projects that are linked to specific firms and industries. Business environment and practices abroad are compared to those in the U.S. The trip abroad includes company visits, lectures, and cultural excursions during a two-week study period in Germany under the guidance of a faculty member.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: Restricted for College of Business Administration

BUSSPP 0036IS - MCE+3 INT'L FLD PROJ-GERY - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSSPP 0036OS - MCE+3 INT'L FLD PROJ-GERY - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSSPP 0037 - MCE+3: INT'L FLD PROJ-COS RICA

Minimum Credits: 3
Maximum Credits: 3
Provides students with the opportunity to apply concepts and tools acquired in BUSSUP 0020 managing in complex environments and new concepts and tools to the study of firms in a non-us environment. Students work in teams with engineering students on research projects that are linked to specific firms and industries. Business environment and practices abroad are compared to those in the US. The trip abroad includes company visits, lectures, and cultural excursions during a two-week study period in Chile under the guidance of a faculty member.

Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: Restricted for College of Business Administration

BUSSPP 0037IS - MCE+3INT'L FLD PROJ CO RICA IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSSPP 0037OS - MCE+3INT'L FLD PROJ CO RICA OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSSPP 0038 - MCE+3: INT'L FIELD PROJ-CHINA

Minimum Credits: 3
Maximum Credits: 3
Provides students with the opportunity to apply concepts and tools acquired in BUSSPP 0020 managing in complex environments and new concepts and tools to the study of firms in a non-US environment. Students work in teams with engineering students on research projects that are linked to specific firms and industries. Business environments and practices abroad are compared to those in the US. The trip abroad includes company visits, lectures, and cultural excursions during a two-week study period in China under the guidance of a faculty member.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: Restricted for College of Business Administration

BUSSPP 0038IS - MCE+3 INT'L FLD PROJ-CHINA -IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSSPP 0038OS - MCE+3 INT'L FLD PROJ-CHINA -OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSSPP 0039 - MCE+3 INT'L FIELD PROJ-FRANCE

Minimum Credits: 3
Maximum Credits: 3
Provides students with the opportunity to apply concepts and tools acquired in BUSSPP 0020 managing in complex environments and new concepts and tools to the study of firms in a non-us environment. Students work in teams with engineering students on research projects that are linked to specific firms and industries. Business environments and practices abroad are compared to those in the U.S. The trip abroad includes company visits, lectures, and cultural excursions during a two week study period in France under the guidance of a faculty member.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: Restricted for College of Business Administration

BUSSPP 0040 - MCE+3 INT'L FIELD PROJ-BRAZIL

Minimum Credits: 3
Maximum Credits: 3
Provides students with the opportunity to apply concepts and tools acquired in BUSSPP 0020 managing in complex environments and new concepts and tools to the study of firms in a non-us environment. Students work in teams with engineering students on research projects that are linked to

specific firms and industries. Business environment and practices abroad are compared to those in the U.S. The trip abroad includes company visits, lectures, and cultural excursions during a two-week study period of brazil under the guidance of a faculty member.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: Restricted for College of Business Administration

BUSSPP 0040IS - MCE+3 INT'L FLD PROJ-BRAZL -IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSSPP 0040OS - MCE+3 INT'L FLD PROJ-BRAZL -OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSSPP 0041 - MCE+3 INT'L FIELD PROJ-VIETNAM

Minimum Credits: 3
Maximum Credits: 3
Provides students with the opportunity to apply concepts and tools acquired in BUSSPP 0020 managing in complex environments and new concepts and tools to the study of firms in a non-us environment. Students work in teams with engineering students on research projects that are linked to specific firms and industries. Business environment and practices abroad are compared to those in the U.S. The trip abroad includes company visits, lectures, and cultural excursions during a two-week study period in Vietnam under the guidance of a faculty member.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: Restricted for College of Business Administration

BUSSPP 0041IS - MCE+3 INT'L FLD PROJ-VIETNM-IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSSPP 0041OS - MCE+3 INT'L FLD PROJ-VIETNM-OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Lecture
Grade Component: No Grade Required

BUSSPP 1080 - STRATEGIC MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Focuses on corporate and divisional policy formulation and implementation. Knowledge and techniques learned in earlier courses will be applied in an integrated fashion to the process of strategic decision-making and organizational change. Among topics considered in the course will be relationships of organizations to their environments, hierarchy of organizational objectives, structured as well as informal approaches to strategic planning, integration of business functions, organizational structure, and policy implementation and evaluation. Notable devotion to firms competitive dynamics.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: College of Business Admin; LVL: Jr, Sr

BUSSPP 1740 - GLBL STRATEGY & COMPV ADVNTG

Minimum Credits: 3
Maximum Credits: 3
This course explores the opportunities and challenges of global business in the 21st century. The discussions and exercises are designed to reveal the nuanced nature of competing globally, emphasizing both the increasing openness of borders and the continuing differences between countries. The course will employ case study analysis and discussion, along with a set of readings that are drawn from both academic and practitioner sources. An individual research project that involves identifying and researching a global business topic of interest to you will be a key part of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSSPP 1080 (MIN GRAD 'C'); PLAN: Global Management (BSBA)

BUSSPP 1745 - PROJECTS IN GLOBAL MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
The student will work with a real-world client and problem. Each project is different, and will provide the opportunity for a team of students to apply various conceptual and analytic skills taught in the major and in CBA, and to report to the client the results of these analyses. Each project will have the common element of a global or cross border dimension. The client will provide a problem it deems important and a manager to work with the student team. Each team will have a faculty advisor. Most students will take this course in one of their final two terms of study.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Global Management (BSBA); LVL: Sr

BUSSPP 1750 - COMMERCIALIZING NEW TECHNOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course covers theory, conceptual frameworks, and tools used to formulate strategies for commercializing new technologies. The analytical frameworks cover elements of commercialization strategy that are equally critical to start-ups and to corporate technology ventures. In addition, we discuss some of the key challenges that differ for start-ups versus established firms. The primary deliverable in the course is a professional quality project which evaluates the commercialization alternatives for an emerging technology. Your project team will be paired with a local inventor, unless you prefer to evaluate a technology of special interest to your team. Experienced entrepreneurs and expects in financing new technology ventures will also address the class.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

BUSSPP 1755 - BOARD GOVERNANCE & MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
This course utilizes the study of boards of directors in contemporary profit and non-profit organizations, in conjunction with students' experiences in leadership roles. Topics include the foundation of boards (selection of board members, board structure, info management, communication, relations with senior management) and the function of boards (board evaluation, planning, management control, value creation and stakeholder relations). In addition to various types of readings and weekly assignments, the course will include case studies and a group project.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PROG: College of Business Admin

BUSSPP 1790 - GLOBAL MGMT INTERNSHIP

Minimum Credits: 1
Maximum Credits: 3
The strategic management internship provides business credit for project assignments that augment a professional strategic management work experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

BUSSPP 1795 - GLOBAL MGMT INDP STUDY

Minimum Credits: 1
Maximum Credits: 3
An independent study course for students desiring to pursue in greater depth a specific set of strategic management issues or problems to which they have been introduced in other strategic management courses. The course involves directed reading and research under the guidance of a full-time faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade

Studio Arts

SA 0110 - VISUAL THINKING
Minimum Credits: 3
Maximum Credits: 3
This introductory course is a comprehensive survey of the fundamental principles of visual organization. The assignments are directed for learning to see, and to think and to express visually. The class projects involve uses of art materials with which to articulate line, shape, texture, color, and other design components. The intent is to broaden understanding of visual relationships in art and in the sources of art and design.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SA 0120 - PAINTING STUDIO 1
Minimum Credits: 3
Maximum Credits: 3
Foundation painting is an introductory course in the principle practices of painting. The course develops compositional and color awareness and basic painting techniques. This course will explore the formal and expressive aspects of painting.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SA 0130 - DRAWING STUDIO 1
Minimum Credits: 3
Maximum Credits: 3
Foundation drawing is an introductory course that instructs students in traditional drawing approaches and visual analysis through the act of drawing. Principles of perspective, composition, and methods of modeling form are explored for the development of individual skills and perception.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SA 0140 - SCULPTURE STUDIO 1
Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the basic formal elements and expressing content of sculpture. This course provides experience in the observation and analysis of natural form, and provides a method for abstraction. Foundation sculpture provides the opportunity to gain experience with diverse sculpture materials and techniques, and to establish a foundation for individual artistic growth and development with a 3-D form.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SA 0180 - DIGITAL STUDIO: PHOTOGRAPHY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

SA 1220 - PAINTING STUDIO 2
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0120 and SA 0130

SA 1230 - DRAWING STUDIO 2
Minimum Credits: 3
Maximum Credits: 3
Drawing 1230 is the intermediate level as a continuation of Foundation Drawing SA 0130. It is a comprehensive investigation of the figure as well as further development of person al involvement in drawing as an art form. Course work includes detailed anatomical studies to more complex and interpretive figurative and non-figurative compositions. Monochromatic and chromatic media are explored as approaches to the drawing discipline.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0110 and SA 0130

SA 1240 - SCULPTURE STUDIO 2

Minimum Credits: 3
Maximum Credits: 3
This is an intermediate sculpture course which refines skills while challenging students to interpret assignments independently. The purpose of this course is to strengthen students' commitment to individual growth and personal discovery and to deepen their awareness of the relationships between process, material, and content in sculpture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0110 and SA 0140

SA 1260 - PRINT STUDIO: INTAGLIO

Minimum Credits: 3
Maximum Credits: 3
Intaglio printmaking is an introductory print course. Basic intaglio printmaking techniques are explored through the use of dry point, copper plate line etching, and aquatint. Advanced techniques are explored toward the end of the semester. The course is designed to explore "safe etching" techniques by avoiding or limiting the use of hazardous chemicals.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0110 and SA 0130

SA 1270 - DIGITAL STUDIO: IMAGING

Minimum Credits: 3
Maximum Credits: 3
This course is a studio designed to immerse students in the creation and investigation of digital images. Emphasis will be on the history and aesthetics of lens-based (photographic) processes as they relate to art and digital technology. Throughout the course, students will gain and/or hone technical skill, but the emphasis will be on the use of the camera and computer within an art context. Thoughtfulness, experimentation and curiosity are emphasized and encouraged.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0110 and SA 0130

SA 1320 - PAINTING STUDIO: PROJECTS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 1220

SA 1330 - DRAWING STUDIO: PROJECTS

Minimum Credits: 3
Maximum Credits: 3
Drawing 1330 is the third level drawing class for studio arts majors. The emphasis is on individual student drawing-based projects. The first half of the semester includes three projects driven by open-ended prompts. During the second half of the semester students develop an ambitious body of work that involves drawing as a broadly defined discipline. Student work may take many forms which might include, but are not limited to: drawings on paper; installation or drawing in space; mapping; digitally produced drawing; comics or other narrative series; or time-based works such as artist books.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 1230

SA 1340 - SCULPTURE STUDIO: PROJECTS

Minimum Credits: 3
Maximum Credits: 3
Environmental art is grounded in interrelationships. These connections include not only physical and biological pathways but also cultural, political and historical aspects of any ecological system. This course focuses on the creation of metaphoric and functional artworks that reveal ecological consideration; these artistic gestures serve to enact change and as connection for the community.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 1240

SA 1345 - SCULPTURE STUDIO: INSTALLATION

Minimum Credits: 3
Maximum Credits: 3
This is an advanced sculpture course examining site specific and installation works as strategies in contemporary art. Continually challenged by newly revised and emerging roles in the art world and society at large, the purpose of this studio course is to provide a forum for the discussion and exploration of issues playing a role in the contemporary critical debate.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 1240

SA 1360 - PRINTMAKING - LITHOGRAPHY

Minimum Credits: 3
Maximum Credits: 3
Traditional stone lithography is introduced through studio experience. Stone preparation, drawing, chemical processing, and finally hand ink rolling and printing from the stone are covered by lecture and demonstration. Basic black and white prints are created by students using several lithographic processes. Printing skills are developed as a part of the mastery of lithography through the editing of several required prints. Print history, criticism, and aesthetics are included as part of the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Studio Arts (BA, BPH)

SA 1365 - PRINT STUDIO: SCREENPRINT

Minimum Credits: 3
Maximum Credits: 3
Students are introduced to a variety of screen-printing techniques and explore the process and possibility of the medium as it pertains to fine art. Students learn the use of basic equipment, printing approaches, papers, a variety of stenciling processes, and photographic and computer techniques to create marks, values, and textures. Students will also learn to make a consistent edition of prints.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0110 and SA 0120 and SA 0130

SA 1370 - PREP & PRACT IN THE VISL ARTS

Minimum Credits: 3
Maximum Credits: 3
This is an upper level course conducted in a seminar format that will inspect the wide range of career options in, and related to, the visual arts. Will assist students in preparation for professional possibilities, and will offer survival skills for maintaining their visual arts practice.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0110 and SA 0120 and SA 0130 and SA 0140; PLAN: Studio Arts (BA)

SA 1380 - DIGITAL STUDIO: VIDEO

Minimum Credits: 3
Maximum Credits: 3
This is an advanced studio designed for students to intensely experiment and explore the moving digital image in an art context. Students will explore the concepts and skills involved in working with digital video, from pre to post-production. Each student will propose and undertake a final, self-designed project during the final four weeks of the term. Major effort, time, research, imagination, productivity, and involvement are expected throughout the term.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0110 and SA 0180

SA 1385 - DIGITAL STUDIO: ANIMATION

Minimum Credits: 3
Maximum Credits: 3
This is an advanced course designed for students to intensely experiment and explore the moving digital image in an art context. Students will explore the concepts and skills involved in working with digital animation - from pre to post-production. Each student will propose and undertake a final, self-designed project during the final four weeks of the term. Major effort, time, imagination, productivity, and involvement are expected throughout the term.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: SA 1270; PLAN: Studio Arts (BA)

SA 1420 - COLOR

Minimum Credits: 3
Maximum Credits: 3
This course examines color theory and perception. Various formal color systems and theories are explored. A primary objective is to clarify the relationship between perception, color as light, and color as material, such as paints. Color harmonies, light and shadow, color-form relationships, and investigation of color in human environments and as found in nature are some of the topics involved in the class projects. This course provides an opportunity to explore color interaction in a variety of media and situations.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0110; PLAN: Studio Arts (BA)

SA 1430 - DRAWING STUDIO: PERSPECTIVE

Minimum Credits: 3
Maximum Credits: 3
Perspective drawing is an intensive investigation into various perspectival systems which provide the framework for creating the illusion of depth on a two dimensional surface. Finished course assignments are compiled in a bound workbook which can be used as a self-made perspective reference book.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0130 and (SA 0110 or HAA 1913); PLAN: Studio Arts (BA) or Architectural Studies (BA)

SA 1440 - SCULPTURE - FIGURE & PORTRAIT

Minimum Credits: 3
Maximum Credits: 3
This course specializes in the study of the human form and the application of that study in portraiture. Close analysis of skeletal and muscle structure provides a basis for development of a life-size portrait modeled in clay. Modeling techniques are stressed. Interpretation of the subject is encouraged with the expectation of achieving likeness. This course also provides experience in plaster mold making and plaster casting procedures which are employed in the reproduction of the clay original.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0140; PLAN: Studio Arts (BA)

SA 1445 - SCULPTURE - METAL

Minimum Credits: 3
Maximum Credits: 3
Metal sculpture is a specialized exploration of metal fabrication techniques used in the construction of sculpture. This course provides instruction in gas and arc welding, brazing and torch cutting. Students are required to construct sculptures that incorporate elements composed of line, shape and closed forms.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

SA 1450 - PAINTING STUDIO: FIGURE

Minimum Credits: 3
Maximum Credits: 3
The purpose of this course is to develop skills in the representation of the human form and understanding of its creative use in painting. A variety of painting media may be used in extensive observation and analysis of live models.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: SA 0120 and SA 0130

SA 1455 - PAINTING - LANDSCAPE

Minimum Credits: 3
Maximum Credits: 3
For students with previous painting experience, the course provides instruction in working from nature in various settings. The work focuses on selection of locations or subject, composition and techniques, representation and expression.
Academic Career: UGRD
Course Component: Lecture

Grade Component: Letter Grade
Course Requirements: PREQ: SA 0110 and SA 0120 and SA 0130

SA 1470 - GRAPHIC DESIGN

Minimum Credits: 3
Maximum Credits: 3
This course involves the analysis and solution of graphic design problems through principles of layout and design. Emphasis is placed on the understanding and application of topography (letter forms), symbology, illustration, and various graphic reproduction procedures related to graphic communication of ideas.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Studio Arts (BA, BPH)

SA 1504 - DIRECTED STUDY: STUDIO

Minimum Credits: 3
Maximum Credits: 3
Directed study is a course for art majors to promote concentrated individual development in students who have demonstrated exceptional ability in studio courses.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

SA 1515 - THE BOOK AS ART: TEXT & IMAGE

Minimum Credits: 3
Maximum Credits: 3
Over the course of the semester through guided exercises, collaboratively and individually, students will create content for, design, and produce an editioned artist's book.
Academic Career: UGRD
Course Component: Workshop
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: Any 100-level SA course; PLAN: Studio Arts (BA or MN)

SA 1530 - DIRECTED STUDY-DRAWING

Minimum Credits: 3
Maximum Credits: 3
Directed study is a course for art majors to promote concentrated individual development in students who have demonstrated exceptional ability in drawing.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

SA 1540 - DIRECTED STUDY-SCULPTURE

Minimum Credits: 3
Maximum Credits: 3
Directed study is a course for art majors to promote concentrated individual development in students who have demonstrated exceptional ability in sculpture.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

SA 1550 - DIRECTED STUDY-PAINTING

Minimum Credits: 3
Maximum Credits: 3
Directed study is a course for art majors to promote concentrated individual development in students who have demonstrated exceptional ability in painting.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

SA 1560 - DIRECTED STUDY-PRINTMAKING

Minimum Credits: 3
Maximum Credits: 3
Directed study is a course for art majors to promote concentrated individual development in students who have demonstrated exceptional ability in printmaking.
Academic Career: UGRD

Course Component: Directed Studies
Grade Component: Letter Grade

SA 1570 - DIRECTED STUDY-DIGITAL

Minimum Credits: 3
Maximum Credits: 3
Directed study is a course for art majors to promote concentrated individual development in students who have demonstrated exceptional ability in electronic media.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: Letter Grade

SA 1800 - SPECIAL TOPICS IN STUDIO ARTS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

SA 1900 - INTERNSHIP

Minimum Credits: 1
Maximum Credits: 6
An internship is an elective which provides the opportunity for a studio arts major to obtain practical experience through on-the-job training in an art-related field. The candidate makes such arrangements for an internship under the supervision of a faculty sponsor.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit

SA 1902 - DIRECTED RESEARCH

Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

SA 1904 - UGRD TEACHING ASSISTANTSHIP

Minimum Credits: 1
Maximum Credits: 3
This course partners advanced studio arts majors with a faculty member as a teaching assistant in a current departmental course. The partnership is intended to offer further experience to dedicated students exploring a particular media with mentorship in studio management and an introduction to teaching, will enhance the course by offering enrolled students additional support and access for skill development and questions throughout the term, and will offer faculty valuable studio management and assistance in working with students.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

Summer Session

SUMS 0015 - WRITNG FOR THE WRLD: ESL INTEN

Minimum Credits: 0
Maximum Credits: 0
The seminar is open only to enrollees in the summer institute for high school students. The course is intended for non-native English speaking students and is designed to assist them as they prepare for post-secondary educational experiences that require English language proficiency. The course emphasizes practice in speaking, reading and writing and supports student participation in their other summer institute activities.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

SUMS 0020 - CRYPTOGRAPHY AND OTHER PUZZLES

Minimum Credits: 0
Maximum Credits: 0
This team-taught seminar focuses on the practical examination of and experimentation with a range of computational practices involving the algorithm. Students will learn the mathematics of cryptography, examining these procedures in relation to public key encryption algorithms. Students will explore the scientific foundations of computer science by constructing a series of logical circuits, working with a hexadecimal simulator and experimenting with finite state machines and a turning machine simulator. The emphasis of this seminar is on hands-on learning.
Academic Career: UGRD

Course Component: Seminar
Grade Component: Satisfactory/No Credit

SUMS 0021 - FNDTNS COMPUTR PROGRAMMING

Minimum Credits: 0
Maximum Credits: 0
The seminar is open only to enrollees in the summer college for high school students. The course introduces students to basic programming principles, concepts and problem-solving strategies applicable to all programming languages. The course will use the environments of Karel the Robet and Mathematica. Students will acquire familiarity with control structures, data types, and recursion. The course will prepare students for college level courses in C++ or java.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

SUMS 0030 - INFECTION AND IMMUNITY

Minimum Credits: 0
Maximum Credits: 0
This seminar serves students with interests in microbiology, biology and chemistry. Students will acquire a beginning understanding of the immune system through readings, laboratory experiences, computer, modeling class discussion, field trips and a course-long research project using these practical and textual experiences. Students will, in addition, examine the ethical implications of scientific study. The seminar includes field trips to university research laboratories and considerable work in the computer and biology laboratories.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

SUMS 0031 - UNDERSTANDING DNA

Minimum Credits: 0
Maximum Credits: 0
The seminar is open only to enrollees in the summer college for high school students. The course examines the biology of DNA and introduces the laboratory techniques used in its study. Specific labs include isolation of DNA from bacteria and the introduction of foreign genes into bacteria. These technical experiences will serve as the foundation for classroom discussion, visiting lectures, field trips and a term-long project.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

SUMS 0040 - THE ART OF PLACE

Minimum Credits: 0
Maximum Credits: 0
This seminar explores the concept of place by examining our urban and natural landscapes and the shaping of these into public and private places. The work of the seminar includes short readings on place from psychology, history, political ecology, fine arts, literature, and architecture. Working within the tradition of the artist's sketchbook, students will investigate place through writing, drawing, photomontage and bookbinding. This seminar includes numerous field experiences and its emphasis is on hands-on learning.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

SUMS 0041 - INTRO TO VIDEO PRODUCTION

Minimum Credits: 0
Maximum Credits: 0
The seminar is open only to enrollees in the summer college for high school students and is offered in conjunction with the Pittsburgh filmmakers. The course provides a comprehensive overview of video production including: VHS field recording, editing on tape or a computer, and an introduction to digital video recording. Creative uses of the medium will be stressed. Students will view videos, participate in several group exercises, and develop and execute a video project.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

SUMS 0042 - CREATN OF PEOPLE PLACE & PERSP

Minimum Credits: 0
Maximum Credits: 0
The seminar is open only to enrollees in the summer college for high school students. The course investigates the relationship between a range of artistic efforts and artifacts and the historical events that surround their production. Three historical periods will be examined: the Victorian period, World War I and postmodernism. Students will work inside and outside of the classroom compiling materials to serve as the foundation for their term hyper studio projects.
Academic Career: UGRD

Course Component: Seminar
Grade Component: Satisfactory/No Credit

SUMS 0043 - YOUTH IN AMERC: CLTL CREATIONS

Minimum Credits: 0
Maximum Credits: 0
The seminar is open only to enrollees in the summer institute for high school students. The course examines how young people have served as an important way for American culture to define itself in light of national crises such as the depression and Vietnam. Students will read short novels and story collections and will also examine other representations of youth, both contemporary and historical. Field trips will provide additional material for discussion. The course includes a term-long research project.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

SUMS 0060 - HEALTH SCIENCES NEW MILLENNIUM

Minimum Credits: 0
Maximum Credits: 0
The seminar is open only to enrollees in the international college experience program, summer institute for high school students. The course examines the impact of cultural and political systems on the methods and orientations of medicine, nursing, pharmacy, health and rehabilitation, dentistry, and public health. Coursework explores the clinical foundations of each field and provides students with the skills to assess health care issues from a multicultural, international perspective.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

SUMS 0061 - CONCEPTS IN ECONOMICS

Minimum Credits: 0
Maximum Credits: 0
The seminar is open only to enrollees in the international college program, summer institute for high school students. The course acquaints students with the skills and orientations central to understanding our contemporary international economy. Areas of focus include basic economic concepts illustrated through case studies. Special emphasis is given to the impact of cultural and political systems on national economic policies and other economic applications.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

SUMS 0500 - INTRO INTERNATIONAL ENGINRING

Minimum Credits: 0
Maximum Credits: 0
The seminar is open only to enrollees in the international college experience program, summer institute for high school students. The course examines the impact of cultural and political systems on the development and application of engineering technologies. With special emphasis given to a term project involving development of an engineering solution to a design problem, the course provides students with the analytic skills for participating in technological endeavors in any country.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Satisfactory/No Credit

Supply Chain Management

BUSSCM 1720 - OPERATIONS MANAGEMENT INTSHP

Minimum Credits: 3
Maximum Credits: 3
The operations management internship provides business credits for project assignments that augment a professional business environment work experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: Letter Grade

BUSSCM 1725 - SUPPLY NETWRK MFG CULT LAT AM

Minimum Credits: 3
Maximum Credits: 3
The course provides students with the fundamentals of international supply chain methods with a special focus on Latin America and Uruguay. It will feature a 2-week study visit to Uruguay where students can place their understanding of those concepts within a cultural context. The course involves significant teamwork and allows students to complete an in-depth analysis of the global supply networks and manufacturing culture in Latin America with Uruguay as a reference point.
Academic Career: UGRD

Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSSCM 1730 - MANAGING GLOBAL SUPPLY CHAINS

Minimum Credits: 3
Maximum Credits: 3
Supply chain management explores the management of the flow of materials, information, and funds through the network of suppliers, manufacturers, distributors, retailers, and customers. Using the methodologies of optimization and simulation, where applicable, this course covers topics in distribution network design, inventory management, procurement and outsourcing, revenue management, and channel coordination. For marketing majors, this course counts as a marketing elective.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSQOM 0050 and BUSQOM 1070 (MIN GRADE 'C') and STAT 1100; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management and Undeclared CBA Majors

BUSSCM 1735 - ENGR & BUS COLLBRTN IN INDIA

Minimum Credits: 3
Maximum Credits: 3
The course focuses on the study of modern engineering and business principles, methods, and tools, within the context of the Indian environment. The three areas of study are: manufacturing systems, service engineering operations, and call centers. Site visits showcase challenges and opportunities available at the corporate and individual levels in this rapidly growing economy. Societal impacts of new technologies and rapid expansion of engineering industries in India are noted. Students may utilize this forum to analyze and visualize service meeting challenges and opportunities around the world.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSSCM 1735IS - ENGR & BUS COLLBRTN INDIA - IS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for in-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

BUSSCM 1735OS - ENGR & BUS COLLBRTN INDIA - OS

Minimum Credits: 0
Maximum Credits: 0
Non-graded course for out-of-state tuition.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: No Grade Required

BUSSCM 1740 - PURCHASING & SUPPLY MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Purchasing and supply management play an essential role in the ability of the firm to operate efficiently and be competitive in the contemporary global business environment. Included in these processes are activities involved in identifying potential suppliers, creating relationships with selected suppliers, obtaining the needed materials in the most efficient quantities at the highest quality levels, and developing strategies designed to ensure an uninterrupted flow of goods and materials. Purchasing is increasingly a strategic activity which impacts all areas of the firm, including product design, information system design, e-commerce activities, manufacturing planning and control, inventory management, human resource development, financial planning, forecasting, sales, and quality management. The objective of this course is to make students aware of the demands placed upon purchasing professionals, and to understand the impact of purchasing on the competitive success and profitability of the firm. They must also have an understanding of legal and ethical considerations which affect purchasing decision-making.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSQOM 0050 and BUSQOM 1070 (MIN GRADE 'C') and STAT 1100; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management and Undeclared CBA Majors

BUSSCM 1750 - REVENUE MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Increasingly, due to shortening product life cycles and capital-intensive capacity decisions, companies are being forced to place greater emphasis on managing constrained, but perishable inventory and capacity. Examples include the transportation industry (encompassing airlines, shipping, car rentals, and trucking), the hotel industry, the entertainment and sporting industry, and the retail industry. The underlying managerial issue is complex, but improved decision making can increase a company's revenues and profits. In this course, we study quantity and pricing strategies to improve profitability and the course uses microeconomics, operations research, segmentation, and pricing and forecasting concepts that the students would have learned in their economics, quantitative methods, operations, and marketing classes. The methodologies covered in the course include deterministic and stochastic optimization, forecasting, and statistical estimation. Students are also exposed to commercial revenue management software.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSQOM 0050 and BUSQOM 1070 (MIN GRADE 'C') and (STAT 1000 or STAT 1100); PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management and Undeclared CBA Majors

BUSSCM 1760 - DATA MINING

Minimum Credits: 3
Maximum Credits: 3
Data mining is the process of extracting useful information and knowledge from a set of data. Mining is typically done on data sets too large to be analyzed by hand, but the same techniques are applicable to small, complex data. This course is an introduction to the most popular methods used in managerial data mining, and provides experience in using commercial software to explore real data sets. Models considered include those from statistics, machine learning, and artificial intelligence, such as discriminate analysis, logistic regression, clustering, neural nets, tree/rule induction, and association rule modeling. This course is methods-oriented, as opposed to being methodology-oriented, so students learn about when and how to use techniques and how to interpret their output rather than the details about how those techniques work. A laptop computer is required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: STAT 1100; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSSCM 1765 - FORECASTING

Minimum Credits: 3
Maximum Credits: 3
This is a short course in forecasting methodologies and their applications in business. This course covers traditional forecasting methodologies along with an overview of the state-of-the-art of forecasting with methodologies ranging from judgmental to statistical knowledge sources. Forecasting should not be confused with planning. The former is about what the future will be, while the latter deals with what the future should be. Most statistical packages (e.g. statgraphics, SPSS, SAS) have some modules to do forecasting, but the user needs to know the principles of the models to use them. Dedicated forecasting packages provide some advice to the user about the forecasting method they should use (e.g. forecastx, forecast pro). This course focuses on forecasting methodologies using statistical knowledge. By the end of the course students should know how to collect data and analyze them with a suitable computer program, and ultimately generate forecasts by selecting and fitting an appropriate model. We will also discuss some of the managerial issues surrounding the use of forecasting models in business. The student selects an area of interest (e.g. finance, marketing, operations, accounting, general planning) within which he/she would like to apply and some of the forecasting methodologies we study, and develop a forecasting model.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: STAT 1100; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSSCM 1770 - PROCESS ENGINEERING

Minimum Credits: 3
Maximum Credits: 3
This course covers the design and engineering of the business processes the way businesses organize "work" in service as well as manufacturing operations. The interrelationships among design parameters, market/demand variability, and performance measures are studied. The principles learned here are critical in engineering and/or reengineering of the business processes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: STAT 1100 and BUSQOM 0050; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSSCM 1775 - SIMULATION

Minimum Credits: 3
Maximum Credits: 3
The purpose of the course is to provide an introduction to the concepts, methodologies, and particularly the applications of simulation in operations management, finance, and marketing. The advantage of simulation lies in its ability to model any appropriate assumptions about a problem or system. It is the most flexible tool available for understanding the problems and for generating better and quick results. The application includes queuing, capacity planning, factory operation, corporate financial planning, bidding, and market share. We use special-purpose simulation language and spreadsheet add-in software as the principal means to illustrate simulation models and computational issues. Through considerable hands-on experience-based learning, students learn practical decision-making and problem-solving techniques by example.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: STAT 1100 and BUSQOM 0050; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSSCM 1780 - SIX SIGMA

Minimum Credits: 3
Maximum Credits: 3
Six Sigma is a disciplined, data-driven approach to process improvement aimed at the near-elimination of defects from every product, process, and transaction. Six Sigma utilizes the following five-phase problem-solving methodology known by the acronym DMAIC: 1. Define the projects, the goals, and the deliverables to customers (internal and external). Describe and quantify both the defect and the expected improvement. 2. Measure the current performance of the process. Validate data to make sure it is credible and set the baseline. 3. Analyze and determine the root cause(s) of the defects. Narrow the causal factors to the vital few. 4. Improve the process to eliminate defects. Optimize the vital few and their interrelationships. 5. Control the performance of the process. Lock down the gains. BUSSCM 1780 six sigma is designed to provide the student not only with strong theoretical knowledge of the Six Sigma green belt body of knowledge, but also with practical, hands-on, experience-based learning through the application of Six Sigma tools and techniques via in-class labs.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSQOM 0050 and BUSQOM 1070; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSSCM 1785 - FLD PROJCTS GLOBL SUPLY CHAINS

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade
Course Requirements: PREQ: BUSQOM 0050 and BUSQOM 1070; PLAN: Accounting, Finance, General Management, Global Management, Marketing, Business Information Systems, Human Resources Management, Supply Chain Management, Undeclared CBA majors

BUSSCM 1790 - SUPPLY CHAIN MGMT IND STUDY

Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

BUSSCM 1795 - SUPPLY CHAIN MGT INTERNSHIP

Minimum Credits: 3
Maximum Credits: 3
The supply chain management internship provides business credits for project assignments that augment a professional supply chain management work experience.
Academic Career: UGRD
Course Component: Internship
Grade Component: Letter Grade

BUSSCM 1825 - MARITIME SUPPLY CHAIN

Minimum Credits: 3
Maximum Credits: 3
This course provides an overview of the maritime supply chain industry. It examines the advantages and barriers of purchasing internationally, global sourcing, purchasing processes, and maritime logistics. This course will focus on Cyprus's unique positioning in Europe as a maritime supplier, the need for careful supply chain analysis with regard to maritime powers, and the considerations necessary in trading with island nations where geography makes shipping an essential part of economic conditions and constraints.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

Theatre Arts

THEA 0505 - ENJOY PERFORMANCES

Minimum Credits: 3
Maximum Credits: 3
Why do we enjoy making and watching performances? What is it about our brains, our bodies, our history, and our culture that drives us to spend so much of our time engaging with musical events, sports, video games, public speaking, religious rituals, and dramatic programming? And how are we able to shift among so many media (stage, film, television, computers, iphones, etc.) To sustain and enhance our enjoyment? This introductory course will define performance, explore the roots of its popularity in U.S. history, examine how it engages us through our memories and emotions, and look at its affects and effects on our individual lives and present culture.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

THEA 0800 - INTRODUCTION TO THEATRE ARTS

Minimum Credits: 3
Maximum Credits: 3
This course serves as an introductory theatre class for non-majors, a foundational course for majors and a core course for minors. The purpose of this course is to examine and experience the practice of theatre-how it is created, what it expresses, what it communicates, and the resulting ideas and emotions. Relevant theatre concepts and terms, as well as historical and artistic contexts, will be studied. In addition to analyzing formal dramatic texts, students will develop a theatrical awareness of the world by exploring how theatre exists in everyday life.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 0804 - THEATRE AND COLLABORATION

Minimum Credits: 3
Maximum Credits: 3
The key to achieving a successful theatrical production is effective communication among all theatre artists during the process of development. Emphasis in this course is placed on collaboration, visualization, research, script interpretation, concept development and performance. Students will be exposed to the work of notable artists in each field and explore theatre making from the vantage point of designers, dramaturges, playwrights, producers, critics, historians, directors and actors. Over the first two weeks, students will gain a broad base of knowledge regarding the roles and responsibilities inherent in any collaborative theatre process. In the ensuing weeks students will explore a number of contemporary artists and devise their own collaborative projects. Students will become theatre makers. Each student is required to buy a semester pass and attend University theatre productions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

THEA 0810 - INTRODUCTION TO DRAMATIC ART

Minimum Credits: 3
Maximum Credits: 3
This course is an introduction to the study of dramatic texts both in their written and live forms. We will engage various approaches to script analysis in our exploration of a selective set of plays from theatre's long and enduring history. We will consider the relationships between different employments of storytelling and the historical circumstances that influenced them. Remaining always conscious of dramatic art's home on the stage, we will attend and evaluate live performances. Students will apply concepts learned in class through written and oral individual and group assignments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 0820 - SURVEY OF WORLD THEATRE

Minimum Credits: 3
Maximum Credits: 3
A course in why and how theatre began, developed, and survives. The urge to play will be seen as a natural and necessary part of being human; the theatre will be seen as a vital part of culture, revealing history in miniature and dreams and desires in concentrated form. From ritual and magic to musical comedy, from outdoor area-altars to computer-controlled scene shifting in multi-million dollar buildings, we will try to learn some of the reasons why the power of an actor, performing live before an audience, remains unchanged.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 0825 - CONTEMPORARY GLOBAL STAGES

Minimum Credits: 3
Maximum Credits: 3

Contemporary Global Stages is an introduction to the analysis of global performance in written, aural and live forms. Working across several different geographers, we will use performance to map complex interplays between the Americas, Europe, Pacific cultures, Asia and the African continent in relation to the global processes of diaspora, media, adaptation, and cultural transmission. Spring 2015's course will examine gender formations and performances from a global perspective. Material covered will include: American drag queens, Japanese takarazuka, Filipino diasporic communities, and the Hijra community of India, among others. We will examine gender through theoretical lenses such as queer theory, feminism, imperialism, and globalization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

THEA 0830 - INTRODUCTION TO PERFORMANCE

Minimum Credits: 3
Maximum Credits: 3
This course is designed to develop the students' awareness of the actor's process and to foster a general sense of theatre as an area of human endeavor. Students will be introduced to basic communication skills, including physical and vocal presence in front of an audience. The course will also develop an introductory level of acting skill through the use of regular warm-ups, theater games, improvisation, and simple scene study. The class will culminate in the performance of a final scene. Scenes will be selected from a diverse range of playwrights and students will examine the political, cultural and social context of each play. The course will also provide an introduction to basic theater terminology, and foster the ability to respond to and reflect on theatrical performances. Each student is required to buy a semester pass and attend university theatre productions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 0840 - INTRODUCTION TO THEATRE DESIGN

Minimum Credits: 3
Maximum Credits: 3
An introduction to the design of scenery, costumes and lights. Class work consists of several design projects focusing on design development, drawing and rendering, and drafting. This course will create an awareness of the role of the designer within the scope of the total collaborative process of theatre production. Students may be required to purchase a semester pass and attend university theatre productions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 0842 - INTRODUCTION TO STAGECRAFT

Minimum Credits: 3
Maximum Credits: 3
This is a production-oriented course involving the study and application of the process and skills utilized in the realization of theatrical scenery, props, and lighting. This includes standard scenic construction techniques, materials and equipment of the scene shop, an introduction to scenic painting, drafting, properties design and construction, and basic lighting practices. An introduction to basic lighting equipment and stage electrics will also be addressed. This will be emphasized through experience working in the scene shop, on stage, and on department running crews. 45 Hours of work in one of these areas is required for the course.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 0850 - INTRODUCTION TO SHAKESPEARE

Minimum Credits: 3
Maximum Credits: 3
This course introduces the student to Shakespeare as a playwright, that is, a maker of plays for the stage. The objective of this course is to discover how they work on us as an audience. The actual work of the course is close reading of and interaction with the plays, observation and analysis of film and theatrical treatments of Shakespeare's work, as well as examining the cultural and historical context in which these plays were written and have been subsequently produced.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 0860 - PERFORMING SHAKESPEARE

Minimum Credits: 3
Maximum Credits: 3
Advanced study of Shakespeare as a playwright, and his plays as literature which is meant to be performed.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 0880 - THEATRICAL PRODUCTION

Minimum Credits: 1
Maximum Credits: 1
A practical application course which gives the student hands-on experience in university theatre productions in one or more of the following areas: scenery/props, costume, lighting, sound, and/or stage management. The goal is to expand the student's knowledge and understanding of production processes through team participation in the presenting of a full production. A student must complete at least 45 hours of work in an assigned area to receive 1 credit. Students must usher for 2 performances during the semester enrolled. Note: this course is offered by appointment.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

THEA 1100 - VOICE AND MOVEMENT 1

Minimum Credits: 3
Maximum Credits: 3
This course will explore the anatomy, physiology, and physicality of the human voice. The approach will be holistic mind, body and vocal practice. Techniques learned and practiced will be applied directly to specific performance assignments throughout the semester. Students will begin by examining and identifying healthy, effective, and expressive voice and body use through the study of film clips. Students will receive an introduction to the practices of master teachers such as Patsy Rodenburg, cicely berry, Kristen Linklater, Tina Landau and Anne Bogart, among others. The work will focus on voice and bodywork as they relate to acting and to any area of life requiring effective communication. Emphasis in text work will be on clarity of thought, physical connection, emotional availability, and clear communication.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1101 - VOICE AND MOVEMENT 2

Minimum Credits: 3
Maximum Credits: 3
This course will build on the practices introduced in voice & movement i including presence, healthy and expressive vocal use, and effective communication. It will introduce the international phonetic alphabet, accents and dialects. Methods of accent and dialect acquisition will include vocal viewpoints, imagery, phonetics, and physical exercises.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1102 - ACTING 1

Minimum Credits: 3
Maximum Credits: 3
This course focuses on the extension and enhancement of basic acting skills using exercises based in a version of the Stanislavski acting system. Utilizing exercises from great teachers like Michael Chekhov, Stella Adler and Uta Hagen, students will learn to perform scene work within emotionally invested circumstances, improve moment to moment and talking and listening skills, play objectives, and apply given circumstances to character development. This course is a building block and prerequisite for most other acting courses in the theatre department.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: THEA 0830; PROG: School of Arts and Sciences

THEA 1103 - ACTING 2

Minimum Credits: 3
Maximum Credits: 3
This course will entail a study of scene work from plays primarily of 1860-1980. Emphasis on the balance of control and emotional responsiveness.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1104 - ACTING 3

Minimum Credits: 3
Maximum Credits: 3
This course focuses on preparing and presenting roles from classical plays. Using heightened text from diverse textual sources including ancient and modern plays and poetry, students will explore language as it applies to character and intention. Actors will build on their foundational acting craft with advanced vocal and physical acting exercises to enhance character, will develop textual analysis and rehearsal skills, and will apply those techniques to performing scenes (ancient Greek playwrights, Elizabethan playwrights and other lyrical writers). Students will perform three scenes from various historical periods, at least one of which will be from a Shakespearean text. In addition, students will examine the political, cultural and social context of each play.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: THEA 0830 and THEA 1102; PROG: School of Arts and Sciences

THEA 1105 - ACTING THE CLASSICS
Minimum Credits: 3
Maximum Credits: 3
Students must be highly skilled to enter this intense acting class. They will receive specialized acting training.
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

THEA 1106 - HISTORY OF PERFORMANCE STYLE
Minimum Credits: 3
Maximum Credits: 3
The course content will vary based on the teacher, but may cover classical or contemporary stage styles. It may even cover mass media.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1107 - INSTRUCTIONAL PERFORMANCE CO
Minimum Credits: 3
Maximum Credits: 3
The instructional performance co. Prepares and presents scenes at the request of teachers throughout the university. Included are mock trials for the law school or historical presentations for a history class.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1108 - THEATRE PRACTICUM-PERFORMANCE
Minimum Credits: 1
Maximum Credits: 1
Academic Career: UGRD
Course Component: Practicum
Grade Component: Letter Grade

THEA 1109 - PERFORMANCE LAB
Minimum Credits: 3
Maximum Credits: 3
This course uses the art of spontaneous creation as a tool for enhancing the creativity, responsiveness and immediacy for the actor. Students will be introduced to fundamental improvisational principles that facilitate strong ensemble play, increased awareness, heightened on and off stage observational skills, critical thinking, and spontaneity. The course will introduce both long and short form improvisation, and address basic terminology for the actor and improviser. Upon completion of the course, students will demonstrate facility with the improvisational tenets of 'yes, and' and 'explore and heighten' to enhance their ability to be in the moment during scripted and unscripted scenes. Techniques used in this course will include those of Viola Spolin, Sanford Meisner, Paul Sills, Keith Johnstone and others. The class will culminate in a final performance including text-based acting and improvisation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: THEA 1102

THEA 1110 - DIRECTING 1
Minimum Credits: 3
Maximum Credits: 3
This course intends to discover, explore, and develop the directorial crafts of the student/director. It addresses the theoretical, analytical, and practical skills requisite to the craft of directing plays for the theatre. Plays of the realistic style will be its primary focus, although some discussion may range over other styles and periods in order to provide the proper context for approaching realistic plays. The student's directing ability will be developed through class discussion and exercises, written assignments, outside reading, and the direction of scenes from realistic plays. Students will learn methods to analyze plot, character and theme in scripts as well as techniques to translate that analysis into clear, vivid stage action.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1111 - DIRECTING 2
Minimum Credits: 3
Maximum Credits: 3
This course will entail a study of scene analysis and directing projects from plays of 1860-1980. Will deal with the special demands of different playwrights.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: THEA 1110; PROG: School of Arts and Sciences

THEA 1120 - DRAM & PERFORMANCE IN CLSSROOM

Minimum Credits: 3
Maximum Credits: 3
This course is designed to introduce drama techniques used in educational settings and to provide students with hands-on experience creating and facilitating various theatre outreach activities. Specific practices to be explored include: activity-based methods such as theatre games & improvisational exercises as well as some theatre of the oppressed techniques; literature-based methods such as story dramatization and textual adaptation; situation-based work such as role drama and other strategies associated with drama-in-education; devised performance strategies often associated with play-building and theatre-in-education, etc. Students will hear from members of education departments of leading arts organizations in Pittsburgh to gain a sense of the broad range of techniques and applications of outreach work. Finally, the class will offer students an opportunity to design, implement, and evaluate outreach-related projects which are thematically linked to the theatre arts department's Shakespeare-in-the schools (sits) touring production. The sits program will serve as a lab experience for students in drama & performance in the classroom.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1121 - THEATRE FOR CHILDREN

Minimum Credits: 3
Maximum Credits: 3
This course will entail a study of the practical aspects of touring theatre for children. The class will offer actual participation in areas such as management, publicity, acting, directing and design. The course is geared toward the full production of a children's play to tour the Pittsburgh area schools.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1220 - DESGN FOR THEATRICAL PRODCTION

Minimum Credits: 3
Maximum Credits: 3
An introduction to the process of designing scenery and costumes for live theatre.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1225 - STAGECRAFT 1

Minimum Credits: 3
Maximum Credits: 3
This course will entail a study of the proscenium theatre stage and the construction and painting of standard, reusable scenic units for realistic stage settings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1226 - STAGECRAFT 2

Minimum Credits: 3
Maximum Credits: 3
This course will entail a study of advanced technical problems through the use of drafting.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1227 - SCENE PAINTING

Minimum Credits: 3
Maximum Credits: 3
This course will include study of the small size and large scale painting techniques used for proscenium-style theatres.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1229 - STAGE MANAGEMENT 1

Minimum Credits: 3
Maximum Credits: 3
Principles and techniques of stage and production management as applied to professional, educational, and community theatre. Studies will include

auditions, rehearsal process and organization; technical and performance process and procedures; production personnel and cost management.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1230 - STAGE LIGHTING 1

Minimum Credits: 3
Maximum Credits: 3
This course will entail a study of stage lighting equipment and design practices for the typical proscenium and arena theatres.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1231 - STAGE LIGHTING 2

Minimum Credits: 3
Maximum Credits: 3
This includes more advanced lighting plots and special effects devices for theatre, dance and film.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1235 - SCENE DESIGN 1

Minimum Credits: 3
Maximum Credits: 3
This is an introduction to scenic design for the theatre exploring creative uses of space to tell stories on stage. Topics covered may include introductions to script analysis, visual research, color theory, basic perspective sketching, model building, and drafting. This course will reflect the current industry practices in scenic design as an art form and may include introductions to contemporary software used in the field.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1236 - SCENE DESIGN 2

Minimum Credits: 3
Maximum Credits: 3
This is an advanced course in scenery design for various types of non-standard, unrealistic stage settings.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1240 - COSTUME PRODUCTION TECHNOLOGY

Minimum Credits: 3
Maximum Credits: 3
This course is a production-oriented studio course involving the processes and skills utilized in the realization of theatrical costumes. The student will develop an understanding of the costume production process in addition to acquiring the skills necessary in the aid of the construction and completion of theatrical costumes. The student will learn basic hand sewn stitches and fasteners, proper use and operation of the sewing machinery. The student will also learn basic functions of the personnel in the costume shop, health and safety, fabric and textiles, draping, commercial and drafted patterning and costume finishing. Lectures, demonstrations and projects will supplement work done in class. Practical experience is obtained through lab hours which are obtained by working outside of class time in the costume shop on departmental theatre productions (30 hours) or get involved backstage on the wardrobe run crew. These experiences provide the students opportunities to practice skills learned in the classroom.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1241 - HISTORY OF COSTUME

Minimum Credits: 3
Maximum Credits: 3
A social history of clothing from 4000 BC to modern day, linking social, political and historical events with trends and changes in clothing history. Some technical information regarding the cut and construction of garments.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1242 - PATTERNMAKING

Minimum Credits: 3
Maximum Credits: 3
An introduction to flat patterning and draping techniques used in costume construction. Also a study of historical clothing construction techniques.

Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1245 - STAGE MAKEUP

Minimum Credits: 3
Maximum Credits: 3
This course will entail a study of stage makeup principles including facial structure analysis and utilizing different materials such as nose putty, crepe hair, and latex...To enhance a dramatic characterization.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1246 - COSTUME DESIGN 1

Minimum Credits: 3
Maximum Credits: 3
This course is a foundation for the study of the basic principles, practices and techniques of costume design for the stage. Skills and methodologies used in this course will include: how the elements and principles of design relate to and are utilized in costume design; collaboration; script and character analysis; research methods; an introduction to fashion and dress history as it relates to the assigned play; fabric selection; figure drawing and costume rendering techniques.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1249 - ADVANCED MAKEUP

Minimum Credits: 3
Maximum Credits: 3
This course in advanced makeup is designed to emphasize make-up based on character choices in a text. This is a continuation of the work begun in stage make-up.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1338 - MUSICAL THEATRE PERFORMANCE

Minimum Credits: 3
Maximum Credits: 3
This course is an introductory level performance lab course in musical theatre techniques. The focus will be on integrating acting skills with singing skills to create text-attentive performances within the musical and presentational styles set forth by various composers, lyricists, and book writers. Designed to accommodate both experienced singers and actors who do not identify as singers but would like to explore the world of musical theater performance, topics addressed during the course will include: development and maintenance of foundational singing skills, vocal range identification, repertoire selection, strategies for musical preparation, working with a vocal coach, working with accompanists, resources for finding musical scores, working with the music to enhance character development, using dramaturgic resources and information, preparing cuts for auditions, performing songs in dramatic context, and rehearsal techniques. Students will be expected to work with the instructor on selecting material for preparation in class, and will be required to work with other class members on assigned topics and scenes. The course will culminate with an informal presentation of songs and scenes chosen by the entire class. Upon successful completion of the course, the student will have developed a personal blueprint for preparation, rehearsal, and performance of musical theater repertoire.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1340 - NATIVE AMERICAN THEATRE

Minimum Credits: 3
Maximum Credits: 3
This course will explore native American theatre and performance as expressed through drama, dance, music, ritual, art and design of selected cultures primarily in North America.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1341 - WORLD THEATRE: 500 BCE TO 1640

Minimum Credits: 3
Maximum Credits: 3
World theatre 500 BC to 1640 investigates histories of theatre and performance (scripts, embodiment, design, audiences, conventions, cultural functions, etc.) Within local and global social, artistic and political contexts, from classical Athens to Edo Japan, colonial Mexico city to Shakespeare's globe. The course focuses on evidence and interpretation as well as historical causation.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1342 - WORLD THEATRE: 1640 TO 1890

Minimum Credits: 3
Maximum Credits: 3
Discusses the history of the theatre arts which includes looking at drama, design, performance traditions and audiences from the comedies of restoration England to emerging realism of Buchner, Zola, and Ibsen. Framed by questions of documentary interpretation and historical causation, the course analyzes the larger contexts of theatrical events, including social and political history, as well as the development of non-theatrical art forms. Our focus will be on Western theatre with occasional references to non-Western forms of performance and production.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1343 - WORLD THEATRE: 1890-1970

Minimum Credits: 3
Maximum Credits: 3
This is the third in a world theatre history sequence designed to explore the development of dramatic forms and theatre practices from the 5th century B.C.E. To 1970. In world theatre: 1890 to 1970, we will discuss the history of the theatrical arts which includes looking at drama, design, performance traditions and audiences from the late dramas of Ibsen to the plays of Beckett and Pinter. Framed by questions of documentary interpretation and historical causation, the course will analyze the larger contexts of theatrical events, including social and political history, as well as the development of non-theatrical art forms. Our focus will be on Western theatre with occasional references to non-Western forms of performance and production. In addition, we will discuss some contemporary scholarship examining these theatrical events.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: LVL : So, Jr, or Sr; PROG: School of Arts and Sciences

THEA 1350 - AMERICAN THEATRE

Minimum Credits: 3
Maximum Credits: 3
This course examines the work of modern American playwrights who look at America as the embodiment of a dream as a democratic ideal, as a mythological construct and as an ideological force. We will read plays that stress the social and political implications of the tyranny of commerce, the loss of a positive national identity, the exclusion of women and foreigners, the disintegration of the individual, and the concomitant devaluation of language.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

THEA 1351 - GREEK AND ROMAN THEATRE

Minimum Credits: 3
Maximum Credits: 3
This is a study of how theatre began in ancient Athens and Rome. Readings of major comedies and tragedies are required.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1352 - MEDIEVAL THEATRE

Minimum Credits: 3
Maximum Credits: 3
This is a study of the major plays of the medieval period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1353 - CONTINENTL RENAISSANCE THEATRE

Minimum Credits: 3
Maximum Credits: 3
This is a study of the history of European theatre during the Renaissance period.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1355 - RESTORATION THEATRE

Minimum Credits: 3
Maximum Credits: 3

This is a theatre history course covering the period of the restoration.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1356 - 18TH CENTURY DRAMA

Minimum Credits: 3
Maximum Credits: 3
This history course covers the leading playwrights of the 18th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1357 - 19TH CENTURY DRAMA

Minimum Credits: 3
Maximum Credits: 3
This history of theatre class covers the leading dramatists of the 19th century.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1358 - MODERN THEATRE TO WWII

Minimum Credits: 3
Maximum Credits: 3
This course will examine the plays of the early half of the twentieth century to World War II.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1359 - CONTEMPORARY THEATRE

Minimum Credits: 3
Maximum Credits: 3
This course will examine the theatre today from World War II to the present and will study significant changes.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1360 - THEATRE CRITICISM

Minimum Credits: 3
Maximum Credits: 3
A practical course in the craft of theatre criticism. The class attends local theatrical productions and writes weekly reviews. Course is designed to develop skills in interpretation of the theatrical art, in understanding of how the play operates in the theatre, and in creative writing. Each student receives individual attention to interpretation problems.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1361 - FORMS OF JAPANESE THEATRE

Minimum Credits: 3
Maximum Credits: 3
This course provides a survey of various major forms of Japanese theatre using English language materials. Students will have access t0 relatively ancient forms of Japanese theatre such as kagura and noh, kabuki drama and the bunraku puppet theatre through film and videocassette. The modern and avant-garde theatre are also accessible through translation and videocassette material.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1365 - PLAYWRITING 1

Minimum Credits: 3
Maximum Credits: 3
This is a beginning course in the craft of playwriting. Students will read eight outside plays, will write seven scripts--the last of which is a one-act--and will critique, read aloud, and discuss the work of others in the class. Seminar/workshop style. Attendance is mandatory. Recommended: two courses from among the following three areas performance, dramatic literature, creative writing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1366 - PLAYWRITING 2
Minimum Credits: 3
Maximum Credits: 3
An advanced course in playwriting taught workshop/seminar style. Students will work on their own projects-- a series of one acts or a full length play. There will be some reading of outside plays, but mainly critiquing of fellow classmates' work and the producing of 50 to 75 pp. Of scripted material. Graduate students are to register as directed study or independent study
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: THEA 1365 or ENGWRT 1650

THEA 1367 - CONTEMPORARY AMERCN DRAMATISTS
Minimum Credits: 3
Maximum Credits: 3
This is a course in reading contemporary American plays to make students aware of the trends in contemporary playwriting.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1370 - FILM APPRECIATION
Minimum Credits: 3
Maximum Credits: 3
This course is designed as a general introductory course to the art of cinema. Topics range from the history of film, general film techniques with film examples, experimental film, animation, documentary, and features. Films will be shown during class time. The student will be exposed to world film and general film theory and will be expected by the end of the class to have developed a critical perspective of some general trends in cinema.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1373 - DESIGN FOR FILM
Minimum Credits: 3
Maximum Credits: 3
This is a study of designing for film and how it differs from designing for the stage.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1390 - SPECIAL TOPICS
Minimum Credits: 3
Maximum Credits: 3
Special topics: theatre history, literature and criticism courses discuss the history, literature and criticism of the theatre arts from a range of perspectives that might include looking at specific artists, genres of dramatic literature, periods of theatre history, or aspects of theatre historiography and text-based critical analysis.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

THEA 1391 - SPECIAL TOPICS: THEATRE DESIGN
Minimum Credits: 3
Maximum Credits: 3
This course focuses on creating content for digital media used in theatrical performances. Areas covered include designing, creating, and implementing content for soundscapes and sound designs, live feeds of video, and projections of still and moving images. Students would be introduced to the hardware used in live performances for sound and projections; software used in the industry for generating and editing content, as well as console programming, pixel mapping, and 3d mapping. Students will be introduced to these topics in an academic setting, practice their skills in a performance media lab, and supplement the academics with practical applications on theatre department productions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1392 - SPECIAL TOPICS: PERFORMANCE
Minimum Credits: 3
Maximum Credits: 3
Please see arts and science catalog for a detailed description of this class.
Academic Career: UGRD

Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1400 - PUBLIC RELATIONS

Minimum Credits: 1
Maximum Credits: 3
This is a participatory course involving the study of research, development and marketing of university theatre and professional theatre events.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1401 - BUSINESS MANAGEMENT

Minimum Credits: 3
Maximum Credits: 3
Career development for performers. The aim of this course is to introduce theatrical performers to the resources and opportunities available in theatre professions, related fields, and continuing education. The objectives are to assist the student in identifying academic and career goals and developing strategies for achieving a successful process. Performers will develop audition material, resumes, headshots and related materials necessary for the successful attainment of their career objectives. In addition, students will be asked to think in a larger context anticipating long range planning to consider
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1402 - SCENERY, PROPS AND RUN CREW

Minimum Credits: 2
Maximum Credits: 2
Students will get credit for participating in productions of the three rivers Shakespeare festival. Work schedules are flexible and can be established by contract between the student and the area supervisor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1403 - LIGHTING AND SOUND

Minimum Credits: 2
Maximum Credits: 2
Students will get credit for participating in productions of the three rivers Shakespeare festival. Work schedules are flexible and can be established by contract between the student and the area supervisor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1404 - PERFORMING

Minimum Credits: 1
Maximum Credits: 3
Students will get credit for participating in productions of the three rivers Shakespeare festival. Work schedules are flexible and can be established by contract between the student and the area supervisor.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

THEA 1405 - COSTUMES AND RUN CREW

Minimum Credits: 1
Maximum Credits: 3
Students enrolled in theatre arts 1405 will get credit for participating in productions of the three rivers Shakespeare festival. Work schedules are flexible and can be established by contract between the student and the area supervisor.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1480 - DIRECTED PROJECT SCENERY/PROPS

Minimum Credits: 1
Maximum Credits: 3
Students will work directly with the scenic faculty and staff on department productions on either theoretical or practical projects.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1481 - DIRECTED PROJECT CSTUME/MAKEUP
Minimum Credits: 1
Maximum Credits: 3
Students will work directly with the costume faculty and staff on department productions on either theoretical or practical projects.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1482 - DIRCTED PROJECT LIGHTING/SOUND
Minimum Credits: 1
Maximum Credits: 3
Students will work directly with the lighting/sound faculty and staff on department productions on either theoretical or practical projects.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1483 - DIRCTED PROJECT DIRCTING/PERF
Minimum Credits: 1
Maximum Credits: 3
Students will work directly with the performance faculty and staff on department productions on either theoretical or practical projects.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1484 - DIRECTED PROJECT BUSINESS MGT
Minimum Credits: 1
Maximum Credits: 3
Students will work directly with the design and tech faculty and staff on department productions on either theoretical or practical projects.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1485 - DIRECTED PROJECT STAGE MGMNT
Minimum Credits: 1
Maximum Credits: 3
Students will work directly with the stage management faculty and staff on departmental productions on either theoretical or practical projects.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1488 - THEATRE PRODUCTION
Minimum Credits: 1
Maximum Credits: 3
This course will entail participation in the theatre arts department's productions in one of several categories for upper classmen and graduate students.
Academic Career: UGRD
Course Component: Practicum
Grade Component: LG/SNC Elective Basis

THEA 1490 - STAGE MANAGEMENT
Minimum Credits: 1
Maximum Credits: 3
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1498 - DIR RESEARCH: THEATRE ARTS
Minimum Credits: 1
Maximum Credits: 6
Independent work on a project in theatre, supervised by a member of the theatre faculty.
Academic Career: UGRD
Course Component: Directed Studies
Grade Component: LG/SNC Elective Basis

THEA 1500 - MODERN ACTING

Minimum Credits: 3
Maximum Credits: 3
This course builds students' acting skills and styles. It provides the means through which students may develop or expand their acting abilities through practical work with a variety of scripts, focusing primarily on 20th-century English plays. This course has been designed based upon the technical foundations established by Stanislavky, and requires students to develop acting skills through exercises and methods taken from a mixture of America, European, as well as Russian acting traditions. Such techniques are fundamental to most lessons given at British universities and acting schools and are often used throughout rehearsals in the context of professional productions.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

THEA 1501 - SHAKESPEARE ACTING
Minimum Credits: 3
Maximum Credits: 3
In this course students develop a fluency in Shakespeare's rhetorical style through practical study, performing extracts from shakespeare plays as well as speaking a sonnet. The course will enable students to place Shakespeare firmly in the context of his own time, as well as in ours. The course gives an introduction to the rules of rhetorical theatre, with particular reference to the role of the Iambic pentameter in Shakespeare's plays. Students are shown how to 'work' a line to the point of delivery, through attention to meaning, scansion, stress and breathing.
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

THEA 1850 - ADVANCED SHAKESPEARE
Minimum Credits: 3
Maximum Credits: 3
This will be an in depth study of Shakespeare's plays by both reading and visual observation.
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

THEA 1900 - INDEPENDENT STUDY
Minimum Credits: 1
Maximum Credits: 6
Course content to be decided between teacher and student.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: LG/SNC Elective Basis

THEA 1901 - INTERNSHIP
Minimum Credits: 1
Maximum Credits: 6
Location and terms of internship to be agreed upon between teacher and student.
Academic Career: UGRD
Course Component: Internship
Grade Component: LG/SNC Elective Basis

THEA 1903 - SEMINAR IN THEATRE ARTS
Minimum Credits: 3
Maximum Credits: 3
Avant-garde theatre: symbolism to surrealism
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

Urban Studies

URBNST 0080 - INTRODUCTION TO URBAN STUDIES
Minimum Credits: 3
Maximum Credits: 3
This course serves as the required introduction into the urban studies major or as a general course in the social sciences for the non-major. The course explores the problems and potentials of cities by combining the various disciplinary perspectives--economics, Africana studies, history, political science, sociology, and anthropology. As the course is providing the students with the necessary concepts and information to understand cities, the students will be developing their own skills through field trips, debates, group presentations and journal writing.
Academic Career: UGRD
Course Component: Lecture

Grade Component: LG/SNC Elective Basis
Course Requirements: Restricted ARTSC UGRD Students

URBNST 1005 - SPECIAL TOPICS

Minimum Credits: 3
Maximum Credits: 3
This course will entail the exploration of a specific urban topic.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

URBNST 1102 - INTRODUCTION TO GIS

Minimum Credits: 3
Maximum Credits: 3
This course introduces the fundamental principles of geo-spatial analysis using ArcGIS desktop and Stata. It will focus on teaching students the principles of GIS through computer-based exercises and projects. Exercises will train students in acquiring, constructing, and managing geo-spatial data in order to solve spatial problems. An emphasis will be placed on bridging the gap between performing geo-spatial computations in GIS and putting GIS outputs into format to conduct statistical analysis. Exercises and projects will be centered on topics in applications relevant to urban studies, political science, sociology, and economics. These include, but are not limited to: urban planning, housing, education, and public administration. Students will be equipped with the skills to be successful in internships and careers in the private sector utilizing GIS methods. In addition, students will be prepared for ongoing academic work and research requiring spatial analysis.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

URBNST 1200 - URBAN STUDIES FLD RESEARCH SEM

Minimum Credits: 3
Maximum Credits: 3
This course introduces students to the urban studies meth0dology of "field study". The class will go on field trips to Pittsburgh communities that epitomize current urban problems and issues. Readings and classroom discussions will focus on how to "read" the urban landscape as well as provide background on current urban problems.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

URBNST 1300 - URBAN SKILLS SEMINAR

Minimum Credits: 3
Maximum Credits: 3
In this course students will learn and apply a set of basic research and communication skills relevant to work in urban settings. After active participation in the course, students will be able to locate data, analyze in thorough and theory based fashion, and present clearly and persuasively. Skills include defining a research question, questionnaire design and interviewing, finding and interpreting secondary data, using pc based spreadsheet, database and presentation software and participating on a team. Coursework is organized around real world problems.
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

URBNST 1406 - IRISH POPULAR CULTURE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

URBNST 1408 - GLOBAL CITY - FLORENCE

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

URBNST 1410 - GLOBAL CITY - LONDON

Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: Letter Grade

URBNST 1412 - ISLAM, POLITICS AND BRITAIN
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

URBNST 1414 - GLOBAL CITY - SYDNEY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

URBNST 1500 - URBAN RESEARCH SEMINAR
Minimum Credits: 3
Maximum Credits: 3
The urban research seminar focuses the knowledge and skills, which the student has gained through the program, on a particular topic. The specific topic varies from term to term and faculty member to faculty member, but it always concerns an issue of relevance to the immediate Pittsburgh environment. Examples include riverfront development, the impact of Reagan's cutbacks, the redevelopment of East liberty, etc. To investigate the topic students will review secondary sources as well as collect and analyze their own information through interviews, field trips, surveys, etc.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: URBNST 0080 and URBNST 1300 PLAN: Urban Studies (BA or BPH)

URBNST 1608 - URBAN ECONOMIC GEOGRAPHY
Minimum Credits: 3
Maximum Credits: 3
Participants in this course will learn about the evolving forms of metropolitan government and governance in the United States, with a special focus on the post-1992 period. Course units examine the history and contemporary shape of urban politics, and the opportunities and challenges facing local communities during the 21st century. By the end of the course students will be able to appraise how the contemporary landscape of regional governance in the United States is affecting specific cities.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis

URBNST 1610 - URBAN POLIT REGIONAL GVRNT
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Grad LG/SNC Basis

URBNST 1612 - SOCIAL JUSTICE AND THE CITY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Seminar
Grade Component: Letter Grade

URBNST 1614 - URBAN SUSTAINABILITY
Minimum Credits: 3
Maximum Credits: 3
Academic Career: UGRD
Course Component: Lecture
Grade Component: LG/SNC Elective Basis

URBNST 1700 - INTERNATIONAL URBANISM SEMINAR
Minimum Credits: 3
Maximum Credits: 3
It is undeniable that the world has become integrated through the globalization of social, political, cultural and economic activity. Cities worldwide have been markedly affected by globalization, but in turn have played a role in the process. By utilizing published material, films, slides and the internet, this course will compare the economic, social, political, historical and cultural differences between different global cities as they struggle to

survive in the twenty-first century.
Academic Career: UGRD
Course Component: Seminar
Grade Component: LG/SNC Elective Basis
Course Requirements: PREQ: URBNST 0080

URBNST 1701 - URBAN STUDIES FIELD TRIP/PARIS

Minimum Credits: 1
Maximum Credits: 6
This elective field trip, designed for students enrolled in URBNST 1700, "International Urbanism" will allow students to apply what they have learned in the classroom to an international city. Students will travel with the instructor to a selected city abroad following the completion of URBNST 1700.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Satisfactory/No Credit

URBNST 1900 - URBAN FIELD PLACEMENT

Minimum Credits: 3
Maximum Credits: 6
This course gives the urban studies major the opportunity to get off the campus and into the community. It allows the student to relate his or her academic training to a real world situation by working in an urban related organization or agency. The student works under the combined supervision of the agency personnel and the urban studies advisor. The student is required to keep a journal, attend scheduled meetings with other field placement students and write a final reflective paper.
Academic Career: UGRD
Course Component: Internship
Grade Component: Satisfactory/No Credit
Course Requirements: PLAN: Urban Studies (BA or BPH)

URBNST 1901 - INDEPENDENT STUDY

Minimum Credits: 1
Maximum Credits: 6
Individual project administered under the supervision of a faculty member.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grade
Course Requirements: PLAN: Urban Studies (BA or BPH)

URBNST 1903 - HONORS THESIS

Minimum Credits: 3
Maximum Credits: 3
This course is only for people who will be writing an honors thesis.
Academic Career: UGRD
Course Component: Independent Study
Grade Component: Letter Grad