

Lafayette College
Catalog

2008 - 2009

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Introduction

MISSION STATEMENT

In an environment that fosters the free exchange of ideas, Lafayette College seeks to nurture the inquiring mind and to integrate intellectual, social, and personal growth. The College strives to develop students' skills of critical thinking, verbal communication, and quantitative reasoning and their capacity for creative endeavor; it encourages students to examine the traditions of their own culture and those of others, to develop systems of values that include an understanding of personal, social, and professional responsibility, and to regard education as an indispensable, life-long process.

PROFILE

Lafayette College was founded in 1826 by citizens of Easton, Pennsylvania, as an all-male liberal arts institution. Throughout its history, the College has continually shaped itself in ways that best serve its educational purpose, remaining supportive of the tradition of liberal art education while being responsive to changes and challenges of society and the times. For example, in 1838, it became one of the first colleges to implement a teacher-training program, thus recognizing the connections within education at all levels. In 1854, the College formed a mutually supportive association with the Presbyterian Church. In 1866, as industrialism was changing the Western world, it established courses in engineering, chemistry, and mining. At a local level, it acknowledged the educational needs of the Easton area by introducing a part-time evening degree program in 1953. More recently, as the role of women in society underwent redefinition, in 1970 the College began coeducation to prepare both men and women to lead the nation into a new century. Today, Lafayette is an independent, coeducational, residential, undergraduate institution with a faculty of distinction and 2,400 full-time men and women students of high intellectual promise and diverse backgrounds. The student body is 50 percent men and 50 percent women.

The College's curriculum is distinguished by the rare combination, on an undergraduate campus, of degree programs in the liberal arts and in engineering. Students who come to Lafayette may choose among a range of disciplinary and interdisciplinary courses and pursue the Bachelor of Arts degree in 31 fields or the Bachelor of Science degree in nine fields of science and four fields of engineering. Those who pursue professional career preparation do so within programs rooted in and enriched by the liberal arts. Lafayette alumni/ae remain unusually active and supportive of the College and its goals.

Effective and challenging teaching is the first priority of the faculty both in the classroom and in a variety of independent and collaborative learning experiences. Easton's proximity to New York City and Philadelphia helps students extend their learning experiences, as do Lafayette's full co-curricular intellectual, cultural, athletic, and social programs. Faculty research and scholarship are encouraged and supported in the belief that such professional involvement extends the individual faculty member's intellectual resources, strengthens and complements teaching effectiveness, facilitates student/faculty research, and contributes to the scholarly and professional communities outside the College.

In addition to a campus of great beauty, Lafayette offers a well-equipped physical plant. Its programs are supported by a library with more than 500,000 volumes and an extensive array of electronic resources; modern computer facilities and laboratories accessible to students; a thriving Center for the Arts; a large College Center for dining and other communal activities; an athletic complex compatible with its intercollegiate Patriot League commitment and its extensive intramural and recreational program; two chapels serving a variety of religious commitments; and a diversity of living situations. Lafayette's endowment per student is in the top 2 percent of all institutions in the country.

VISION

In the coming decade, Lafayette expects to strengthen its position among liberal arts colleges and engineering programs of the first rank; through judicious commitment of its considerable resources, it seeks to advance the quality of its students, its faculty, and its programs. Lafayette will continue to enroll students who show evidence not only of academic achievement but of intellectual curiosity, and who show promise of becoming engaged citizens within and beyond the College community. It will continue to recruit and support a faculty of teacher/scholars of high quality who see undergraduate teaching as their primary goal and who are committed to scholarship and to an active professional life. Lafayette will continue to shape its academic program with the goal of assuring that a clear, consistent, and demanding curriculum is in place for all students, requiring study in the arts, the sciences, and technology, and encouraging such study beyond the introductory level. In addition, it will continue to work toward greater integration of A.B. and B.S. programs so that all students may be the beneficiaries not only of specialized inquiry but of connected, interdisciplinary inquiry as well. And it will continue to develop a curriculum that furthers the traditional values of a liberal education while remaining responsive to emerging societal needs. As part of its commitment, Lafayette will seek ways to assure that ethical studies are a regular component of each student's course of study.

The College will strengthen its honors and independent study programs, with the goal of engaging more students in scholarly projects and involving more faculty and students in collaborative learning. Individual attention to students and faculty-student interaction outside the classroom, always goals of the College, will be encouraged through an increasingly favorable student-faculty ratio and small class size. At the same time, the College, understanding the value of exposure to other cultures, will continue to increase opportunities for students to study abroad and will continue to work in other ways to internationalize the campus.

Because Lafayette knows the potential for learning and growth outside the academic program, it will continue to nurture a campus environment that stimulates and

nourishes students both as individuals and as members of a community. With the Farinon College Center and the Williams Center for the Arts as hubs of activity, the College will foster an atmosphere characterized by a diversity of opportunities for participation, volunteer service, and student leadership. It will offer an expanding array of living options that encourage healthy relations between women and men and provide an environment that encourages personal growth. It will also continue to increase opportunities for students of color and to work to achieve greater racial and ethnic diversity among students, faculty, and staff.

Members of the Lafayette community have always believed in working together to create a College that they and others value; their collective commitment for the coming years is to extend and enhance the value of the Lafayette experience and the prestige of the Lafayette College degree.

HISTORY

On Christmas Eve 1824, the Easton Centinel carried a notice calling upon residents of Northampton County "friendly to the establishment of a COLLEGE at Easton" to meet three days later at White's Hotel on Center Square. Led by James Madison Porter, a prominent local lawyer; Joel Jones, another lawyer and graduate of Yale; and Jacob Wagener, a local miller's son notable for his interest in mineralogy and botany, the assembled citizens worked out a plan for a college "combining a course of practical Military Science with the course of Literature and General Science pursued in the Colleges of our Country." Because the country was then in a fever over the farewell tour of the aged Marquis de Lafayette, whom Porter had met in Philadelphia the previous August, the founders voted to name their new college for the French hero of the Revolution as "a testimony of respect for (his) talents, virtues, and signal services... the great cause of freedom."

The governor of Pennsylvania signed the new college's charter on March 9, 1826, but getting the charter proved to be considerably easier than launching the College. In 1832, the Rev. George Junkin, a Presbyterian minister, agreed to move the curriculum and student body of the Manual Labor Academy of Pennsylvania from Germantown to

Easton and to take up the Lafayette College charter. On May 9, 1832, classes in mathematics and the classics began in a rented farmhouse on the south bank of the Lehigh River, where the 43 students labored in the fields and workshops to earn money in support of the educational program.

In their original petition, the planners of the College had cited mathematics as an example of their educational philosophy. "Such branches will be selected and so pursued, as will not only discipline the mind, and induce habits of patient investigation, but also directly subserve the purposes of life." That sound principle animated much of the subsequent curricular development at Lafayette—as, indeed, it does today.

The founders noted in 1824 that "the language most neglected in our seminaries of learning is the English." In 1857 Lafayette became the first American college to establish a chair for the study of the English language and literature, with emphasis on philology. Francis A. March, its first incumbent, achieved international fame for his work in establishing English as a pivotal subject in the liberal arts curriculum.

Similarly, the founders complained that "civil engineering has of late become a very prominent branch of education, and what is remarkable, not a College in our country (if we are correctly informed) has made it a part of their course." In 1866 Lafayette secured funds from Ario Pardee, a mining magnate and industrialist, to establish a new course in science and engineering, one of the first in any liberal arts college. The resulting union of arts, sciences, and engineering remains perhaps the most unusual feature of the Lafayette curriculum.

In 1832 the College acquired nine acres of land on an eminence across Bushkill Creek from Easton. Formally named "Mt. Lafayette," the elevation soon became more familiarly known as "College Hill." On its summit in 1834 rose the first of the College's own buildings, on a site now incorporated into South College. Today the campus comprises about 100 acres of land and more than 50 buildings, as well as various outlying properties and structures on College Hill and elsewhere.

Like the physical plant, enrollment grew steadily. By the turn of the century it stood at about 300, passed the 500 mark in 1910,

and reached 1,000 during the 1920s. It more than doubled again as returning veterans swamped the College after World War II. As the GI tide ebbed, the enrollment dropped back to about 1,500 men.

The addition of women to the student population—they now make up about 50 percent of the student body—raised the total enrollment to about 2,100. Today, Lafayette enrolls about 2,400 students.

LAFAYETTE TODAY

Lafayette College focuses exclusively on undergraduate programs. It grants the Bachelor of Arts degree in 31 established major fields and the Bachelor of Science in nine fields of science and four of engineering. Interdisciplinary majors have been established in Africana Studies, American Studies, Biochemistry, International Affairs, A.B. International Studies/B.S. Engineering, Mathematics and Economics, Neuroscience, and Russian and East European Studies. In addition, a number of departments have joined others in offering coordinate majors. Many departments also permit a minor in the field. A five-year, two-degree plan is also available.

The Board of Trustees is the governing body of the College, and it holds title to the College's properties, manages and allocates its funds, determines the broad policies under which programs are offered, and selects both its own membership and the President of the College, who is the chief executive officer. Under the Statutes of the College, the faculty determines the courses of study, requirements for admission, and other academic regulations, subject to approval by the Board of Trustees.

Lafayette College is a member of the Lehigh Valley Association of Independent Colleges (LVAIC), which also includes Cedar Crest College, DeSales University, Lehigh University, Moravian College, and Muhlenberg College. The consortium offers opportunities for cross-registration under certain conditions, and promotes cooperation in library resources, technology initiatives, and some academic programs.

ACCREDITATION

Lafayette College is accredited by the Commission on Higher Education of the

Middle States Association of Colleges and Schools, 3624 Market St., Philadelphia, PA 19104; (215) 662-5606. The Commission on Higher Education is an institutional accrediting agency recognized by the United States Secretary of Education and the Council for Higher Education Accreditation. The Chemical Engineering Program, Civil Engineering Program, Electrical and Computer Engineering Program, and Mechanical Engineering Program are accredited by the Engineering Accreditation Commission of the ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; (410) 347-7700. The Bachelor of Science program in Computer Science is accredited by the Computing Accreditation Commission of the ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; (410) 347-7700. The Bachelor of Science program in chemistry and, under certain conditions, the Bachelor of Arts in chemistry meet the requirements of the American Chemical Society, making graduates of those programs eligible for membership in the Society immediately upon graduation.

Academic Programs

DEGREES

Bachelor of Arts
Bachelor of Science
Bachelor of Science in Engineering

Lafayette College offers the Bachelor of Arts degrees in 31 established major fields and the Bachelor of Science in nine fields of science and four fields of engineering.

GRADUATION REQUIREMENTS

In fall 1993, the College instituted a new curriculum, the Common Course of Study, which is required of all students in their first and second years.

Graduation Requirements for All Students

An overall grade-point average of at least 2.00 is required for graduation. Considered in determining the cumulative average are courses taken at Lafayette or at other member colleges in the Lehigh Valley Association of Independent Colleges (LVAIC) under the cross-registration agreement or affiliated study abroad programs. Students must complete an approved major program with an average of at least 2.00 in courses taken in the major.

Students must complete at least 32 course credits for the A.B./B.S. Science degree and at least 38 course credits for the B.S. Engineering degree. Certain Military Science courses may not be counted toward the course minimum.

The senior year must be completed in full-time residence at Lafayette. "Fulltime" is defined to be a minimum of three courses per semester.

Students are responsible for determining that they have satisfied all requirements for graduation. To participate in the commencement ceremony, students must have completed all degree requirements.

Academic Divisions

The College is divided into four academic divisions with program membership as listed below. The divisional membership of a specific program needs to be considered when selecting courses to satisfy the Common Course of Study as required.

Humanities

Art
English
Foreign Languages and Literatures
Music
Philosophy
Religious Studies

Social Sciences

American Studies
Anthropology and Sociology
Economics and Business
Government and Law
History
International Affairs

Engineering

Engineering Studies
Chemical Engineering (within the Department of Chemical and Biomolecular Engineering)
Civil Engineering (within the Department of Civil and Environmental Engineering)
Electrical and Computer Engineering
Mechanical Engineering

Natural Sciences

Biology
Chemistry
Computer Science
Geology and Environmental Geosciences
Mathematics
Physics
Psychology

The Common Course of Study

First-Year Seminar, taken in the fall semester of the first year, is designed to introduce students to intellectual inquiry by engaging them as thinkers, speakers, and writers.

College Writing (English 110), taken in the spring semester of the first year or the fall semester of the sophomore year, provides intensive experience in writing and reading complex texts.

Values and Science/Technology (VAST) Seminar, normally taken in spring semester of the second year, is a one-semester interdisciplinary course addressing the value issues occasioned by developments in science and technology. For B.S. Engineering majors, the VAST requirement will be satisfied through ES 225 (Engineering Professionalism and Ethics); for B.S. Computer Science majors through VAST 200 (Computers and Society).

A Humanities/Social Sciences Unit, requiring the completion of at least three courses in the Humanities/Social Sciences Divisions, with at least one course in each division. B.S. majors should be guided by their major programs for the distribution and timing of their Humanities/Social Sciences courses.

A Natural Sciences Unit, requiring the completion of at least two courses in the Natural Sciences Division, consisting of two laboratory courses in Biology, Chemistry, Geology, Physics, or Psychology, not necessarily in the same science.

A Mathematics Unit, requiring one mathematics course, Philosophy 150, or Computer Science 102.

A Writing Requirement, to be satisfied through courses in the Common Course of Study (First-Year Seminar, English 110, and VAST), plus, for A.B. majors and B.S. science majors, at least two additional writing courses in the junior and senior years, normally taken one per year.

Exceptions:

The following courses may not be used to satisfy requirements for any unit: all Computer Science courses except 102; Economics & Business 213, 218, 219, 303, 320, 321, 322, 323, 324, 352, 365, 367-368; Music 140.

Computer Science 102 and Philosophy 150 may be used only to satisfy the Mathematics requirement.

Religious Studies 221 and 222, and INDS 120, 125, 135, 160, 135, 165, 170, 185, 195, 205, 230, 250, 275, 280, 321, 322, and Women's Studies 101 may be used to satisfy

the social sciences part of the Humanities/Social Sciences requirement.

INDS 150, 151, 175, 180, 190, 200, 210, 215, 220, 230, 245, 270, 361 may be used to satisfy the humanities part of the Humanities/Social Sciences requirement.

B.S. Degree Requirements

The B.S. curricula in Biochemistry, Biology, Chemistry, Computer Science, Geology, Mathematics, Neuroscience, Physics, Psychology, and the four engineering programs—Chemical, Civil, Electrical and Computer, Mechanical—have been established by the faculty and represent the departmental as well as the professional expectations of these disciplines. Requirements for the specific curricula may be found under the appropriate departmental headings.

A.B. Degree Requirements

In addition to the Common Course of Study, A.B. degree candidates must complete the Foreign Culture Requirement. This requirement may be satisfied in one of the following ways: (1) demonstration of proficiency in a foreign language through the intermediate level, (2) an approved semester of study abroad, or (3) completion of a cluster of three related courses dealing with another culture. The established clusters are: Africa/Middle East; Asia; Central and Western Europe; France; Germany; Latin America; and Russia.

For the Foreign Culture requirement, students may take only one of the following general courses as part of the cluster:

- Anthropology & Sociology 102: Cultural Anthropology
- Anthropology & Sociology 103: Introduction to Sociology
- Economics & Business 347: Comparative Systems and Transitional Economies
- Government & Law 102: Introduction to International Politics
- Government & Law 103: Introduction to Comparative Politics
- History 105: Development of the Modern World
- History 106: Introduction to History
- Music 103: Introduction to World Music Traditions
- Religious Studies 101: Introduction to Religion

Foreign Culture Clusters

Students are advised to choose their courses from one of the following seven clusters. However, they may design an individualized cluster, subject to the approval of their adviser and the Foreign Culture Requirement Subcommittee.

1. Africa and the Middle East:

- Africana Studies 101: African Cultural Institutions
- Anthropology & Sociology 209: Ethnography (if focus is Africa)
- Anthropology & Sociology 232: Magic, Science, and Religion (if focus is Middle East or Africa)
- Economics & Business 354: Contemporary African Economics
- English 349: Post-Colonial Literature
- Government & Law 222: Political Change in the Third World
- Government & Law 223: Politics of Africa
- Government & Law 230: Middle East Politics
- Government & Law 402: Peace Process in the Middle East
- Hebrew 101, 102; or demonstration of elementary-level proficiency
- History 373: The Middle East and North Africa
- History 214: African Civilization
- History 375: Seminar in African History
- Interdisciplinary Studies 150: Turkey: The Cradle of Civilizations
- Interdisciplinary Studies 151: Anatolia: The Cradle of Civilizations
- Interdisciplinary Studies 170: Africa (Interim Session)
- Interdisciplinary Studies 195: The History and Politics of Israel
- Religious Studies 207: The Quran
- Religious Studies 215: Islam
- Religious Studies 216: Traditional West African Religion

2. Asia:

- Art 128: Introduction to Asian Art
- Art 238: Ukiyo-e and Beyond: History of the Japanese Woodblock Print
- Art 239. From Samurai to Cyberpunk: Japanese Animation (Anime) and the Japanese Art Tradition

- Art 240: History of Japanese Art
- Government & Law 224: Politics in Asia
- Government & Law 228: Human Rights in Asia
- Government & Law 229: Politics, Law, and Diplomacy in Japan
- Government & Law 239: International Politics of Asia
- History 242: Premodern Japan: From Neolithic to Early Modern Times
- History 247: Traditional China
- History 248: Modern China
- History 249: Modern Japan
- History 372: Studies in Asian History
- Interdisciplinary Studies 112: Introduction to East Asia
- Interdisciplinary Studies 120: Inside the People's Republic of China
- Interdisciplinary Studies 135: Thailand & Myanmar: Challenges of Development
- Japanese 101, 102: Elementary Japanese; or demonstration of elementary-level proficiency
- Japanese 142: Introduction to Japanese Society
- Japanese 211, 212: Japanese Civilization and Culture
- Religious Studies 211: Hinduism
- Religious Studies 212: Buddhism

3. Central and Western Europe:

Along with French and/or German 101 and 102, included within this cluster are all appropriate elementary-level language courses that might be taken at Lehigh Valley Association of Independent Colleges institutions or within the framework of a LVAIC-sponsored summer language/culture study abroad program.

Each course places strong emphasis on historical and cultural contexts. However, CL 225, 351, and 460 are acceptable only if the major content is appropriate to the cluster-focused on aspects of culture within Central and Western Europe.

Courses dealing with the British Isles are excluded from this cluster.

- Anthropology & Sociology 204: European Communities
- Anthropology & Sociology 209: Ethnography (if focus is Europe)
- Art 102: Introduction to Art History II

- Art 126: History of Architecture II
 - Art 222: Medieval Art
 - Art 223: Italian Renaissance Art
 - Art 224: Baroque and Rococo Art
 - Art 226: Age of Michelangelo
 - Comparative Literature 101: Survey of European Literature I
 - Comparative Literature 102: Survey of European Literature II
 - Comparative Literature 142: Masterworks of German Literature and Film
 - Comparative Literature 225: Special Topics in Comparative Literature
 - Comparative Literature 351: Special Topics in Literature in Translation
 - Comparative Literature 460: Reading and Research in Comparative Literature
 - Government & Law 221: Politics in Western Europe
 - Government & Law 237: German Foreign Policy
 - History 219: Modern European Society through Film
 - History 221: The Medieval World
 - History 222: Emergence of Western Europe
 - History 227: Europe: 1850-1917
 - History 228: Europe: World War I to the Present
 - History 253, 254: European Thought, Society, and Culture
 - History 352: Europe Seminar
 - History 374: Politics and the Arts: France, 1919-1945
 - Interdisciplinary Studies 165: The Open Wall and the New Europe
 - Interdisciplinary Studies 175: Back to Roots of Western Civilization: Greece and Italy
 - Interdisciplinary Studies 180: Fin-de-Siècle Vienna
 - Interdisciplinary Studies 200: The Land and Landscape of Ireland.
 - Interdisciplinary Studies 205: Green Europe: Germany/Austria
 - Interdisciplinary Studies 215: Medieval Architecture in Northern Europe
 - Interdisciplinary Studies 220: Florence: Birthplace of Renaissance
 - Interdisciplinary Studies 230: Paris: Provence in the Midi: Cathedrals, Kings and Pilgrims
 - Interdisciplinary Studies 250: French Commerce and Culture (Interim Session)
 - Interdisciplinary Studies 270: A Moveable Feast: American Writers in Paris
 - Interdisciplinary Studies 275: Paris: An Introduction to the French Exception
 - Music 102: Music in Western Civilization
 - Music 282: Mozart
 - Music 283, 284: Selective Studies of Great Composers
 - Religious Studies 206: Jewish Responses to the Holocaust
 - Religious Studies 214: Christianity
4. France:
- Art 233: Nineteenth-Century Painting and Sculpture
 - Comparative Literature 351: Special Topics in French Literature in Translation
 - French 101, 102; demonstration of elementary-level proficiency; or LVAIC summer session in France
 - History 225: The Age of Revolution
 - History 374: Politics and the Arts: France, 1919-1945
 - Interdisciplinary Studies 230: Paris: Provence in the Midi: Cathedrals, Kings, and Pilgrims (Interim Session)
 - Interdisciplinary Studies 250: French Commerce and Culture (Interim Session)
 - Interdisciplinary Studies 270: A Moveable Feast: American Writers in Paris
 - Interdisciplinary Studies 275: Paris: An Introduction to the French Exception
5. Germany:
- Comparative Literature 142: Masterworks of German Literature and Film
 - Comparative Literature 351: Special Topics in German Literature in Translation
 - German 101, 102; demonstration of elementary-level proficiency; or LVAIC summer session in Germany
 - Government & Law 237: German Foreign Policy

- Interdisciplinary Studies 165: The Open Wall and the New Europe (Interim Session)
- Interdisciplinary Studies 180: Fin-de-Siècle Vienna
- Interdisciplinary Studies 205: Green Europe: Germany/Austria

6. Latin America:

- Anthropology & Sociology 203: Peru Before the Incas
- Anthropology & Sociology 206: People of the Andes
- Anthropology & Sociology 207: The Inca World: Empire and Imagination in the Ancient Andes
- Anthropology & Sociology 208: New World Civilizations
- Anthropology & Sociology 209: Ethnography (if focus is Latin America)
- Economics & Business 355: Economics in Latin America
- Government & Law 227: Politics in Latin America and the Caribbean
- History 245: Latin America and the Caribbean I
- History 246: Latin America and the Caribbean II
- History 368: Latin American Seminar Interdisciplinary Studies 210: Exploring South America: Brazil, the River Plate, and the Andes (Interim Session)
- Interdisciplinary Studies 190: West Indian Identities
- Interdisciplinary Studies 210: Guatemala: Innovations in Development
- Music 232: Studies in World Music
- Spanish 101, 102; demonstration of elementary-level proficiency; or LVAIC summer session in Spain or Mexico

7. Russia:

- Comparative Literature 161, 162: Russian Literature in English
- Economics & Business 356: Economic History of Russia in the Twentieth Century
- Government & Law 225: Politics in Russia

- Government & Law 238: Russian Foreign Policy
- History 243, 244: Traditional Russia and the USSR
- History 354: Seminar in Russo-Soviet History
- Interdisciplinary Studies 280: Russia (Interim Session)
- Russian 101, 102 ; or demonstration of elementary-level proficiency

THE MAJOR

Petitions for entrance into the junior class and to major in a particular department, departments, or interdisciplinary program are normally submitted in the second semester of the sophomore year at a time announced by the Dean of the College.

Double Majors

Candidates for the Bachelor of Arts degree may elect two major programs. Requirements common to both majors will count for both majors, with no more than four courses counted toward both majors.

Individualized Major

Students may find that the usual options for majoring or minoring do not meet their special interests or needs. Recognizing this, the College provides a unique opportunity for students to develop an individualized major within the A.B. program based upon their special interests, talents, experiences, and life objectives.

An individualized major combines courses in two or more departments based upon a theme articulated by the student in consultation with one or more faculty members. Examples of individualized majors have included psychobiology, political philosophy, and scientific journalism.

Once the individualized major has been designed, the student petitions the Academic Progress Committee for final approval of the major no later than the end of the sophomore year. The petition must demonstrate a logical coherence of course selection, including a capstone experience, and must be approved by three faculty members who represent the disciplines involved. Students are invited to speak with the Dean of the College if they have questions concerning this opportunity.

Change of Curriculum or Major

A student desiring to change from one curriculum major to another must petition the Academic Progress Committee. Petition forms are available in the Registrar's Office. Students may direct questions to the Registrar, who is Secretary of the Academic Progress Committee. Students may also check on their progress toward graduation requirements in the Registrar's Office.

THE MINOR

Candidates for the all A.B., B.S. Engineering, and B.S. science degrees in Biology, Chemistry, Computer Science, Geology, Mathematics, Physics, and Psychology may elect a minor program in addition to their major. A minor consists of a coherent sequence of courses, usually five or six in number, approved by the student's designated minor adviser. A minor program may be departmental or interdisciplinary in nature. An individualized minor is not available.

Normally, a student must choose a minor program before the end of the second semester of his or her junior year. No more than three courses required (a) for the major or (b) the Common Course of Study requirements may be counted toward the minor.

Courses required for the major are defined as those specifically prescribed for the degree. Students electing a minor are encouraged to choose a minor in a different division from that of their major. No student may elect more than one minor.

FIVE-YEAR, TWO-DEGREE PROGRAMS

Students may petition the Committee on Academic Progress for permission to pursue a five-year, two-degree program leading to the Bachelor of Arts and the Bachelor of Science degrees in two fields of study. Two-degree candidates are required to complete the prescribed course of study for the particular B.S. degree, the requirements for the major and the Common Course of Study, and other general requirements for graduation. Such a program requires at least 40 courses.

ATTENDANCE AND STANDING

Lafayette uses a system of course credits in computing progress toward the degree.

The normal course of study in a four-year program requires completion of 32 courses over eight semesters with at least four courses per semester. The Bachelor of Science in Engineering program requires completion of a total of 38 courses with at least five courses per semester after the first year.

Lafayette will consider a student's progress toward a degree acceptable if he or she has earned at least the following number of course credits by the end of the second semester:

	First Semester	Second Semester
Minimum A.B./B.S. Science		
First-Year Student	3	6
Sophomore	10	14
Junior	18	22
Senior	27	32

	First Semester	Second Semester
Normal A.B./B.S. Science		
First-Year Student	4	8
Sophomore	12	16
Junior	20	24
Senior	28	32

	First Semester	Second Semester
Minimum B.S. Engineering		
First-Year Student	3	6
Sophomore	11	16
Junior	21	26
Senior	32	38

	First Semester	Second Semester
Normal B.S. Engineering		
First-Year Student	4	8
Sophomore	13	18
Junior	23	28
Senior	33	38

Three courses are considered the minimum load for full-time standing.

Grades

Lafayette uses a five-letter plus/ minus grading scale to evaluate and report a

student's academic performance. The course letter grade of "A" indicates excellent, "B" indicates good, "C" indicates satisfactory, "D" indicates passing, and "F" indicates failure. Grades of C-, D+, D, and D-, though passing, fall below the minimum grade point average required for graduation. The following system of grade points and letter codes is used in computing grade point averages. All courses considered in determining the grade point average are listed in the student's permanent record. Starting with the class of 2001, a grade point average of at least 2.00 both overall and in the major is required for graduation.

A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0.0

INC	INCOMPLETE: course requirements not completed; no credit (temporary grade, given only in extenuating circumstances)
P	PASS: course credit received but no effect on average
WD	WITHDRAWAL: with permission of the Academic Progress Committee; no credit and no effect on average
AUD	AUDIT: no credit and no effect on average
NG	NO GRADE (temporary)
NF	NO GRADE (permanent): used in cases of academic dishonesty; carries value of the grade of "F" (zero quality points) in computing semester and cumulative averages
CR	CREDIT: course credit received
NC	NO CREDIT: no course credit received

Incompletes

According to faculty policy, an Incomplete is given only when the student has been unable to complete the work of the course for some reason outside the student's control and has been completing passing work in the course up to that point. When an Incomplete is given, the faculty member should indicate to the Dean of the College

or the Registrar the reason for the Incomplete and give an assessment of the student's work to date.

The student must make arrangements with the instructor as to the timing and manner by which the Incomplete is to be satisfied.

Normally, an Incomplete is to be made up by the end of the second week of the following semester. The instructor may specify a longer period of time after consultation with the Dean of the College, but all work must be completed and a grade assigned no later than the first day of classes of the second semester of attendance subsequent to the Incomplete. If the instructor specifies a period longer than two weeks, the reason for the longer period and the date established for the completion of the outstanding coursework must be stated in writing to the student with copies to the student's adviser, to the Dean of the College, and to the Registrar.

Unless the coursework is completed and a grade assigned by the instructor by the end of the specified period, the Registrar will automatically replace the Incomplete with an F.

A student with more than two pending Incompletes will not be permitted to begin a new academic year.

Midterm Grades

Grades of "D" and "F" are normally reported to the Academic Progress Committee, the adviser, and student at midterm to identify and help students encountering academic difficulty. They are not recorded on the student transcript. Students receiving midterm grades should discuss approaches for improvement with their instructors, their advisers, or a dean in the Office of the Dean of the College.

Academic Probation

Students who are not making satisfactory progress may be placed on academic probation by the Academic Progress Committee. Factors such as term averages, cumulative averages, and graduation progress are among the criteria used in evaluating students, but each case is considered individually. The Committee will typically review all first-year students with a 1.80 GPA or less and all other students with under a 2.00 GPA. When a student is placed on probation, the probationary period is in effect from the

date of the action until the end of the following semester.

Students on academic probation may not take more than two unexcused cuts in any course. A student on academic probation may be required to withdraw unless during the next semester that student shows improvement sufficient to demonstrate clear promise of eventual graduation, although a period of probation need not precede action requiring a student to withdraw. First-year students on academic probation may not hold office in student or social organizations, represent Lafayette College in any official capacity, or participate in fraternity or sorority pledging. A student who has not completed six courses will be regarded as a first-year student for purposes of probation.

Required Withdrawal for Academic Reasons

A student may be required to withdraw from the College at the end of any semester because of unsatisfactory progress. A student who is required to withdraw for academic reasons is not eligible for reinstatement for at least one semester. Reinstatement is not automatic; rather, it is dependent upon the student's demonstration of clear promise to eventually graduate. Reinstatement to the College may depend upon the space available in the class.

Students who are required to withdraw (RWD) are ineligible for college-funded aid for at least one semester upon their return to Lafayette. College-funded aid will be reinstated once the student has been removed from academic probation by the Academic Progress Committee and has submitted the required documents for financial aid consideration by the specified deadlines. Eligibility for federal/state aid may also be affected by academic progress. For complete information regarding academic progress and federal aid, go to www.lafayette.edu/admissions/finaid.

Disciplinary Suspension

When an individual fails to abide by academic and/or social regulations, or acts in a manner which brings discredit upon the College, the student is subject to disciplinary action which may involve probation or suspension from the College.

Leave of Absence

A student in good standing may apply to the Dean of the College for a leave of absence effective immediately or at the end of a semester. Requests to return after a leave of absence should be directed to the Dean of the College, who may require an interview prior to reinstatement. Reinstatement to the College may depend upon the space available in the class.

Transferring or Resignation from the College

Students who wish to resign from the College or transfer to another college should arrange to do so through the Office of the Dean of the College. (See College policy on refunds.) Students who fail to report to the College and complete registration within two weeks after the beginning of any term will be considered as resigned and must request consideration for reinstatement from the Dean of the College before returning to the College.

Transcripts

The Registrar's Office issues official transcripts, upon the written request of the student, to persons or organizations outside Lafayette College. The Registrar's Office also releases unofficial copies of academic transcripts to major advisers and college officers who are concerned with the student's academic standing. The transcript may be examined by the student at any time in the Registrar's Office.

Academic Honesty

By College policy, the Dean of the College and the Academic Progress Committee share responsibility for hearing cases of alleged academic dishonesty and for determining penalties when indicated. Individual faculty members are not empowered to take disciplinary action in the absence of due process as summarized in the Statement of Rights and Responsibilities of Students, which appears in the Student Handbook.

COURSE REGISTRATION

Course and hour schedules and other registration materials are issued by the Registrar's Office just prior to the registration periods. Students consult with their academic advisers to preregister for classes in November for the spring term and the Interim Session Program, and in April

for the fall term. A student who fails to register within the scheduled periods will be subject to a late registration fee of \$50 unless exception is granted by the Dean of the College or the Registrar. Students who fail to register within the first two weeks of the semester will be regarded as resigned and must apply to the Dean of the College if they wish to return.

Class Attendance

Class attendance is expected of all students because the lecture, the laboratory, and the discussion group are the formal basis of a college learning experience. Faculty members establish and maintain attendance requirements in their courses and must inform students and the Office of the Dean of the College of those policies. Students are responsible for meeting class and examination schedules. Unwillingness to meet attendance obligations may result in a penalty, often failure in the course.

The following activities necessitating absence from class are normally considered excusable: College academic course activities such as field trips and scholarship activities, College varsity intercollegiate athletic competitions, health-related absences as verified by the College physician, family emergencies, and extraordinary situations as determined by the Office of the Dean of the College. Students seeking Dean's excuses for planned absences are expected to provide professors with the dates and total number of proposed class absences as soon as possible and no later than the first day of classes in order for the faculty to determine whether or not the frequency of expected absences violates the pedagogical integrity of the class. In such cases, faculty may advise the student to withdraw from the class or be prepared to accept the academic penalty for such absences.

Students on academic probation may have no more than two unexcused absences from any course. Students on probation who do not meet their attendance obligation will be reported by faculty to the Office of the Dean of the College. Any student with excessive or unexplained absences will also be reported to the Dean.

Please note that the College does not recognize airline schedules or other traveling plans as a legitimate reason for rescheduling final examinations. Please check the final exam schedule before

making travel plans. This schedule is usually available by the fifth week of each semester, and students can obtain a copy from the Office of the Registrar.

Withdrawal from Courses

During the first two weeks of each semester a student is permitted to drop a course without notation and replace it with another. From the end of the two-week period until the end of the eleventh week of the semester, students may withdraw from a course without penalty and with a "withdrawal" recorded on the transcript if approval is granted by the Academic Progress Committee. Ordinarily, approval will be granted, provided that after the course deletion the student's schedule does not fall below three courses. A student who drops a course without Committee approval will fail the course.

If a petition to withdraw produces a roster of courses that falls below three course credits, the student must provide the Academic Progress Committee with a cogent educational rationale to justify the waiver of standard policy. A student must continue to attend all classes until the petition has been reviewed by the Committee.

In all cases, petitions to withdraw should include an indication of the means by which any deficiency incurred will be made up.

Repeating a Course

When a student fails and retakes a course, both grades are included in the student's Lafayette College transcript and the cumulative grade point average. With the exception of Math 161 and 162, only courses in which a student receives a failing grade may be repeated.

Pass/Fail Option

A junior or senior in good standing whose cumulative average is 2.0 or higher may, in each semester, take one course on a pass or fail basis, but in no case may a student take more than four pass/fail courses to be counted toward degree requirements.

Students must obtain the permission of the Academic Progress Committee before enrolling in a course for pass/fail credit. They must meet all the regularly stated prerequisites for admission to the course and all the course requirements, such as attendance, assigned work, and examinations. Passing grades received

under the plan do not affect a student's cumulative average. Failing grades received under this plan are included in the student's cumulative average.

The course must be outside the major field of concentration and outside related courses as defined by the major department. The pass/fail option may not be used for courses which the student intends to count for minor credit, and the pass/fail option may not be used for courses which are to be used toward satisfaction of the requirements for the Common Course of Study. Courses which are considered introductory in any field or which are designed specifically as exploratory courses for non-majors may not be taken for pass/fail credit. Further, courses offered by departments within the same division as the student's major department are normally excluded.

Students taking a course on a pass/fail basis may petition to be permitted to convert to a grade basis at any time before midterm. Conversely, a student may change from conventional grading to a pass/fail option within, but not after, the first two weeks of classes. If a student drops a course with the pass/fail option after the term has begun, the option may not be used for another course during that term.

Students should be aware that many graduate and professional schools react unfavorably to pass/fail grades.

Course Overloads

Students may petition the Academic Progress Committee for permission to enroll for courses above the normal requirement for the degree program.

Auditing Courses

A student must declare him or herself as an auditor must do so no later than the end of the two-week drop/ add deadline.

Normally, a student who is auditing a course may not change status so that credit is awarded. In those instances where conversion seems justified, it may occur only upon approval of the Academic Progress Committee prior to midterm.

Auditing privileges are limited to listening and observing in the classroom. Auditors need not take exams nor complete other written assignments, nor may they expect the instructor to comment on or evaluate

such work. No credit will be granted, but upon recommendation of the instructor, the fact that the individual has audited the course will be noted on the permanent record if the student has met attendance regulations and other requirements set by the instructor. Courses which require a high degree of participation (e.g., laboratory courses, studio art courses, and foreign languages emphasizing conversation) may not be audited.

A regularly enrolled full-time student may audit one and, under unusual circumstances, two courses per semester by petition to the Academic Progress Committee and with the approval of the academic adviser and the instructor in the course or the head of the department in which the course is offered.

Degree-seeking students are not charged for auditing privileges in any semester in which they are enrolled full time.

Cross-Registration

A full-time upperclass student may register at any of the Lehigh Valley Association of Independent Colleges (LVAIC) member institutions (DeSales University, Cedar Crest College, Lehigh University, Moravian College, and Muhlenberg College) for courses suitable to Lafayette degree programs. Courses must be ones which cannot be scheduled at Lafayette, are limited to no more than two per semester, and may not produce an overload. Students may not cross-register for January term courses. A student must have the written approval of his/her adviser, the Lafayette Registrar, and appropriate persons at the host institution.

Questions concerning the suitability of particular courses to Lafayette degree programs should be referred to the Dean of the College or the Registrar. Grades earned under the cross-registration program will be used in computing semester and cumulative averages. It is the student's responsibility to arrange transportation to any cross-registered courses, although the Dean or Registrar may be able to assist in identifying alternative sources of transportation.

Summer Courses

A student wishing to take summer courses at another institution, whether for enrichment or to make up deficiencies, must petition the Academic Progress Committee in advance for approval. Course credits are transferrable only if the student earns a

grade of "C" or better as certified on an official transcript. Grades earned elsewhere are not recorded on the permanent record; transfer grades affect the cumulative average only in courses taken at other LVAIC institutions. Students with junior or senior status are not normally permitted to transfer courses from two-year institutions.

Evaluation of Faculty and Courses

Student evaluations at Lafayette College provide information to (1) instructors and department heads for use in faculty and course development; (2) the Provost for use by the faculty committee on Promotion, Tenure, and Review as one of several considerations in recommendations concerning appointments, promotions, and tenure; and (3) students for use in course selection.

Near the end of each semester, instructors set aside a portion of class time for this purpose. The standard evaluation consists of a questionnaire and a comment sheet. Within a few weeks of the evaluation, computer results and written comments are sent to instructors and to the Provost. Numerical results are available online to students.

ADVISING

Academic Advising

Students pursuing a B.S. program are assigned to advisers in the department or area of their interest by the Dean of the College. First-year and sophomore candidates for the A.B. degree are assigned to advisers whose scope of interests suggests that they can be helpful in encouraging the students to develop programs which will provide the breadth of study generally associated with the A.B. degree and to leave them in a position by the end of their sophomore year to have a reasonable basis upon which to choose majors. Juniors and seniors are assigned advisers in their major departments by the major department head.

Students are responsible for determining that they have satisfied all requirements for graduation. To participate in the commencement ceremony, students must have completed all degree requirements.

Fellowships, Scholarships, and Postgraduate Studies

The undergraduate education provided by Lafayette opens the door to many opportunities including prestigious scholarships and fellowships for undergraduate or postgraduate study/research as well as attendance at a top tier graduate or professional school. The Office of the Dean of the College assists students and recent graduates in fulfilling their intellectual and professional goals by promoting awareness of external scholarship/fellowship and preprofessional opportunities while providing the advice and support necessary to compete successfully. Included among the scholarships/ fellowships are postgraduate programs, regardless of academic discipline, for international destinations such as the Marshall, Rhodes, and Gates Cambridge scholarships to the United Kingdom, the Mitchell to Ireland (Northern or Republic of), DAAD-sponsored programs for study in Germany, and Fulbright and related grants to more than 140 countries worldwide. Scholarship/fellowship programs for undergraduate and/or postgraduate study in the United States include Jack Kent Cooke, Goldwater, Truman, and National Science Foundation, among others. Students of all disciplines who are interested in external scholarships and fellowships may contact the Office of the Dean of the College.

Health Professions

Any of the majors in the Bachelor of Arts and Bachelor of Science curriculums provide the necessary background for entrance into the health professions, including schools of medicine, dentistry, osteopathy, and veterinary medicine. Health professions students should follow their own intellectual and academic interests provided that the program of study includes two semesters of biology with labs, physics with labs, and writing intensive coursework, as well as two years of chemistry with labs. Some health profession schools require or recommend one year of college mathematics, including a semester or full year of calculus and/or statistics, and recommend courses in physical chemistry and quantitative analysis. No course should be taken on a pass-fail basis. It is advisable, but not necessary, that students planning careers in the healing arts take more than the minimum number of science courses, which can be arranged regardless of major.

Health professions students work with the Dean of the College Office, Career Services, and the Health Professions Advisory Committee in preparation for admission to a health professions school. First-year and sophomore students should register to meet with a Gateway adviser in Career Services. The Dean of the College Office is available to assist students in areas related to health professions school admissions, preparation for the MCAT, VCAT, and DAT, and selection of a school. The Health Professions Program sponsors a number of related activities as well as informational meetings to assist students. Any student interested in health professions should contact the Dean of the College Office, as well as consult catalogs from the schools in which they are interested. Reference materials are available in the Dean of the College Office, Career Services, and the reference section in Skillman Library.

Legal Professions

While no particular courses are required for admission to law school, legal professions students need to develop strong reading and writing skills, as well as the ability to think logically, analyze critically, and express oral and written ideas clearly. These skills are not obtained exclusively in any field of study. Many majors accentuate these skills, but for those that do not, elective courses should be selected with these qualities in mind. A strong academic record is required for admission to law school.

The Legal Professions Program sponsors a number of related activities as well as informational meetings to assist students. They have the opportunity to participate in debate competitions as part of the Forensics Society and play roles on the College's Mock Trial Team. Any student interested in legal professions should contact the Dean of the College Office. First-year and sophomore students should meet with a Gateway adviser in Career Services. Members of the Legal Professions Advisory Committee are also available for consultation. The Dean of the College Office is available to assist students in areas related to law school admissions including preparation for the LSAT and selecting a school.

ACADEMIC SERVICES

Academic Resource Center

The Academic Resource Center (ARC), part of the Office of the Dean of the College, provides academic support services to enhance student success in an educational environment that can be demanding and challenging. Peer tutoring, study skills workshops, academic counseling, disability services, academic support for student athletes and supplemental instruction are among the programs provided by the ARC and are available to all students.

Peer Tutoring Program

The Academic Resource Center (ARC) is committed to providing high quality peer tutoring services to our students. Peer tutoring is available in a wide variety of courses, and students may request a tutor for as many courses as they choose. The peer tutoring program provides one hour of tutoring per week for the duration of the semester with the exception of Computer Science courses which provide two hours of tutoring per week. Peer tutor assignments begin each semester during the second week of classes.

Study Skills/Academic Counseling

The ARC offers free study skills assistance for students with the ultimate goal of helping them become more efficient learners and better organized students. Our coordinators are available to meet individually with students or conduct small-group workshops. Students can be assisted in any of the following areas: Study Habits, Note Taking, Reading Strategies, Test Preparation, Test Taking, Time Management, etc.

Academic Support for Student Athletes
Lafayette offers a range of services to student-athletes who face the dual challenge of performing well in the classroom while maintaining a commitment to varsity athletics. The following programs are designed specifically for student athletes: progress reports, peer mentoring, academic enhancement workshops, structured study and laptop loan.

Supplemental Instruction

Supplemental Instruction (SI) is an internationally known academic support program that is targeted to aid students who are enrolled in historically difficult courses. SI sessions are peer-facilitated and focus not

only on course content but also study skills and time management. The SI program is new to Lafayette for the 2008-2009 school year.

Peer Counseling

The Peer Counseling Program, founded in 1985 and supported by the Office of the Dean of the College, is dedicated to assisting students throughout their important first year of college by establishing one-on-one peer-mentoring relationships between first-year and upper-class students.

Disability Services

Lafayette College is committed to ensuring reasonable accommodations to students who are substantially limited by a documented disability. Lafayette students with physical, psychological and/or learning disabilities have met the same competitive requirements for admission as all other Lafayette students. Once admitted, students may request support services in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1992 (ADA). All accommodations requests can be forwarded to Dr. Erica Matos in the ARC.

Due to the confidential nature of disability issues, students must sign an authorized release form each semester in order to provide faculty with notification of their disability. Students who have disclosed their disability are encouraged to discuss the link between their disability and the requested accommodations with their professors during the first two weeks of classes. In order to provide faculty with ample notification to make arrangement for an exam accommodation that might require proctoring, students are asked to provide faculty with at least seven days notice prior to each exam.

PART-TIME STUDIES

Lafayette College offers a part-time study program which is designed for individuals who wish to take advantage of the academic programs and courses offered by the College. Information on admission, registration, and academic advising for part-time students is provided by the Office of Part-Time Studies, (610) 330-5075.

Degree Programs

All degree programs are available to part-time students through the day program.

Degree Candidacy

Part-time students intending to pursue a degree program who have no prior college experience must have completed high school at least two years previously and must meet the minimum requirements for admission established for all students in the chosen program.

The College welcomes applications from students who wish to transfer from two-year and four-year institutions. A student who transfers from a regionally accredited institution will be granted credit toward a Lafayette degree for courses that are consistent with the goals of his or her academic program at Lafayette and in which a grade of at least "C" (or equivalent) has been earned. Engineering courses must be from an engineering program that is accredited by the Accreditation Board for Engineering and Technology.

Students who have earned credits from other colleges and universities must submit official transcripts and catalogs containing course descriptions from these institutions as part of the admissions procedure. Applicants who have successfully completed courses at these colleges will receive an evaluation of transfer credit. An official copy of the student's high school record or a G.E.D. (General Equivalency Diploma) is also required for all applicants. Transfer students are normally not admitted with advanced standing beyond the sophomore level. They are required to complete at least half of their degree requirements at Lafayette.

Non-matriculating Students

Non-matriculating students with special interests in particular subject areas who wish to take courses may be admitted on a semester-to-semester basis as Special Students. Evidence of course prerequisites may be required. Courses may be taken for credit or audited. The audit fee for part-time and special students is the prevailing part-time audit rate. All audits must have the approval of the instructor of the course. Courses that require a high degree of participation (e.g., laboratory courses, studio art courses, and foreign languages emphasizing conversation) normally may not be audited.

Academic Policies

Part-time students are limited to no more than two courses per semester and are

charged at the prevailing part-time rate. When a part-time student reaches senior standing, however, the student may take an additional course in two of his or her last four semesters at Lafayette. The student will continue to be billed at the part-time rate. Such exceptions must be approved by the Dean of the College or the Registrar.

The Office of Part-Time Studies coordinates academic advising for all degree students through the appropriate department in the student's major area. These advisers are assigned when the student is accepted into a degree program. Students who have not been officially accepted into a major and special students who are not seeking entrance into a degree program are advised by the Registrar.

All part-time students are expected to follow the College's policy on Statute of Limitations for Students listed under "Graduation Requirements." It is the obligation of the student to become aware of the College's policies regarding the rights and responsibilities of students.

A part-time degree candidate wishing to enroll as a full-time student must petition the Academic Progress Committee to change to full-time status. Admission on a full-time basis is restricted to those with exemplary academic records and a minimum of five courses taken at Lafayette.

Lafayette is a member of the Lehigh Valley Association of Independent Colleges (LVAIC), which also includes Cedar Crest College, DeSales University, Lehigh University, Moravian College, and Muhlenberg College. LVAIC has extended to part-time degree candidates who have achieved sophomore standing the opportunity to cross-register for part-time day and evening courses. Both grades and credits earned at one of the cooperating colleges under this policy will transfer automatically to the student's home institution. Cross-registration provides the opportunity to take courses not available at the home institution and thus eases the scheduling difficulties sometimes experienced by working adults. A part-time student may enroll in a maximum of two courses through cross-registration for each year of equivalent full-time study. Fees are charged according to the policy of the host institution.

HONORS

Lafayette College encourages and recognizes superior academic work. Students who achieve a semester average of at least 3.60 in a term during which they have completed 3 or more courses (with no pending Incompletes) are named to the Dean's List. Those who graduate in 2008 or before with high cumulative averages based upon four years of work are awarded their degrees summa cum laude (a cumulative average of 3.80 or higher), magna cum laude (3.65), or cum laude (3.50). Those who graduate in 2009 or later with high cumulative averages based upon four years' work are awarded their degrees summa cum laude (a cumulative average of 3.85 or higher), magna cum laude (3.75), or cum laude (3.65).

Departmental Honors

Departmental honors and honors in interdisciplinary major programs are awarded for outstanding performance in writing a senior thesis or in conducting senior research. Departments that have honors programs offer a sequence of two courses titled "Thesis" or "Honors Thesis."

Students who hope to become candidates for departmental honors must register for the courses in Thesis during the senior year. Discussions about pursuing honors should be held with faculty well in advance of the senior year. Work in these courses will be supervised by a faculty member and will be graded in the usual way.

Candidates for honors must have and maintain cumulative averages of 3.00 and averages of 3.20 in the honors department and must fulfill such other requirements as may be established by the department with the approval of the Academic Progress Committee. Students who wish to do honors work in departments other than the major department must separately petition the Committee for permission to do so. Such students must have taken at least six courses, exclusive of Thesis, in the honors department, four of which must be at or above the sophomore (200) level.

The transcripts of students who receive honors bear the legend Honors in (department or program name) with Thesis.

Honorary Societies

Phi Beta Kappa: Outstanding students from all curricula are eligible for election to

Phi Beta Kappa in either the junior or senior year. Membership criteria are established by the local chapter, not by the College. In addition to meeting the requirements of their degree programs, students should demonstrate breadth in their coursework and a commitment to liberal learning. More specifically, the chapter takes into account grade point average, advanced level courses outside the student's major, and the study of mathematics and foreign language. Admission to Phi Beta Kappa is always at the discretion of the chapter, and membership is gained only by election.

Sigma Xi: The Society of Sigma Xi is an international honorary organization dedicated to the encouragement of pure and applied scientific research. The society annually elects to associate membership selected students who have demonstrated marked aptitude for scientific research; election is usually based on written work. In addition, faculty members who have demonstrated noteworthy achievement in research may be elected to full membership.

Tau Beta Pi: Outstanding candidates for engineering degrees are elected to membership in Tau Beta Pi, the national honorary engineering fraternity, during their junior or senior years.

Alpha Sigma Lambda: This national honor society was founded in 1946 to recognize part-time students who accomplish academic excellence while facing the competing interests of family, community, and work. The Lafayette branch is the Iota chapter. To be eligible, students must be working for their first bachelor's degree, be current degree candidates in the Part-Time Studies Program at Lafayette, and demonstrate superior scholarship. Students must have completed a minimum of eight courses at Lafayette, including at least four courses outside the major field and four courses in liberal arts and sciences.

Other Societies: Twelve honorary societies recognize personal achievement in specific fields: Delta Phi Alpha in German; Dobro Slovo in Russian; Eta Kappa Nu in electrical engineering; Omicron Delta Epsilon in economics and business; Phi Alpha Theta in history; Phi Lambda Upsilon in chemistry, biochemistry, and chemical engineering; Pi Delta Phi in French; Pi Mu Epsilon in mathematics; Pi Sigma Alpha in political science; Psi Chi in psychology; Sigma Delta Pi in Spanish, Sigma Iota Rho in international affairs, Sigma Pi Sigma in

physics, and Upsilon Pi Epsilon in computer science.

Prizes and Awards

The generosity of individuals, organizations, and graduating classes has made possible the following prizes awarded at Lafayette:

George Wharton Pepper Prize: Awarded to the senior who, by vote of the faculty and students, most nearly represents the Lafayette ideal.

Africana Studies Scholastic Award: Awarded to a student selected by Africana studies program faculty who has demonstrated academic excellence and potential for future leadership in American society.

Charles L. Albert '08 Trophy: Given to the senior student who is judged to be the outstanding athlete of the year; name inscribed on plaque in athletic department.

John H. Allen Prize: Awarded to the author of the best essay in public finance, as judged by a committee of the department of economics.

American Chemical Society Division of Polymer Chemistry Award: Presented to the sophomore or junior chemistry major with the most outstanding performance in the first two semesters of organic chemistry.

American Chemical Society Prize: Given to the outstanding senior chemistry major for achievement in chemistry.

American Chemical Society Undergraduate Award in Analytical Chemistry: Presented to the junior chemistry major with the greatest achievement in the study of analytical chemistry.

American Defense Preparedness Association Award (presented annually to a senior cadet from each ROTC department who has consistently maintained a high level of academic achievement while participating in campus activities)

American Friends of Lafayette Essay Contest: Awarded annually for the essay on the Marquis de Lafayette that best epitomizes those qualities that earned him the title of "Hero of Two Worlds" as a soldier-statesman and humanitarian.

American Institute of Chemical Engineers Donald F. Othmer Award: Given to a junior or senior student majoring

in chemical engineering who has attained the highest grade point average for two years.

American Institute of Chemists Award: Presented by the Philadelphia Chapter of the Pennsylvania Institute of Chemists to a senior chemistry major in recognition of a demonstrated record of leadership, character, and scholastic achievement.

American Legion General Military Excellence Award: Presented to a cadet in the top 25 percent of his or her class in academic and ROTC subjects who has demonstrated outstanding qualities in military leadership, discipline, character, and citizenship.

American Legion Scholastic Excellence Award: Presented to a cadet in the top 10 percent of his or her academic class and the top 25 percent of the ROTC class who has demonstrated qualities of leadership and actively participated in campus student activities.

American Veterans of World War II, Korea, and Vietnam Award: Presented to cadets who have displayed a high level of diligence and discharge of duty and the willingness to serve both God and country.

Karl J. Ammerman Prize: Awarded annually to the most deserving student in the mechanical engineering department, as selected by the faculty of the department.

Carol G., Jr. '67 and Deborah B. Anderson P'01 Mechanical Engineering Prize: Awarded to a mechanical engineering major on the strength of high academic achievement and promise for excellence in his or her career.

AROTC General Dynamics Award: Presented to the Military Science IV Cadet who has demonstrated both outstanding scholastic achievement and superb leadership ability, and who shows great potential for a distinguished military career.

Armed Forces Communication and Electronics Association Award: Presented annually to a cadet in each ROTC unit who demonstrates excellence in leadership and academics.

Association of the United States Army Military History Award: Presented to a cadet who has demonstrated a strong interest in and acumen regarding the study of military history. The award is a joint

project of the A.U.S.A. and the U.S. Army Center for Military History.

David Fowler Atkins Jr. Prize: Presented to the student who, in work during the junior or senior year in the department of religious studies, gives promise of future usefulness in service to religious communities.

Frank Kline Baker Spanish and Latin American Civilization Award: Awarded to the student who attains the greatest proficiency in the study of Spanish and Latin American Civilization.

Benjamin F. Barge Mathematical Prize: Awarded annually to first-year student(s) or sophomores in recognition of excellence in mathematics.

Benjamin F. Barge Oratorical Prize: Presented to a member of the senior class who writes and pronounces in public competition an English oration in the best manner.

Carroll Phillips Bassett Prize: Awarded annually to senior students deemed most outstanding by the department of civil and environmental engineering.

Carroll Phillips Bassett Prize for Juniors: Awarded annually for outstanding work up to and including the junior year.

Paul Bernon Memorial Prize in Sociology: Awarded each year by the faculty in the department of anthropology and sociology to the graduating senior most outstanding in sociology.

Charles L. Best Memorial Prize in A.B. Engineering: Awarded annually to senior students who best exemplify the ideals behind the Bachelor of Arts in Engineering degree and who have demonstrated leadership in the Bachelor of Arts in Engineering program.

Bethlehem Honorary First Defenders Award: Recognizes those cadets who are designated as distinguished military graduates.

H. MacKnight Black Poetry and Literature Prize: Awarded annually to the student who submits the best poem or group of poems in a contest conducted by the English department.

Sanford G. Bluestein '42 Award: Presented annually to a junior planning a career in medicine who, in the opinion of

the Health Professions Advisory Committee, has distinguished himself or herself academically and contributed to various aspects of college life, especially through participation in athletics, student government, or music and arts programs.

Russell C. Brinker Prize in Civil Engineering: Awarded to a junior in the civil and environmental engineering department who, in the opinion of that department's faculty, is most deserving on the basis of self-reliance, scholarship, and student activities.

James F. Bryant '40 Excellence Award: Awarded to a junior who meets standards of excellence, as did James F. Bryant, by demonstrating high academic achievement, lettering in at least one varsity sport, and showing noticeable and noteworthy evidence of community service.

George H. Catlin Prize: Awarded to the senior with the highest average in the study of the classics.

Eugene P. Chase Government Prize: Awarded annually to the student who, in the judgment of the department of government and law, has submitted the best written exposition in the field of political science during the academic year.

Eugene P. Chase Phi Beta Kappa Prize: Awarded to a sophomore who has demonstrated scholarship as a first-year student.

Chemical Rubber Company Freshman Achievement Award: Presented to the outstanding first-year student in general chemistry.

Class of 1883 Prize: Awarded to a senior who, in the opinion of the department of English faculty, has demonstrated excellence in English.

Class of 1910 Prize: Awarded annually by the department of history to the senior who has excelled in the study of history or in an allied field of the humanities and who, in the determination of the department, manifests the greatest promise for responsible civic leadership and public service.

Class of 1913 Trophy: Presented to the senior who has attained the greatest distinction as an athlete and a scholar.

Murray G. Clay '30 Award: Presented to a sophomore or junior who has an

outstanding academic record in engineering or science.

Burton H. Cohen Memorial Prize: Awarded annually to a senior psychology major who, in the opinion of the selection committee, has demonstrated the inclination, intellectual curiosity, determination, and potential to become a dedicated, creative, and selfless teacher.

Lyman Coleman Prize: Awarded annually to the senior who has demonstrated broad interest and superior performance in the department of religious studies.

College President's Award: Awarded annually to the outstanding cadets from each class in terms of overall achievement, measured by scholastic excellence, leadership, military performance, and extracurricular involvement.

Lawrence J. Conover '24 Electrical Engineering Prize: Presented each year to a senior in electrical engineering upon recommendation of the electrical and computer engineering department.

Jean Corrie Poetry Prize: Awarded annually to first-, second-, and third-year students who submit the best poetry in a contest conducted by the Academy of American Poets.

Professor James P. Crawford Prize in Mathematics: Awarded to a student who has made a special contribution to the mathematics community at Lafayette by participating in and providing leadership for the cocurricular activities of the department.

Daughters of the American Revolution Award: Presented to the senior cadet who has displayed outstanding qualities of leadership and patriotism.

Daughters of Founders and Patriots of America: Presented annually to basic course cadets who have excelled in the ROTC program.

Frederick Knecht Detwiller Prize: Awarded to a senior art major for distinguished work in art and art history.

Distinguished Military Graduate: Awarded to the top 20 percent of the Military Science IV cadets who have demonstrated outstanding leadership, attained superior academic standing, and contributed to the advancement of ROTC.

Francis Shunk Downs Award: Awarded to the senior who, in the judgment of the department of religious studies and the chaplain's office, has shown the best all-around growth and development in academic and extracurricular activities while exercising outstanding leadership and influence upon the campus.

James L. Dyson Geology Award: Presented to that student majoring in geology who, by academic achievements and character, exemplifies the ideals by which James L. Dyson lived and worked.

J. J. Ebers Memorial Award: Given to a student selected by the department of electrical and computing engineering, based on high academic achievement and noteworthy professional interest in the field of electrical engineering.

Economics and Business Award for Scholastic Excellence: Awarded to a student for outstanding academic performance in economics and business and for leadership in departmental activities.

Charles Duncan Fraser Prize: Awarded to seniors who, in the judgment of the department of chemical engineering, are best qualified for advanced work in materials science and engineering.

Francis J. Gafford 1931 English Prize: Awarded annually to the senior who has taken English courses for four years and who has the highest average in English.

Gilbert Prize: Awarded annually to students who, in the judgment of the department of English, have demonstrated superiority in English.

Ralph Scott Grover Music Scholar Award: Presented to a student who has achieved distinction in music scholarship.

Harold A. Hageman '39 Award: Awarded each year to the outstanding pitcher on the baseball team.

William Forris Hart '27 Chemistry Prize: Presented to a junior or senior chemistry major for proficiency in organic chemistry and potential for further achievement in chemistry.

Jeffrey B. Havens Memorial Prize: Awarded to an engineering major to provide a nontraditional summer learning experience.

Robert F. Hunsicker Educational Prize: Awarded to a student who has done meritorious work in the area of small-business studies.

Willis Roberts Hunt Biology Prize: Awarded annually to the senior biology student(s) felt by the members of the department to be most deserving.

Institute of Internal Auditors Award for Excellence in Accounting-Related Studies: Given to a student for excellence in accounting and business subjects.

Institute of Management Accountants Award: Given to a student for excellence in accounting.

Instrument Society of America, Charles F. Homewood Scholarship: Awarded to an outstanding senior engineering student who has demonstrated interest and aptitude in the field of instrumentation and control systems.

Henry Richard Jahn Trophy: Awarded annually to a member of the track team who, by vote of the track team and approval of the track coach, is determined to have contributed most to the track team by virtue of leadership and ability.

Hugh H. Jones Most Valuable Player Award: Presented to the most valuable player in football.

I. Clinton Kline Prize: Awarded to the senior who has demonstrated excellence in acting, directing, or technical theater.

Paul E. Koch '28 Trophy: Presented to the member of the Lafayette baseball team who, in the opinion of the baseball coach and director of athletics, is considered to be the most valuable member of the team.

Joseph Watt Kuebler Jr. Memorial Prize: Presented annually to the senior student in the department of biology who has the highest scholastic average and will be entering medical school.

Lafayette Alumni of the Lehigh Valley Performing Arts Award: Awarded annually to a senior residing in the greater Lehigh Valley who has made a significant contribution to Lafayette's performing arts program while demonstrating strong academic achievement.

Lafayette Alumni of the Lehigh Valley Scholarship Award: Awarded annually to a senior residing in the greater Lehigh

Valley who demonstrates outstanding academic achievement.

Lehigh Valley Battalion Commanders Award: Presented annually to outstanding cadets in each class by Army ROTC Cadre for demonstrated acumen for leadership and an aptitude for military service as an officer.

Lehigh Valley Chapter of the American Society for Metals Prize: Awarded to an outstanding senior in materials engineering.

Lehigh Valley Section of the American Chemical Society Award: Given by the Lehigh Valley Section of the American Chemical Society to the outstanding senior chemical engineering major for achievement in chemistry.

Lehigh Valley Section of the American Institute of Chemical Engineers Award: Presented to a senior in chemical engineering who has compiled an impressive academic record and who has demonstrated outstanding accomplishments in one or more extracurricular activities.

Lehigh Valley Section of the American Society of Civil Engineers Outstanding Senior Award: Awarded to a senior engineering student who exhibits outstanding scholastic ability as well as involvement in extracurricular activities.

Lehigh Valley Section of the American Society of Materials Award: Awarded annually to the student who has attained the most impressive record in the introductory materials course.

Leopard Medal: Awarded to a first-year cadet who contributes the most to the advancement of Army ROTC at Lafayette College, and is academically in the top 10 percent of the ROTC class and the top 25 percent of his or her academic class; made possible through the generous contributions of Harry M. Jones '66, Lieutenant Colonel, U.S. Army Retired.

Francis A. March Fellowship: Given to a senior who has distinguished himself or herself in English studies and who has been admitted to a graduate school approved by the department of English.

Maroon Club Student Award: Presented to a senior male and a senior female athlete based equally upon academic achievement, athletic accomplishments, and campus/community service.

General George C. Marshall Award: Awarded by the George C. Marshall Foundation in recognition of attainment as the outstanding student in military studies and leadership in the tradition of this country's citizen soldier as exemplified by the career of Gen. George C. Marshall.

J. H. Tarbell Award: Awarded to a student who demonstrates an understanding of financial operations and institutions.

Dr. E. L. McMillen-K. K. Malhotra '49 Prize: Awarded to a junior(s) who has attained a high cumulative average in chemical engineering and who has demonstrated a high level of proficiency in the Unit Operations Laboratory.

Mechanical Engineering Design Award: Awarded to a senior mechanical engineering student for an outstanding senior capstone design project.

Mechanical Engineering Faculty Award: Awarded by the mechanical engineering faculty to an outstanding mechanical engineering senior who has demonstrated superior knowledge of the discipline and shows promise in the practice of the profession.

Merck Index Award: Given to a senior for superior academic work in chemistry and promise of future excellence.

Military Order of the Purple Heart Award: Presented annually to cadets for military and scholastic excellence by the Lehigh Valley Chapter of the Military Order of the Purple Heart.

Military Order of the World Wars Leadership Award: Presented by the Philadelphia chapter to the cadet who best exemplifies the spirit of ROTC leadership.

Military Order of the World Wars Ribbon: Presented annually to outstanding cadets who have shown the most improvement in military and scholastic studies during the school year.

Military Science Cadre Award: Presented annually to a senior army cadet from each campus who has exhibited outstanding qualities of leadership and an aptitude for military service as recognized by his/her instructors and who serves as an example of the kind of officer the cadre endeavors to produce.

Wesley S. Mitman Prize: Awarded to the senior most outstanding in mathematics.

Moles Student Award: Given to a student in engineering whose academic achievement and enthusiastic application shows outstanding promise of personal development leading to a career in construction engineering and management.

Arthur Montgomery Geology Award: Awarded annually to a student of high academic achievement with a special interest in mineralogy and petrology in honor of Arthur Montgomery, professor of geology from 1951-75.

National Guard of Pennsylvania Award: Presented to a graduating cadet who is entering or is a member of the Pennsylvania National Guard for outstanding attitude and motivation, academic achievement, leadership, and overall ROTC achievement.

National Sojourners Award: Awarded to a sophomore or junior Military Science cadet who encourages American ideals by deed or conduct, demonstrates outstanding leadership, and achieves academic excellence.

Donald U. Noblett Prize in Chemical Engineering: Given to a chemical engineering major based on high academic achievement, with outstanding promise of future excellence in his or her career.

Vivian B. Noblett Prize in Studio Art: Awarded to an art major with preference given to a student with an interest in studio art who has demonstrated proficiency in painting and drawing and who shows potential for future achievements.

Minerva and Emil V. Novak Prize in Government and Law: Presented annually to a student majoring in the department of government and law, based on overall excellence in academic work and citizenship in the campus community.

Louise M. Olsted Prize in Ethics: Awarded to a student who, in the judgment of the members of the department of philosophy, has done outstanding work in theoretical ethics, applied ethics, or a related field.

Pennsylvania Institute of Certified Public Accountants Award: Given to a graduating senior for excellence in accounting and for participation in college and community affairs.

James Alexander Petrie Prize in French: Awarded annually to a student demonstrating a high degree of proficiency in French.

Reverend J. W. and R. S. Porter Bible Prize: Awarded annually to students judged by the department of religious studies to have demonstrated high proficiency in the study of religion, based upon work done in their first and second years.

David A. Portlock Memorial Prize: Awarded annually to an outstanding student receiving Lafayette grant aid who will benefit most from studying abroad.

William C. Rappolt '67 and Walter Oechsle '57 Neuroscience Prize: Awarded to an outstanding senior based on scholarship in the classroom and laboratory and service to the major, College, or community.

John D. Raymond Music Award: Awarded annually by the department of music to a deserving music student.

Reserve Officers Association Award: Presented to the Military Science II, III, and IV cadets who have displayed exceptional leadership and academic performance.

Retired Officers Association Award: Presented to the Military Science II, III, IV cadets who have displayed exceptional leadership and academic performance.

Rexroth Prize in German: Awarded to a student for meritorious achievement in German.

Herbert W. Rogers Psychology Prize: Awarded annually to the outstanding senior psychology major(s) judged by the department to be the most deserving.

James P. Schwar Prize: Awarded annually in honor of James P. Schwar, professor of computer science from 1962-2000, to a deserving computer science student.

Dr. & Mrs. David Schwimmer '35 Prize in Honor of Theodore A. Distler: Awarded annually to the pre-medical student who, in the opinion of the Health Professions Advisory Committee, best represents the humanitarian, cultural, and scientific qualities required of the true physician.

David Bishop Skillman 1913 Library Prize: Awarded to a graduating senior

library assistant who by his/her exemplary performance, skill and dedication has enhanced the library's educational role.

Finley W. and Ethelwyne H. Smith Electronic Engineering Prize: Awarded annually to the electrical and computer engineering senior who has earned, at the end of the junior year, the highest cumulative average attained by any senior who is working for departmental honors with a project in the electronics or communications field.

Society of American Military Engineers NYC Post Scholarship: Awarded to engineering students enrolled in Military Science to continue their educational studies.

Society for Applied Spectroscopy Prize: Awarded to a senior in the department of chemistry.

Society of the War of 1812 Award: Presented annually to sophomore ROTC cadets who encourage and demonstrate the ideals of Americanism by deed, conduct, or both.

Sons of American Revolution Award: Emphasizes the importance of perpetuating the principles of government established by the colonial statesmen. It honors cadets for outstanding leadership qualities, military bearing, and excellence.

Carl J. Staska Prize: Awarded each year to a student who has demonstrated a high degree of proficiency in chemical laboratory skills.

Superior Cadet Award: Awarded to Military Science cadets who are the top cadets in their respective ROTC classes.

William G. McLean Tau Beta Pi Prize: Awarded to a sophomore engineering student based on academic performance, campus citizenship, and professional orientation.

Track Prize: Presented by the department of athletics to the ideal Lafayette track and field or cross-country team member in memory of Peter Crampton.

Paul Tully Memorial Prize: Presented to the student who best exemplifies the progressive principles of social and political service—democratic ideals to which Paul Tully devoted his life.

ProfessorCarolynn Van Dyke Prize: Awarded annually to a student majoring in any subject, preference for computer science, to provide funds for a nontraditional learning experience.

Veterans of Foreign Wars Award: Presented to outstanding cadets who are actively engaged in the ROTC program and who possess individual characteristics contributing to leadership.

B. Vincent Viscomi Civil Engineering Prize: Awarded to a civil engineering student based on demonstrated academic achievement and leadership during his or her first three years at Lafayette.

Wall Street Journal Student Achievement Award: Given to a student whose academic performance in economics and business is considered exceptional.

J. Hunt Wilson '05 Prize in Analytical Chemistry: Awarded annually to the senior chemistry major with the highest ranking in courses and research.

Luther F. Witmer Prize: Awarded annually to the senior with the most outstanding accomplishments in materials science and engineering.

T. Gordon Yates '29 Award for Swimming: Awarded annually to the most improved male and female swimmers as determined by the swimming coaches and the director of athletics.

Thomas G. Yohe Memorial Prize in Studio Art: Awarded to a student who displays creativity in drawing and illustration.

Class of 1884 R. B. Youngman Greek Prize: Awarded annually to a student who has demonstrated a high degree of proficiency in Greek.

SPECIAL ACADEMIC OPPORTUNITIES

In addition to its regular academic programs, Lafayette College offers a variety of optional programs ranging from student/faculty research projects and intensive short-term courses during the January or May interim to foreign study and work-study internships.

Interim Session Programs

The Lafayette academic calendar leaves a period of about three weeks open during January or May. Some students use this period to enroll in optional special academic courses sponsored by Lafayette, either on campus or in foreign locations. Interim Session may include intensive courses, laboratory exercises, field trips, or study abroad. For students in Bachelor of Science programs whose heavy schedule of prescribed courses may make off-campus semesters difficult to arrange, the Interim Session provides an especially useful opportunity to participate in a period of foreign study.

Special courses offered only during Interim Sessions are described in the listings. Additional information about the study-abroad programs may be obtained from the Office of International and Off-Campus Education. Students applying to participate in the interim abroad program must be in good standing academically and with respect to College regulations at the time of application, and when they depart for the program. For information about on-campus interim programs, contact the Office of the Dean of the College.

Regular financial aid does not cover the Interim Session, but some funding is available on a competitive basis, and the Office of Financial Aid can advise students about loans and other possible forms of assistance.

Study Abroad

Lafayette College recognizes that we live in an increasingly complex and interrelated global environment. Connecting the classroom to the world outside our walls is at the core of the College's mission. Off-campus study combines academic rigor with experiential learning through immersion in an international or culturally significant domestic setting. Engaging in an unfamiliar cultural milieu is often a truly transformative experience for students. Participants are encouraged to expand their comfort zones, encounter new perspectives, and examine their own cultural viewpoints. Students return to campus with a greater appreciation of global issues, which enriches their understanding of their own on-campus curricula while stimulating and deepening conversation within the College community.

The Office of International and Off-Campus Education provides opportunities ranging from interim to semester and year-long programs. Generally, the cost for a semester or year abroad is the same as that for a semester or year on campus. Students pay Lafayette's Comprehensive Fee (tuition). Those who select a faculty-led program also pay Lafayette's room and (depending on the program) board; the College arranges and pays for the airfare. Students who select an approved affiliated program pay Lafayette's Comprehensive Fee (tuition) plus the host institution room and board charges. (Host costs are detailed in the Host Program Estimate Cost Profile, available in the Office of International and Off-Campus Education). For most affiliated programs, students make their own travel arrangements. Lafayette bills the student for the applicable tuition and other fees and pays the host institution directly. Students are responsible for incidental costs such as books, passports, visas, immunizations, optional travel, and personal expenses.

Students enrolled in faculty-led or approved affiliated programs have access to the same financial aid they have while studying on campus at Lafayette. Financial aid is capped, however, at Lafayette's cost. A few of our approved programs are more expensive than Lafayette; in those situations, students selecting such programs are responsible for any amount above and beyond Lafayette's cost.

The deadline for application for the fall semester is February 15 and September 15 for the spring semester. At the time of application and departure for the study-abroad program, students must have a minimum cumulative grade point average of 2.80, be in good standing academically and with respect to College regulations, and be making satisfactory progress toward the degree.

Students accepted by off-campus programs must seek approval in advance from the Academic Progress Committee for courses they wish to present for a grade and for credit towards the Lafayette degree. A student may transfer no more than a normal semester program or not more than eight courses for a full academic year of foreign study. Normally, students are not permitted to study abroad through a nonaffiliated program. Should the Academic Progress Committee make an exception for a program in a country in which Lafayette has

no formal affiliation or arrangement, the student must obtain prior approval. Without approval, any course taken cannot be credited toward the Lafayette degree.

Summer Session-Language and Culture Abroad

As a member of the Lehigh Valley Association of Independent Colleges (LVAIC), Lafayette College is involved in six-week summer programs in Germany, Italy, and Spain. Each program offers a total cultural experience and the course credit earned is automatically transferred to the participating LVAIC institution and counted as part of the student's cumulative grade point average. A language proficiency examination determines the level (I, II, or III) at which a student is permitted to enroll. Students interested in the LVAIC programs should consult with the head of the Department of Foreign Languages and Literatures.

Level I

German 050: German Language and Culture Abroad I

Spanish 050: Spanish Language and Culture Abroad I

Italian 050: Italian Language and Culture Abroad I

Intensive study of the fundamentals of German, Italian, or Spanish with emphasis on speaking, listening, and reading comprehension, as well as basic writing skills, supplemented by an introduction to major aspects of contemporary French, German, Italian, or Spanish civilization. Two course credits.

Level II

- German 150: German Language and Culture Abroad II

- Spanish 150: Spanish Language and Culture Abroad II

- Italian 150: Italian Language and Culture Abroad II

Intensive practice of conversational German, Italian, or Spanish; rapid review of basic grammar; reading and analysis of moderately difficult texts, as well as the development of rudimentary writing skills, supplemented by the study of selected aspects of contemporary German, Italian, or Spanish civilization. Two course credits.

Level III

- German 250: German Language and Culture Abroad III

- Spanish 250: Spanish Language and Culture Abroad III

- Italian 250: Italian Language and Culture Abroad III

Intensive practice in spoken and written German, Italian, or Spanish aimed at providing the student with extensive proficiency of expression and the ability to discriminate linguistic usage; emphasis on idiomatic expressions with an introduction to stylistics, reading, and analysis of difficult texts, supplemented by an in-depth study of selected aspects of contemporary German, Italian, or Spanish civilization. Two course credits.

Interim Abroad Program

Each year, Lafayette faculty offer six to nine three-week courses abroad during the January term and in May. Each course counts for one course credit. Individual courses are listed under "Interim Session/Study Abroad."

Internships

All students are eligible to register for one internship course. Students earning a cumulative grade point average of 3.2 or above may petition to take a second internship for credit. Normally, first-year students and sophomores are not eligible for participation in an internship program, and no credit may be given ex post facto for internships.

Internships are offered by several academic departments and involve practical, hands-on experience at jobs generally outside the College community. Academic departments and programs that offer internship courses for credit include A.B. engineering, art, economics and business, English, government and law, history, music, and psychology.

Students participating in internships will be graded on a credit/no credit basis. The student's coursework must be approved in advance and be supervised by a member of the department, as well as by personnel at the workplace. Internships may, by departmental approval, be offered under project or independent courses in engineering. At the conclusion of the internship, the student typically prepares a paper on the experience.

Summer internships are available through selected academic departments or the College-wide internship program (INT 200). INT 200 credit is recorded on the transcript, but may not be used to fulfill the minimum course requirement for graduation.

INT 200 – Internship

This course emphasizes learning through the interplay between academic work and fieldwork in a various entities during the summer months. Each internship will be supervised by a faculty member who will provide a formal evaluation of its outcome in consultation with the relevant personnel in the workplace. Under the supervisor's guidance, each intern will produce a tangible academic project during the internship experience, such as a paper, journal, or portfolio.

Independent Study

Students who wish to pursue special academic topics or individual research programs endorsed by a faculty member may register in most departments for a credit-bearing course of independent study. Normally, no more than one independent study course may be taken in a semester.

Lafayette EXCEL Scholars Program

The Lafayette EXCEL Scholars Program enables students to participate in academically meaningful experiences outside the classroom. Students selected for this program engage in collaborative research projects with Lafayette faculty, enhancing their academic skills as well as developing other skills which will be useful in post-graduate education and careers.

EXCEL Scholars have the opportunity to work full time for ten weeks during the summer; full time for three weeks during the Interim Session; and eight to ten hours per week during the academic year.

Students selected to the EXCEL Scholars Program receive a stipend of \$8 to \$10 per hour and residence hall housing during the interim and summer sessions.

Information concerning the EXCEL program may be obtained from the Director of Research Services.

College Writing Program

The College Writing Program provides student Writing Associates the opportunity

to work closely with faculty in courses across the curriculum. Each Writing Associate is assigned to a course affiliated with the program and meets individually with the students to help them revise their written work. The Writing Associate works under the guidance of the professor and the College Writing Program's professional staff. The Writing Associates also provide a drop-in service for the campus at large.

Students selected as Writing Associates are themselves skilled writers and insightful readers with strong listening and coaching skills. They are paid a stipend for their services. For more information, see Christian Tatu, the coordinator of the College Writing Program, 319 Pardee Hall.

McKelvy Scholars

Each year, 20 students of high academic ability and promise are invited to live together at McKelvy House, a residence four blocks from the campus. The McKelvy Scholars program was established to recognize and encourage academic excellence and to facilitate exchange of ideas and information among students with different interests and in different disciplines. Admission is competitive and requires nomination by a faculty member. Information about the program may be obtained from the Dean of the College.

Military Science

Military Science centers on the theory and application of leadership and management fundamentals and also includes professional knowledge subjects, physical training, small unit tactics, and basic military skills. The program sponsors the Reserve Officers' Training Corps (ROTC), leading to duty as a commissioned officer in the active Army, Reserves, or National Guard.

The program is a part of the United States Army Cadet Command. Classes and activities are conducted on the Lafayette campus under the auspices of Lehigh University's ROTC program, which acts as the local headquarters for ROTC and Military Science instruction.

Any student may take ROTC classes during any semester. To be eligible for commissioning as an officer, however, a student must have at least two years until graduation upon entry into ROTC. Non-scholarship students incur no military obligation until their junior year. Students continuing in ROTC beyond their

sophomore year may sign a contractual agreement leading to a commission as a Second Lieutenant in one of more than 20 branches of the Army upon graduation. All juniors and seniors receive tax-free monthly stipends of \$450 and \$500 respectively during the school year.

Four-year ROTC scholarships cover full tuition and fees and also offer a stipend and \$900 per year for books. Scholarships are available to those who will be entering Lafayette College as first-year students. Two- and three-year ROTC scholarships are available once enrolled at Lafayette College (current participation in Army ROTC is not required).

All Army ROTC scholarships are awarded solely on merit, and recipients incur a military obligation.

For more information, see "Military Science" section under "majors/departments."

LIBRARY RESOURCES

Lafayette's libraries provide students with a wide range of information sources and services developed to support their educational pursuits. The David Bishop Skillman Library is the college's main library, with a collection of more than 500,000 volumes. Kirby Library has an additional 30,000 volumes related to government and law. The two libraries subscribe to more than 1,000 magazines, journals, and newspapers in paper form and provide full text, online access to thousands of additional titles. The libraries' Special Collections and College Archives department houses the College's rare books, manuscripts, and institutional records, including a premier collection on the Marquis de Lafayette.

The libraries provide access to information sources far beyond what is held within the physical confines of its two buildings. Students have borrowing privileges at five other colleges in the Lehigh Valley and may use interlibrary loan services to request materials from libraries across the country. Students can also use the library's expanding array of electronic resources wherever they have an Internet connection.

A staff of librarians helps students to use the libraries' resources and obtain the information they need. Librarians and

archivists meet with classes in all disciplines and provide group instruction in library research. Reference assistance is available to students on weekdays, most evenings, and Sundays. Students may arrange personalized research assistance sessions with librarians for extended consultations about their research projects.

Lafayette's libraries also provide space for students to study and collaborate with one another. Kirby Library is housed in the Beaux-Arts style Kirby Hall of Civil Rights, which was completed in 1930 and renovated in the late 1990s. The library's classic, oak-paneled reading room is among the most beautiful interior spaces on campus.

A renovated and expanded Skillman Library was dedicated in 2005. The three-year project added more than 28,000 sq. ft. to the library and created an enhanced environment for collaborative learning, information technology, and an expanding book collection. The library's newly redesigned spaces include a formal reading room, a program room, two instruction rooms, a digital media lab, the largest public computing cluster on campus, and a variety of individual and group study spaces.

INFORMATION TECHNOLOGY SERVICES

Lafayette College's information technology services are delivered via a 10 Gigabit network backbone that serves the entire campus community. Devices can access the network over a wired 1 Gigabit connection or via campus wireless. The college is connected to both the Internet as well as other high-speed research networks including Internet2.

Information Technology Services (ITS) manages and supports both PC and Macintosh computers. Multiple Novell and Linux-based servers support a variety of applications including email, personal file storage, course management systems, and other services. Students and faculty have web access to academic and financial records in addition to online course registration.

Assistance with technology is available through the help desk. Support is available for hardware repair as well as many common desktop applications including MS Office. ITS also maintains the technology

installed in most classrooms and provides instruction, equipment, and support for the creation and presentation of multimedia projects.

Lafayette does not require students to purchase a computer or bring one to campus. Public computing sites, including a 24-hour public lab, are open weekdays, evenings, and weekends during the academic year. In addition, most academic departments have special-purpose computing labs available for student use. Many specialized applications are accessible from any networked computer on campus.

However, most students bring their own computer to campus or choose to purchase one through special pricing arrangements with Dell and Apple. Microsoft Windows, Mac OSX, and Microsoft Office Professional are the supported operating systems.

In late spring, newly accepted students are sent full details on recommended hardware and software configurations, along with procedures to prepare a system for connection to the Lafayette network.

Admissions and Costs

ADMISSIONS

Admission to Lafayette College is highly competitive. The College receives about 10 applications annually for each available place in the first-year class and seeks those candidates who are best able to benefit from and contribute to the academic and extracurricular programs of the institution. Factors considered in evaluating each student's application include academic performance in secondary school, the quality of courses taken, and class rank; the candidate's personal qualities and extracurricular record; and the recommendation of the secondary school.

Students admitted to Lafayette as full-time, degree-seeking students must have a high school diploma or the recognized equivalent of a high school diploma at the time of their matriculation.

Applicants for admission must submit test scores from either the SAT or the ACT, including the optional writing section. SAT Subject test results are recommended but not required. Lafayette College complies with federal and state legislation and does not in any way discriminate in education programs or in employment on the basis of gender, age race, color, religion, creed, national origin, ancestry, physical ability, or sexual orientation.

PREPARATION

Candidates for admission to the Bachelor of Arts degree program should have pursued a college preparatory curriculum in high school, including at least four years of English, three years of mathematics, two years of laboratory science, two years of a foreign language, and a minimum of five additional units in academic subjects. Candidates for the degree of Bachelor of Science, whether in a natural science or in engineering, should have pursued a program including four years of college preparatory mathematics, and a science sequence incorporating both chemistry and physics.

The secondary school report submitted in support of the application should include an evaluation from the secondary school counselor as well as one from a teacher who taught the candidate a major subject during the junior or senior year.

Details of admissions procedures are mailed to potential applicants upon request to the Admissions Office.

ADVANCED PLACEMENT

Lafayette participates in the Advanced Placement examination program of the College Entrance Examination Board (CEEB). Candidates interested in receiving course credit and placement in advanced classes should take the AP examinations given in May of each year. A score of either 4 or 5 on most examinations, and 3 or above on selected others, will earn course credit and advanced placement. The Lafayette faculty determine score assignments each spring. It is possible to receive sophomore standing with sufficient scores.

Lafayette cannot grant any AP credit without possession of the official AP score report from the CEEB before the end of the student's sophomore year at the College.

International Baccalaureate

The official results of the higher level examinations of the International Baccalaureate are considered for academic course credits at Lafayette. The acceptable score level is 5 or higher in all subjects. The amount of credit is determined by each department. No credit is given for subsidiary level examinations.

Students awarded the full IB diploma with results of 5 or above on all higher level and subsidiary level examinations, and results of C or above on both the Theory of Knowledge course and the Extended Essay, may apply for sophomore standing after arriving on campus. Students approved for sophomore standing receive between six to eight course credits, including up to two free elective credits (undesigned or INDS 098). Students who receive sophomore standing may not be awarded more than eight course

credits and must complete the First-Year Seminar (FYS) as a graduation requirement. Free electives may not be used for major or distribution requirements.

A number of subjects in the IB program do not have a direct Lafayette course equivalent. Credit for higher level examination results in these areas is not guaranteed. If no departmental sponsor can be found for the subject, results of 5 or higher in these areas may be awarded as free elective course work (undesignedated or INDS 098). Credits count toward the requirements for sophomore status as noted in the section above.

Academic Scholarships

Prospective students of outstanding academic achievement who show the potential for independent and creative scholarship at the undergraduate level may be selected as Marquis Scholars. Marquis Scholars receive an annual minimum award of \$16,000 (totaling \$64,000 over four years) or full grant to demonstrated need if greater than \$16,000. To remain eligible for the award, students must maintain full-time enrollment and a cumulative GPA of at least 3.00.

In addition to the financial aid award, Marquis Scholars receive other benefits including distinctive educational experiences, most notably a College-funded, three-week study-abroad course during the interim session between semesters. They also participate in cultural activities in major cities and on campus, and in mentoring programs with Lafayette faculty. The college provides these scholarships to approximately 10 percent of each entering class of students.

Students admitted under either by early decision or regular decision will be considered for this merit-based scholarship, with final decisions rendered by late March.

TRANSFER STUDENTS

Lafayette welcomes applications for the fall and spring semesters from students wishing to transfer from other institutions. All applicants must have a high school diploma (or GED) and be in good standing at their current institution. The College does not specify a minimum grade point average for consideration as a transfer student, but the

majority of those offered admission present strong records of achievement.

Students who transfer from a regionally accredited institution may be granted credit toward a Lafayette degree for courses which are consistent with the goals of the candidate's academic program at Lafayette and in which the candidate has achieved a grade of C or higher (2.0 on a 4.0 scale). Transfer students are expected to spend a minimum of two academic years in residence to be eligible for graduation.

The maximum of transfer credit that may be awarded to Bachelor of Arts degree candidates is 16 Lafayette semester courses. For Bachelor of Science degree candidates, the maximum transfer credits that may be awarded is one-half the number of semester courses in the degree program. Normally, at least one half of the courses to be applied toward the major must be taken at Lafayette.

INTERNATIONAL STUDENTS

Lafayette actively seeks international students, whose special experiences contribute significantly to the rich diversity of the campus community. Currently, between five and six percent of the student body is made up of international students who represent 56 countries.

All applicants are required to submit official results of the SAT or the ACT with writing. Additionally, Lafayette recommends but does not require the results of two SAT Subject Tests. Prospective math and science majors are encouraged to take Subject Tests in mathematics and science.

Students whose first language is not English must submit official results of the TOEFL test unless the language of instruction during their four years of high school has been English. A score of at least 550 on the paper-based test or 80 on the Internet-based test is generally required for admission. We will accept the results of the IELTS exam in lieu of TOEFL; the expected score on this exam is at least 7.0.

FEES

Fees are subject to change by action of the Board of Trustees. For 2008-09, fees are:

Comprehensive Fee	\$35,904
Student Activity Fee	\$186
Room	\$6,773

ADMISSIONS AND COSTS

Board (20-meal plan)	\$4,475
Flex, freshmen and transfers	\$200
Flex, upper-class students	\$500
Health Insurance (optional) (Estimated)	\$1,525
Tuition Refund Insurance (optional) (Estimated)	\$265-315

In addition, the College estimates an allowance of at least \$850 for books and academic supplies and approximately \$1,000 for miscellaneous personal expenses and travel. Financial aid will be pro-rated for seniors who are approved for less than full-time status.

Students who enter Lafayette as full-time students and wish to change to part-time status (enrollment in fewer than three courses) must be in the final semester of their senior year. For consideration, a petition must be filed by Aug. 1 for fall semester and Dec. 1 for spring. Once granted permission to enroll for less than full-time study, the student will pay the full-time comprehensive fee pro-rated to the number of courses for which the student is allowed to register and the full student activity fee.

Students are advised to check their family health plan to be sure coverage will apply in case a claim is filed while they are registered on a part-time basis.

Interim Session

Optional special academic courses are offered both on campus and abroad during the three-week break in the academic calendar in January. Some abroad courses are also offered in May. Separate fees apply. Regular financial aid does not apply but the Office of Financial Aid can advise about loans and other forms of assistance. Grant consideration is given to students by the Provost's office.

Dining Plans

Lafayette offers a variety of dining programs available at two student restaurants, a food court, and a coffee house (Gilbert's Cafe accepts flex dollars and cash only). Breakfast, lunch, and dinner are provided Monday through Saturday, and brunch and dinner are served on Sunday in the Drake Dining Room in Farinon College Center. Students may also use their meal plan in Marquis Hall (Monday through Friday, continental breakfast and lunch; Monday through Thursday, dinner).

All first-year students must subscribe to the full 20-meal plan and \$200 flex dollars. All transfer students must subscribe to the 10-meal plan and \$200 flex dollars. All upperclass students must purchase \$500 dollars or participate in one of the optional board plans offered.

Payments and Penalties

All college fees must be paid in full at an established date prior to the start of each semester. The student will not be permitted to register or to attend classes until the account is paid in full or until satisfactory arrangements for payment are made with the Controller's Office. Failure to comply will result in both the withdrawal of the student for the current semester and a refusal of permission to register for subsequent semesters. The Registrar will not release the transcript of a student whose account has not been paid in full. International students are required to make all payments in the form of an international money order or a check that is drawn on and collectible by a United States bank. Upon request, the College will provide instructions for the wire transfer of payment to the College.

The penalty fee for failure to register within the scheduled period is \$50 unless excused by the Dean of the College. Failure to follow the established procedures in changing one's schedule results in a \$50 penalty. The penalty for late payment of fees is \$300.

Checks returned by the payor's bank will be subject to a \$25 fee. The amount of the check, plus the \$25 penalty, must be received by the Controller's Office not later than one week after notification.

Tuition Prepayment Plan

The College has established a plan that permits parents to "lock in" the College's comprehensive fee, its tuition, for a minimum of two years or up to four years in advance. The rate for all years in the sequence would be the amount charged in the first year of plan participation. By paying the tuition up front, the parent of a first-year student can fix the rate of tuition through graduation. During that time, the student's additional bills will consist primarily of the student activity fee and room and board charges at the rates current on the billing date. If the student withdraws from college before the prepaid fees have been used, the balance will be refunded but no interest will be paid on the funds for the

period they were on deposit with the College. The plan is not available to students receiving Lafayette-funded financial aid. Inquiries about the plan should be directed to the Controller's Office.

Refunds

Students who withdraw because of illness must submit a written statement signed by a physician for approval by the College physician. In cases of illness or other situations which, in the judgment of the Dean of the College, require special consideration, the College will provide a partial refund of tuition and fees according to the following terms:

Comprehensive, Student Activity, and Room Fees

Withdrawal on or before the first day of classes, 100 percent. No refund is provided after class day 50. The refund for withdrawal within class days 2-50 is calculated on a pro-rata basis and is based on the number of days remaining in the semester divided by the total number of days in the semester. For purposes of this calculation, weekend days are included, but the five-day Thanksgiving break and spring break are excluded.

A student required to withdraw for disciplinary reasons is not eligible for a refund of the comprehensive fee, student activity fee, or the room fee.

While a student is residing in College property, the College assumes no responsibility for loss of or damage to personal property. Students should verify that coverage is provided under their families' homeowners policies or contact an insurance agent concerning protection against such losses.

Board Fees

The student may apply for a refund of the board plan fee, based on the number of unused weeks for that semester.

Flex Dollars

Flex dollars will be refunded to a withdrawn student to the extent that those dollars have not been used.

No refunds will be granted except as described above.

The Financial Aid Office is required by federal statute to recalculate federal financial aid eligibility for students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60 percent of a payment period or term. The

federal Title IV financial aid programs must be recalculated in these situations.

If a student leaves the institution prior to completing 60 percent of a payment period or term, the financial aid office recalculates eligibility for Title IV funds. Recalculation is based on the percentage of earned aid using the following Federal Return of Title IV funds formula:

Percentage of payment period or term completed = the number of days completed up to the withdrawal date divided by the total days in the payment period or term. (Any break of five days or more is not counted as part of the days in the term.) This percentage is also the percentage of earned aid.

Funds are returned to the appropriate federal program based on the percentage of unearned aid using the following formula:

Aid to be returned = (100 percent of the aid that could be disbursed, minus the percentage of earned aid) multiplied by the total amount of aid that could have been disbursed during the payment period or term.

If a student earned less aid than what was disbursed, the institution would be required to return a portion of the funds and the student would be required to return a portion of the funds. Keep in mind that when Title IV funds are returned, the student borrower may owe a debit balance to the institution.

If a student earned more aid than was disbursed to him/her, the institution would owe the student a post-withdrawal disbursement. The student must be offered any post-withdrawal disbursement of loan funds within 30 days of the date the institution determined the student withdrew.

The institution must return the amount of Title IV funds for which it is responsible no later than 45 days after the date the institution determined the student withdrew.

Refunds are allocated in the following order:

- Unsubsidized Federal Stafford Loans
- Subsidized Federal Stafford Loans
- Federal Perkins Loans
- Federal Parent (PLUS) Loans
- Federal Pell Grants for which a Return of funds is required
- Academic Competitiveness Grant

- National SMART Grant
- Federal Supplemental Opportunity Grants for which a Return of funds is required
- Other assistance under this Title for which a Return of funds is required (e.g., LEAP)

Tuition Refund Insurance

To complement this refund policy and to help protect your educational investment, the College offers an optional Tuition Refund Insurance Plan. When combined with the College's published refund policy, reimbursement totaling 100 percent of the comprehensive fee (tuition) and those College room charges billed by the College will be made if your son/daughter is forced to withdraw from school due to a personal illness or accident. In case of withdrawal due to a mental/nervous disorder, 60 percent of the above charges is covered. A plan description and enrollment application will be mailed approximately 30 days prior to the first day of fall semester classes.

Student Health Insurance

Optional student health insurance will be available for academic year 2009-10 at an estimated annual fee of \$1,999. This coverage provides hospital, prescription, and medical-surgical benefits for 12 months beginning August 1, when subscribers are registered as full-time students. If the student enrolls for coverage after the beginning of the semester, the effective date of coverage is the day after the date of postmark when the premium is received. Coverage ends July 31 of the following year. Students entering initially in the second semester will be enrolled from January 1 through July 31 of the same year on a prorated basis. Coverage continues during vacation periods. A plan description and enrollment application announcing the actual fee are included with the fall semester billing.

Students declining to purchase this insurance are advised to obtain health insurance through their families' health plan or an insurance agent. The College is not responsible for medical or other expenses resulting from injuries sustained by the student while enrolled, regardless of whether such injuries occur on or off campus.

Courses of Instruction

Most of the major headings in this chapter correspond to the names of academic departments or interdisciplinary majors at Lafayette. Basic requirements for all engineering programs are listed under the heading "Engineering." All departments offer opportunities to take on special academic challenges that foster marketable skills and enhance the academic program such as internships, independent study, study abroad, research with faculty, and writing an honors thesis.

Course Numbers: Courses are listed by three-digit numbers denoting progressive academic levels.

The 100-level courses are introductory or fundamental and are normally open to first-year students.

The 200-level courses are intermediate and are normally open to first- and second-year students following the first-level sequence, and may have prerequisites; 200 also designates sophomore engineering courses not normally open to first-year students, or courses open to students who have completed one year of college work or its equivalent in the subject.

The 300 series denotes advanced courses that have prerequisites or internships normally open to juniors and seniors. Independent Study and Special Topics are open only by permission of the department head.

The 400-level courses are designed for seniors or have 300-level course prerequisites. Thesis courses that are open only to honors candidates also bear 400 numbers.

A.B./B.S. Degree Writing Requirement: This requirement is to be satisfied by taking First-Year Seminar (FYS), English 110, Values and Science/Technology Seminar (VaST), and two writing courses. Courses that may be used for this requirement are designated with the letter code [W] in brackets at the end of the descriptions. At the discretion of the faculty, courses may be added to or deleted from the list.

FIRST-YEAR SEMINAR

The First-Year Seminar, which is required of all students, is designed to introduce students to intellectual inquiry through engaging them as thinkers, speakers, and writers. Each seminar focuses intensively on a special topic that is articulated with related cocurricular activities. Limited to approximately 16 students per section, the First-Year Seminar includes significant reading, writing, discussion, and presentation and is affiliated with the College Writing Program. Students are also introduced to use of the library for research. First-Year Seminars are designed to generate collaboration among faculty from various disciplines and to encourage intellectual communities among students and faculty. While each seminar is taught independently, most are grouped in topical clusters that may share common lectures and readings, co-teaching, tutorials, cocurricular activities, etc. Seminars normally meet three hours per week; a fourth hour may be scheduled at the discretion of the faculty. First-Year Seminars are a critical part of the Common Course of Study, a corequisite for other courses taken by students in their first semester, and a prerequisite for subsequent courses. A representative listing of seminars appears at right, although the offerings change each year. During the summer, all entering first-year students receive, as part of the registration materials, a list of the seminars to be given in the following fall. Students are asked to indicate their first five choices; every effort is made to place students according to their preferences.

First Year Seminar Courses

FYS 011 International Conflict and Cooperation in the Contemporary World
This seminar looks at international conflict from a social science perspective. Its function is not only to transmit information about specific conflicts in the twentieth century but also to equip participants with tools to analyze any international conflict. Topics include causes of individual and collective violence, arms races and

deterrents, and means for prevention or reduction of international conflict.
Peleg

FYS 012 America's World War II: Historical, Literary, and Film Perspectives on the "Good War"
This seminar focuses on some of the major interpretations of the American experience in World War II. Through an examination of historical, literary, and film texts, the course explores ways in which the war has been mythologized and de-mythologized and tries to uncover some of the cultural, political, and artistic reasons for these processes. Of particular concern is the problematic idea of a "good war."
Martin

FYS 013 Trips, Tropes, and Travelers: Journeys to the Unknown
Road trip! These magic words conjure up visions of encountering interesting people and exotic places and returning with great stories to tell. What does it mean to be a tourist? The course explores the importance of travel to discovery of oneself and others. Through readings students go behind the scenes at Disneyland and other popular destinations to consider how these places shape the experiences of visitors and how, in turn, they respond to tourists' expectations.
Niles

FYS 014 Individualism in American Culture, Character, and Society
The term "individualism" has long been used to describe one of the distinctive qualities of Americans and of American culture. Using Alexis de Tocqueville's *Democracy in America* (1840) as the starting point, this colloquium systematically examines expressions of individualism in American life, past and present.
Schneiderman

FYS 015 The Folktale in Society: From Beauty and the Beast to Big Foot
Fairy tales are often thought of as amusing reading for children, but to folklorists, such stories are serious business. In this seminar, students explore the importance of studying fairy tales in such disciplines as anthropology, religion, literature, and psychology. The development of fairy tales is traced from the European oral tradition to their modern expression in Disney stories, horror films, and supermarket tabloids.

Niles

FYS 016 Why Poetry Matters
This seminar explores the social manifestations of poetry and people's appetite for it in such phenomena as poetry slams, subway posters, poetry of witness in extremity, videos, rap and oral performance, as well as in more academic forms. Students test definitions of poetry against their individual reading, listening, speaking, and writing experiences, studying how written and oral expressions both complement and contend with each other.
Seetch

FYS 017 An Element of Risk
Each day people make decisions that are based on an assessment of the costs, benefits, and consequences associated with a choice of action. In this seminar, case studies from medicine, the environment, and technology are used to apply relevant historical perspectives, statistical analysis, and the consideration of issues of personal choice and values in the critical evaluation of patterns of risk-taking behavior, assessment, and management.
Husic

FYS 021 Masculinities: Maleness in Contemporary American Culture
What does it mean to be a man, manly, masculine? Do gender and race condition the way people view masculinity? In journals, essays, and group presentations, students analyze a variety of texts—from ads, cartoons, and essays in popular magazines to scholarly studies by sociologists and biologists.
Byrd, Martin, Washington

FYS 023 Baseball: The One Constant through All the Years
Why is baseball the "American pastime"? What is it about baseball that fascinates millions around the world? This seminar explores the game by examining the role of statistics on decision making, in-game managerial strategy and economics as well as investigating the historical significance of baseball. Students examine baseball through various writings, films, game attendance, and game simulations in which they manage their own teams. Critical thinking skills are emphasized in the context of baseball.
Nataro

FYS 024 Human Aggression and Social Pathology

This seminar studies general theoretical models for human aggression including those that suggest instinctual or genetic bases for aggression and those that propose learning and observation. Students analyze specific forms of human aggression—athletics, sexual aggression, television, wars, and social upheavals—and suggest solutions. The course uses original sources as well as novels, short stories, essays, films, news magazines, and newspapers.
Childs

FYS 025 The American College Student

This seminar examines the nature of the college student in America, in conjunction with the U.S. system of higher education. It includes a historical overview of higher education in America; the impact of college on students; students' psychosocial, cognitive, ethical, and career development; and an examination of student cultures and subcultures. Special attention is given to research on college student characteristics, attitudes, and values.
Krivoski, Worthen

FYS 026 Abortion, Morality, and the Law

At the core of the abortion controversy reside two fundamental and related issues. The first concerns the moral and legal status of the fetus—that is, whether human fetuses are persons possessing legal and moral rights. The second concerns the relationship between the moral and legal rights of pregnant women and the permissibility of abortion. This seminar provides a critical examination of these and related issues.
Panichas

FYS 027 Life, Liberty, and Equality:

Contemporary Political Controversies
Controversies surrounding political and moral issues continue to dominate contemporary public debate and influence the development of policy. In this seminar, students explore and evaluate the many sides of current battles over issues relating to life, liberty, and equality, in particular, debates involving such issues as abortion, euthanasia, the death penalty, pornography, drug testing, affirmative action, and sexual preference.
Silverstein

FYS 028 Windows and Mirrors: Through the Perceptions of Artists

This course focuses on the visual arts, music, and theater as vehicles of perception and knowledge. Performances and gallery exhibitions at the Williams Center for the Arts provide much of the framework for the course syllabus, and visiting artists are available for classes, workshops, and discussions with students. Typical performances are by the Juilliard String Quartet, the dance company Urban Bush Women, Charlie Haden's jazz group Liberation Music Orchestra, and actors from the London stage.
Finger

FYS 029 Mind Benders, Ways of Knowing, or a Course in Paradigms

Have you ever experienced a flash of insight when all of a sudden something that was confusing becomes blindingly clear? Some call this the Eureka Phenomenon; some conversion. These flashes liberate people from previous assumptions and lead to revolutionary discoveries. This seminar discusses how shifting paradigms—assumptions about how the world works—create new concepts, views, and ideas (often viewed initially as dangerous or heretical). Readings focus on patterns of inquiry in science, history, literature, psychology, and gender.
Donahue, Westfall

FYS 030 Vision: "It's as plain as the nose on your face," or Is It?

This seminar investigates the way that seeing affects every aspect of people's lives. Vision provides essential information and deceives. While the visual arts form the core of the course, the use of images in science, politics, computer technology, advertising and business, movies, and television is explored. Projects and demonstrations take place around campus, and field trips are taken.
Mattison

FYS 032 "Who Am I and Why Am I Here?"

This seminar examines the ways in which young adults have tried to answer some of life's most challenging questions. What is the meaning of life? What brings fulfillment? How do you present yourselves to the world? To what extent are you influenced by peer pressure? Using novels, autobiographies, and films, students consider the ways in which people around

the world have sought to answer these questions.
Rinehart

FYS 033 Wild Imaginings: The Creative Process

An introduction to the verbal art of imaginative extremists through a close study of literature that subverts conventions of logic and tests the boundaries between fantasy and reality. Among the authors considered are Lewis Carroll, Manuel Puig, and Russell Edson. Students analyze the literature and, when appropriate, drafts, letters, and diary entries that illuminate the writing processes of authors.
Upton

FYS 035 Technology and Society: The Energy Problem

This seminar explores sources and uses of energy in a technical society. Issues regarding fossil fuels, nuclear energy, solar energy, and alternative sources of energy are investigated. Conservation of energy and the storage of energy are discussed. Energy uses for plant and food production, transportation, industrial output, leisure activities, and the national defense are reviewed. Finally, the use of energy is examined in the context of atmospheric pollution, radiation, noise, and nuclear weapons.
Hornfeck

FYS 036 The Social System of Planet Earth History recounts a small sample of humanity's story. People form an understanding of the Earth's social system from knowledge of a few people, places, and times. Through photographs, writings, and visits, this seminar studies structures as records of human societies. Although interesting in their own right, these structures are studied for what they tell us about the economic and political systems that created them.
Heavey

FYS 037 The Human Animal

Some believe that humans, once having evolved culture, were freed from the tyranny of their biology. Others believe that humans are subject, at least in part, to the same biological forces that govern animals. The free-will vs. biological determinism argument continues to rage among thinking people of all disciplines. This seminar examines the issue from the evolutionary biologist's point of view using E. O.

Wilson's On Human Nature as the starting point.
Leibel

FYS 038 Developing Countries: A Historical Perspective and Technological Issues

Developing countries face formidable problems in issues related to environment, land use, infrastructure, and the integration of technology. For students to gain an understanding of the magnitude and complexity of these problems, the course reviews the history of developing countries and then focuses on two specific cultures: the Maasi tribe of Africa and the Maya Indians of Central America. Specific issues are investigated in two case studies: Kenya and Honduras.
Ruggles

FYS 040 Geological Disasters: Agents of Chaos

Earthquakes, volcanic eruptions, landslides, hurricanes, floods, and tsunamis are all part of the geological evolution of the earth. Humans are increasingly exposed to the often severe consequences of the violence of nature. This seminar examines these processes from both technical and personal perspectives to understand why they occur and how human activity has interfered with natural processes, perhaps making many parts of the planet more disaster prone.
Malinconico

FYS 041 Medicines, Perfumes, and Chemicals from Nature

The plant and animal kingdoms provide humankind with a startling variety of complex organic molecules. This course examines the various medicines, dyes, flavors, and fragrances obtained from nature. Related topics such as biodiversity, chemical ecology, and herbal medicine are also discussed.
Miles

FYS 042 What Happened to "Progress"?:

Changing Perspectives on Science, Engineering, and Technology
Western attitudes toward science, engineering, and technology have evolved over the past 200 years. The processes of discovery and invention that were once novel have become routine. Society's perspective on the impact of science and technology has become more complex as knowledge has increased. Expectations for the future have darkened as unexpected side

effects have been discovered. This seminar examines the changing role of science, engineering, and technology from the nineteenth through the twentieth centuries.
Seeler

FYS 043 Charisma

Charisma, meaning "gift of grace," denotes a deeply personal, yet anti-institutional type of authority, shared by certain cult leaders and revolutionaries, religious visionaries and political prophets, antinomians and avant garde artists. There is also the charisma of place and thing, from sacred shrines and objects, to famous art works and national monuments. The course will explore the meaning of charisma, with case studies in enthusiastic religion, political revolution, and antinomian avant garde art movements.
Schneiderman

FYS 044 Technological Solutions for Environmental Problems

This seminar addresses the impact of industrial development on the environment. Pollutants are reviewed, and different treatment and control methods are examined. The limitations of present remedial technologies are explained, and ongoing research to alleviate such shortcomings is explored. Topics include acid rain, global warming, photochemical smog, radioactive waste, landfilling, incineration, recycling, and energy recovery. The course includes group projects and class presentation, laboratory, and a plant trip.
Tavakoli

FYS 045 Gothic Imagination in Folklore, Fiction, and Film

The Gothic imagination is populated by the unquiet, the undead, the unholy, and it feeds on blood, dread, death. It relishes deviance, degeneracy, demoralization. Characterized in this way, the Gothic sensibility has traditionally been disparaged as immature, immoderate, soap-operatic. More recently, critics have found in its recesses and excesses a unique power to elucidate and emancipate. This seminar examines the power of the Gothic imagination as it animates selected folk, fictional, and film narratives.
Truten

FYS 047 Challenging Differences, Discovering the Possibilities of Community
The world is increasingly fractured by differences—of race and class, for example—and is characterized by individualism. In such a world, what kind of community is possible? How is community created and sustained? How do communities deal with diversity and balance individual interests with those of the group? What benefits and responsibilities come with community? Students consider community through readings, class discussions, films, and writing and library assignments.
Corequisite: Two hours a week of local community service
Miller

FYS 048 Biodiversity

The abundance of plant and animal species present in different environments is rapidly declining due to the effects of human population increases, particularly since the beginning of the industrial revolution. This seminar investigates the factors causing the loss, or extinction, of species and discusses possible solutions. Social and economic forces that work against the maintenance of species diversity and the "worth" to humanity of these rich environments are explored.
Holliday

FYS 051 Toward Cultural Literacy: Demystifying the Non-Western World

This seminar engages students in an exploration of important cultural traditions outside of the European-American sphere. Through discussions of readings, films, and examples from the visual and performing arts, students investigate customs and rituals in selected regions of Africa, India, China, Japan, Korea, and Indonesia. Through individual projects and presentation, indigenous cultural data are applied to contemporary issues relevant to becoming informed citizens of the world.
Stockton

FYS 052 The Great Late Soviet Union
Internationally, one of the most dramatic events of the last decade was the dissolution of the Soviet Union. This seminar familiarizes students through lectures, discussions, readings, and videotapes with the history, culture, and problems of the former Soviet Union. The seminar also analyzes the situation of today's Russia and its relationship to its neighbors.
Pribic

FYS 053 Overcoming the Wall: German Unification and Its Aftermath

Unification has involved economic and social hardships for both the former East and West Germans. The people have demonstrated their discontent in elections. Chancellor Kohl's CDU/CSU party lost at the polls. The new right-wing Republican party is gaining momentum. Extremist movements, such as the Neo-Nazis, terrorize foreign workers and asylum seekers. This seminar explores such contemporary issues through texts and class discussions, group projects, and field trips.
Lamb-Faffelberger

FYS 054 The Revolutionary Vision: Europe 1642-1991

This seminar provides a broad overview of European revolutionary thought and its history and of the history of European revolutionary movements from the outbreak of the English civil war in 1642 through the breakup of the Soviet Union in 1991. History, literature, philosophy, art, and film are used to illuminate the nature of European revolutionary ideologies and investigate the social, political, and cultural circumstances that engendered them.
Rosa

FYS 056 Crisis of Culture in the Making of the Modern German Nation

This seminar traces political, economic, social, cultural, and military developments in German history. Select factors are identified that have made Germany's achievement of nationhood different from that of other major European nations. Beginning with the political influence of the French revolution, the course highlights recurring conflicts affecting Germany's struggle to become a nation while suggesting links between German cultural forces and the role that the unified nation played in the twentieth century.
McDonald

FYS 057 Images of the Other: Stereotypes and Their Consequences

This seminar identifies and analyzes some of the group stereotypes alive in contemporary culture and traces their origins. It explores images of "the Other" that people construct based upon gender, racial, ethnic, and religious differences and examines their causes, functions, and consequences. In the process, students become more aware of their own complicity

in stereotypical thinking and ask whether and how it can be transcended.

Cohn

FYS 058 Icons: Art, Magic, Ritual, and Technology

This seminar examines the power of images in different historical periods and diverse cultures. What is it about icons that make people cry, pray, and believe? While the development, meaning, and impact of icons in general is the topic of lectures, students have the opportunity to study a wide range of popular images—from favorite stars, such as Madonna and Elvis, and computer-designed images, to Egyptian pyramids and Greek temples.

Sinkevich

FYS 060 The Real World: The Challenge of Managing Change in the Business Environment

This seminar introduces students to the dramatic and constantly changing business environment. Topics include those that have impacted, and will continue to impact, all forms of business organization operating in a competitive environment such as the role of changing technology, impact of corporate downsizing, demographic and social trends, business ethics and social responsibility, and changes in the United States business environment from manufacturing to services-based and from large corporations to the rising importance of small businesses.
Bukics

FYS 062 Essentials for Multicultural Competence

This seminar explores three essential aspects of gaining multicultural competence: awareness, knowledge, and skills. Through lectures, students have an opportunity to increase their knowledge about biopsychosocial roots of "isms" (e.g., racism, sexism, classism, heterosexism, and ableism). Class discussions, exercises, and cocurricular events create a variety of opportunities to experience growth in multicultural self-awareness and skills.
Silvestri

FYS 063 Jazz Issues

This course explores important sociological and musical issues in jazz. Topics include African social and musical influences on jazz, the legacy of slavery, early combo jazz, big bands, bebop, protest music, women in jazz, and racism in America and its effect on jazz. Emphasis is on reading,

writing, developing listening skills, discussion, and individual and group presentations. Videos and live performance are incorporated into the course.

Wilkins

FYS 065 The Uses and Abuses of Science in Science Fiction

In their novels, science fiction writers incorporate many ideas from cutting-edge science, some imaginative and insightful, others blatantly at odds with established scientific principles. Students critically examine applications of science in the novels of Robert L. Forward and Arthur C. Clarke, among others. Readings from the novels are interspersed with readings from books such as *The Physics of Star Trek*, by Lawrence Krauss, which explain the relevant science in terms accessible to non-scientists.

Hoffman

FYS 066 How Is Greatness Possible?

Alexis de Tocqueville summed up the problem of greatness in democracies as follows: "ambitious men in democracies are less engrossed than any others with the interests and the judgment of posterity...they care much more for success than for fame." What he called fame might well be called greatness. Starting from the Kantian premise that greatness is possible only because human values make it possible, this course examines the various social, psychological, historical, and philosophical requisites for greatness and failure on a grand scale in democracies as well as in other forms of society.

Schneiderman

FYS 067 Simple Rules and Complex Behavior

Scientists seek to explain the complex nature of the world with simple rules that sometimes take the form of fundamental principles covering a vast array of diverse phenomena. For example, simple models have been used to relate the behavior of avalanches, weather, earthquakes, fire storms, and erosion. Similar attempts have been made to understand the nature of the evolution of biological species at all levels and to evaluate various strategies of survival. The course explores these approaches and evaluates their successes, failures, and lessons to be learned.

Novaco

FYS 068 Jewish Humor

This course examines Jewish humor within the context of theories of humor and the comedic and as a window to Jewish culture. It explores examples of Jewish humor past and present in literature, film, television, skits, stand-up comics, cartoons, and jokes. It considers questions such as: What makes us laugh? What is distinctively Jewish about Jewish humor? How does American Jewish humor differ from older European Jewish humor and contemporary Israeli humor? Do you need to be Jewish to "get" it? How is Jewish humor like and unlike other ethnic, religious, or minority humor? How do stereotypes and self-deprecation figure in the humorous? How did humor function as a coping and survival mechanism in the Holocaust?

Cohn

FYS 069 Monuments

This seminar examines five major monuments of western architecture: the pyramids of Giza, the Parthenon, Chartres Cathedral, the Brunelleschi Dome of Florence Cathedral, and the Empire State Building. Each is examined in its historical, cultural, and technological context through contemporary and modern sources and, for Chartres and Brunelleschi's Dome, computer analysis of structure. A field trip to New York, visits to Special Collections in Skillman Library to examine the Egyptian papyrus and medieval manuscript pages, guest speakers from the faculty, and student presentations enrich the course.

Sinkevic, Ahl

FYS 071 Race and Class

Are race and class inseparable? Does a consideration of either term inevitably lead to a discussion of the other? How do these arguably overlapping categories determine the way that people think of and define themselves? These questions are addressed in discussions of race and class in literature, popular culture, current events, and daily life.

Washington

FYS 072 Power, Principle, and Personality in American Leadership

This seminar explores, through biographies, the roles of political principle and public personality in the rise to power and use of power by presidents, governors, and mayors, such as Washington, Lincoln, Nixon, and others. Of special interest is the interactions of image and substance in the

exercise of democratic power. Students write a biography of a living leader through personal interviews and documentary research based on insights from the biographical readings.

Kincaid

FYS 073 Technology and the City: Chicago and New York

This course examines the role that industrial technology played in the rise of the two great American cities--Chicago and New York. It centers on Chicago and uses New York further to illuminate technology's influence on the city building process and the role that cities played in making America a technological wonder and the greatest industrial power on earth by 1900. The course will be taught from an interdisciplinary perspective and with the aim of relating history to our own day and to our own lives.

D. Miller

FYS 074 Questers of Extremes

After considering a tradition in classical Greek and Roman thought that extolled the value of moderation in thought and behavior, this seminar examines a set of texts by or concerning questers of extremes—figures who distinguished themselves through their pursuit of immoderate, transcendent ends. Particular questers include, but are not limited to, an ancient conqueror (Alexander the Great), a medieval saint (Joan of Arc), a modern novelist (Yukio Mishima), and a contemporary young adventurer (Chris McCandless).

Ziolkowski

FYS 076 Land of Mystery: The Language and Culture of Modern China

Though China is the world's most populous nation, a military superpower, and an increasingly dominant presence in international commerce, Westerners often view the Chinese and their rich heritage as inscrutable. In this seminar, cultural practices and values of modern China are examined through the eyes of traditional society and the "ancient Chinese proverbs." As an integral part of this experience, students learn the rudiments of Chinese pronunciation and acquire a basic Chinese vocabulary.

Yu

FYS 079 The Cactus Throne: The Changing Image of Mexico and Its People

Recent events, such as the adoption of NAFTA and political turmoil in Chiapas, have refocused U.S. attention on Mexico. This course explores the internal and external influences that have shaped the character of the Mexican nation and its people. Topics explored include Mexico's evolving global image, its alternating successes and failures at self-government, its cultural achievements, and its multidimensional interactions with its giant northern neighbor.

Shupp

FYS 080 The Economic and Social Consequences of Globalization

Globalization is the integration of world economies and cultures. Over the past decade, this process of integration has accelerated. Does increased globalization mean greater economic efficiency and increased material wealth or does it mean a growing gap between rich nations and poor nations and increased environmental damage? This course looks at the evolution of globalization and its consequences for economic welfare, culture, and the environment.

Gamber

FYS 081 Highs and Lows: Reading Culture

Why do you know you should read Shakespeare, but you prefer watching Seinfeld? What is taste? What is judgment? What is quality? This seminar begins by trying to define the differences (if, indeed, there are any) between high culture and popular culture. Students look at culture as a historical construct, examining how different societies have determined the value and prestige of artifacts and ideas, as well as examining how they, as contemporary Americans, classify written and visual texts as "high" or "low."

Donahue, Westfall

FYS 082 Reason and Folly

Throughout the history of Western culture, folly has been represented as a challenge to the cognitive capacities of rational thinking. As such, it has been the object of fear, fascination, mockery, praise, and ultimately institutional confinement. This course examines the religious, moral, medical, and aesthetic assumptions that underlie such contrasting attitudes and viewpoints, as well as the rhetorical strategies used to articulate them.

Duhl

FYS 085 The Arts and the Environment

This seminar combines poetry, music, architecture, the visual arts, and landscape theory with environmental engineering, geology, environmental law, and public policy. Core readings include classic works on environmental reflection—Thoreau, Emerson, the Romantic poets, the creative writings of Asia (particularly Haiku)—as well as contemporary writings, Wendell Berry and Wallace Stegner essays, John McPhee’s account of the earth histories one can “read” by walking through the Delaware Water Gap, and Suzuki’s writings on zen and the Japanese arts.
Finger

FYS 086 The Economic Philosophy of Ayn Rand

This seminar studies the economic philosophy of private property rights, focusing on some of the fiction of Ayn Rand (e.g., *Anthem* and *The Fountainhead*). The primary purpose is to develop critical thinking skills and improved abilities to communicate. The course explores issues such as 1) economic philosophy, 2) intellectual and other private property rights, and 3) the importance of the individual relative to society.
Chambers

FYS 087 Distant Mirrors, Performing Selves

Traditional performance has defined the individual self as a mirror of the community that creates and participates in a theater event. Has the theatricalization of everyday life through television, advertising, and the Internet changed this? Or is the mirror just more high-tech? Students seek answers to these questions by examining the origins of theater in late medieval Europe and test assumptions by creating an actual communal performance in which all seminar participants take part.
O’Neill

FYS 088 Mad, Bad, and Dangerous to Know: The Appeal of Evil in Western Culture

Evil has been seductive since the Serpent “invaded” the Garden. In readings ranging from the Bible to gansta rap, this seminar considers four paradigms of evil: theological, philosophical, psychological, and political. Students define their own concepts of evil and discuss how culture

constructs evil as the ultimate form of alienation—as sickness, as secular immorality, as political opposition, and as religious perversion.
Donahue, Tiernan and Westfall

FYS 090 Life Writing

This seminar explores the art and craft of biography and autobiography. In journals, essays, and class presentations, students contribute to the seminar’s investigation of the reasons for examining a life, of the stories that come from the inquiry, and of the effects of such stories on readers. Readings are from biographies, autobiographies, journals, diaries, and letters—which serve as models and primary materials for each student’s project in life writing.
Johnson

FYS 093 Engineers of Dreams: Builders of Flying Machines, Automobiles, and Bridges
This seminar focuses on notions of invention and discovery in several disciplines of engineering and examines flying, flying machines and their development, automobiles and their impact on society and the environment, and bridges as structures dreamed of and built by engineers.
Ulucakli

FYS 097 Latinos, Latinas, and the U.S

This seminar focuses on diverse literary expressions of the Latino/a experience in the U.S., especially from Mexican- and Caribbean-American writers. The representations of Latinos/as in these readings is contrasted with those in popular cultural texts, such as TV and film, in order to highlight the diversity of cultural identities and practices among Latino/a communities. Students also gain a better understanding of how Latinos/as use writing as a means of “inventing” themselves.
Donnell

FYS 098 Political Humor: Solvent and Safety Valve of Civic Discourse

Political humor is “serious” business. It deflates the windbag, defiles the true believer, and decries the unjust. Yet humor humanizes with its extraordinary integration of sharpness and lightness. The seminar perspective is broad—the human condition in community—and interdisciplinary, including attention to humanistic and social scientific insights. Significant use is made of primary sources of political humor from

diverse eras, media, and genres.

Seminarians produce and not merely consume political humor.

Lennertz

FYS 099 Satan, Devils, Demons, and the Other

Is Barney the Dinosaur really Satan? Are devil worshippers sacrificing young women? This seminar examines cases in which particular groups of people have been identified as a source of evil, e.g. Jews in medieval Europe, Satanists and New Agers in twentieth-century America, America as the "Great Satan." Under what circumstances are certain groups likely to be deemed evil? What are the dynamics and consequences of attributing evil to particular groups of people?

Rinehart

FYS 102 On Cooking, Culture, and Cinema

This seminar uses representations of food in visual and print media as a vehicle for exploring U.S. and world cultures, how different people live, and cooking and eating as intimate reflections of cultural identity. Analysis of this topic involves critical oral and written reflection on a variety of readings (recipes and cookbooks, newspaper reviews, and novels) and visual representations (television cooking shows, film, and live demonstrations). Selection, preparation, and sampling of diverse foods are also required.

Geoffrion-Vinci

FYS 103 The Problem of Peace in the Modern World

This course examines the ways that citizens and politicians worldwide have addressed the "problem of peace" in the modern era. It asks some basic questions: When is war justified? Is peace best pursued through political institutions or moral campaigns? Is peace simply the absence of war or something more substantive? The links (and tensions) between peace movements and other movements, like those for national liberation, womens rights, and civil rights, are also explored.

Sanborn

FYS 104 Encounters with Infinity

Infinity and the infinite have occupied the thoughts and inspired the imaginations of artists, philosophers, scientists, and mathematicians for centuries, and the history of the study of the infinite is permeated with paradoxes and

counterintuitive results. We explore some of the infinite and the related mathematical developments that have been called "the greatest achievements of purely rational human activity."

Hill

FYS 105 Evolution: Cosmology, Biology, and You

The universe is 12 to 15 billion years old; the Earth is 4.5 billion years old; multicellular life has existed on Earth for 500 million years. How can we know anything about times long before any written record of history? History is entwined with scientific understanding of the present. This seminar examines theories of the evolution of the universe and of life on Earth focusing on challenging and supporting evidence.

Stark

FYS 107 Innovation of Warfare

Advances in military technology, their application in weapon systems, and the development of tactics that employ them, are strongly influenced by military traditions, politics, and societal values. Innovation in tactical airpower in the Pacific Theater of World War II was of particular importance as it became the determining factor there.

Van Gulick

FYS 108 The Art of Letter Writing

This course investigates letter writing in all of its manifestations, from the traditional penned letter to the formal business document, from editorial commentary to email messages. Readings include epistolary fiction (letter novels) from different eras and countries, as well as excerpts from authentic correspondence of illustrious political or literary figures. A selection of film adaptations of epistolary novels are also featured.

Lalande

FYS 110. E Pluribus Unum: The European Union and the Surrender of Sovereignty

After a long history of fragmentation, conflict, and pessimism, Europe has come to embrace a new era of mutual trust, optimism, and self-confidence, with European Union countries ceding long-cherished sovereignty to a supra-national body, launching a common currency, and reaching out to integrate the new democracies of Eastern and Central Europe. Through readings, films, discussion, and

writing, students are engaged in an exploration of the factors that were central to this transformation from nation-state to "United Europe" and of the challenges the EU faces in redefining its own borders and methods of governance.
Schumacher

FYS 113 Womens Coming-of-Age

Narratives: A Multicultural Exploration
Many coming-of-age narratives have been considered masterpieces of literature. However, most of these stories have been about boys becoming men. (For example, *Catcher in the Rye*, *A Separate Peace*, *Huckleberry Finn*, and *Invisible Man*.)
Young girls face very different challenges and expectations as they grow to become women. The course examines coming-of-age stories by women from a variety of backgrounds, countries, and eras to begin to understand the forces being exerted on girls in order for them to become women in their societies. Students examine the universal in a womans experience of coming of age.
McMahon

FYS 115 Predicting Human Behavior: The Science and Culture of Testing

Tests are often used to predict behavior, but what can they really tell us? From early attempts like phrenology to more current predictive and diagnostic methods such as personality measures (e.g., the Rorschach inkblot test), cognitive ability tests, SATs, and employee selection tests, assessment has been a controversial subject. The course explores examples of tests used in their historical and cultural context. Students take a hands-on approach to test construction, administration, interpretation, and evaluation.
Vinchur

FYS 117 Fact or Fiction: Authenticity and the Artifact

Are "artifacts" art or facts? Why is a museum display of a Neolithic village more convincing than Bedrock in the Flintstones? If both are imaginary depictions, then what constitutes authenticity in our culture? After examining many world civilizations, students will design, fabricate, and write about objects that appear to be credible artifacts from an ancient culture. These will be exhibited as an archeological collection in The Williams Center Gallery and "authenticated" in a published catalogue.
Noble

FYS 118 Fear

Fear is a pervasive aspect of society. Since the events of 9/11, issues surrounding fear, terror, and personal and national security have become nightly news as well as the foundation for a new national policy. TV shows with fear-based plot features have proliferated. This seminar takes an interdisciplinary approach to the understanding of fear as a primary emotion and as an influence in society. Through discussion, reading, writing, presentation, and other assignments, students examine fear critically from scientific and sociological perspectives.
Reynolds

FYS 119 Great Breakthroughs

What are the greatest scientific or technological breakthroughs of human history? Students answer this question by learning and applying the scientific principles, the ingenuity, the technological and social context, and the repercussions of many great breakthroughs. The theme of the course is the debate and comparison of inventions, concepts, and innovators of different eras, from the dawn of recorded history to the present, from the printing press to YouTube, from the ballista to the atomic bomb.
Kurtz

FYS 121 Election Rhetoric

Access to the American political system is not fully realized until citizens learn to make critical inquiries into candidates' positions. But political rhetoric does not make full access easy. This course looks to equip students with the rhetorical know-how to analyze and critique the language of political campaigns. By paying close attention to how candidates phrase responses, frame issues, and define themselves and each other, students learn how language can be used to divide and unite.
Donahue

FYS 123 Elvis Everywhere

Elvis may have left the building, but he has not left popular culture. In some form or another, Elvis transcends topics ranging from art and film to Elvis as a religious icon. This tutorial examines how Elvis discourses function within popular culture (investigating topics such as race, art, and religion) and examines how these and other aspects of Elvis culture relate to the broader context of American popular culture.

Torres

FYS 124 Meaning and Morality in Fiction
Have you ever been captivated by a book or movie? This seminar explores the complex nature of enjoyment of fiction, including such paradoxes as being moved by fictional entities we do not even believe to exist and deriving pleasure from fiction that scares or saddens us. Students compare their engagement with fiction to childhood games of make-believe, and ask whether a work's moral failings are grounds for condemning its aesthetic value.

Gilligan

FYS 127 Invisible Hand

This seminar examines the benefits and costs of free market capitalism. Students explore the mechanics of free market capitalism (how the invisible hand works) and the cultural underpinnings of free market capitalism. In addition, they examine traditional as well as recent critiques of free market capitalism. Finally, they look at the success and failure of government policy aimed at addressing some of the shortcomings of free market capitalism.

Gamber

FYS 128 Germany's Third Reich

Some of the most tragic events in human history took place during the Third Reich in Germany (1933-45). This seminar takes a closer look at the events and policies that caused the creation of the Hitler dictatorship. It also analyzes the Nazi regime with special attention given to the Holocaust and the Second World War.

Pribic

FYS 129 War Stories

Through the analysis of firsthand nonfictional or autobiographical accounts of war, students will gain a better understanding of the physical, psychological, and emotional impact that war has on both combatants and noncombatants. Course materials, which include letters, diaries, interviews, narratives, and novels, are drawn from a wide variety of wars and emphasize the experiences of individuals of different nationalities, classes, religions, races, and genders.

DeVault

FYS 130 Fabulous Fictions: Fairy Tales and the Modern World

The demands of mass marketing and entertainment have tamed once socially responsible and politically aware folk and fairy tales. Using a historical approach, this seminar explores traditional and contemporary adaptations of these genres to better understand the critical reflection, ethical interrogation and political examination elicited by fairy tale texts. Selections include works by the Brothers Grimm, Shakespeare, Alice Munro, Peter Cashorali, and filmmaker M. Night Shyamalan.

I. Smith

FYS 131 Order and Justice in the World Community: The Resolution of National Disputes

This seminar takes a comparative approach to explore how different societies deal with internal conflicts resulting from religious, linguistic, racial, or other divisions. By identifying several prominent conflicts and analyzing ways to solve them—through power sharing (e.g. Belgium), federalism (e.g. Canada), minority recognition (e.g. Spain), etc.—we explore the goals of solutions, particularly in terms of justice and order.

Peleg

FYS 134 "Dont Fear the Reaper": Living and Dying in America

The main goal of this course is to acquaint students with the ways in which Americans view and react to the whole subject of death. Reading assignments focus on the psychosocial, theological, and aesthetic ways in which people deal with death and other forms of loss. This course especially challenges students to reflect on the ways (some surprising!) in which people process different types of loss, both personally and culturally. Students should be prepared to discuss subjects relating to death openly and honestly.

Colatch

FYS 135 Entrepreneurial Environment: Exploring Innovation, Risk and Value

This course explores the entrepreneurial environment of business: Are entrepreneurs born or made? What cultural and economic factors support the high rate of enterprise creation? How has American history been influenced by the creation and development of business ideas? Course materials include case histories as well as readings from

historical, cultural, philosophical, and economic perspectives. Students will learn from entrepreneurs and organizations that support entrepreneurship through site visits.
Bukics

FYS 137 Unity of the Sciences and Ethical Consequences

This course studies the conceptual unity of the physical sciences, giving an overall sketch from the physics of atoms and molecules to biochemistry and into the more speculative realm of the mind. Is there really any underlying unity across this wide spectrum of knowledge? And if so, what would be the consequences for the humanistic aspects of knowledge involving our culture and ethics? This seminar will compare different approaches to this conceptual unity and discuss their strengths and weaknesses.

Haug

FYS 138 Politics and Performance: Theatre and Social Change

For thousands of years, the theatre has both entertained and provided a forum in which social issues can be explored. This seminar will investigate, through readings and performances, how theatre provides an immediate and strong voice to debate social and political problems. Students will have opportunities, through writing, discussion, and theatrical performance, to explore social and political issues and the ways in which dramatic works can inspire social change.

Lodge

FYS 139 Race, Gender, and Social Issues in Public Policy

This course explores how issues of race, gender, and social class permeate everyday life and how they are addressed in American law and public policy. Using sources from many disciplines including economics, law, and sociology, students explore issues of racial and ethnic identification, the role of race and gender in determining social class, and changes in the racial and ethnic mix of the U.S. population. Particular attention is given to how race, gender, and ethnicity determine social class and how public policy both shapes social class differences and works to mitigate them.

Averett

FYS 140 The Right to Privacy

The Supreme Court has affirmed a fundamental right to privacy that protects citizens not only from governmental

intrusions into their possessions and homes but also from governmental interference with personal decisions on matters such as the gender of sexual partners and whether to terminate a pregnancy. This seminar addresses fundamental questions regarding this right including what privacy is, why privacy is valuable, and whether and to what extent privacy ought to be legally protected.
Panichas

FYS 141 Social Justice through Quantitative Literacy

Alexander Hamilton said, "The first duty of society is justice." Today there is vociferous argument about the prevalence of justice. To what degree is society just? Are there practical ways to make it more just? This course considers the importance of understanding data and applying mathematics to ask these questions and to explore meaningful answers. Using mathematics that everybody is taught, we'll try to make sense out of conflicting opinions, so as to discover the importance of quantitative literacy for all citizens in a democracy.

Root

FYS 142 Taking It to the Streets: The Theory and Practice of Community Arts in Urban America

What role does community arts play in helping people articulate their identity? Whose voices inspire artistic expression? Students investigate social movements, specifically how community arts began and evolved in urban America. Student teams design a project for children and youth that will be implemented through the Kids in Community (KIC) after-school program. No artistic experience necessary.

Corequisite: Two hours a week of local community service.

Winfield

FYS 144 Science: A Human Endeavor

How do scientists approach problems? Do social, cultural, and political factors influence their work? How has science changed the cultural norms of society? This seminar explores the world of science and medicine through the biographies and writings of Peter Medawar, James Watson, Rosalind Franklin, Trofim Lysenko, Lewis Thomas, and others.

Miles

FYS 145 Quilts: Fabric that Communicates
Beginning with the history of quilting and its impact on American folk art, this course covers how quilts have been used as a means of expression and communication. The multimedia class offers hands-on quilting education, guest speakers, and films. The class explores color theory and fabric patterns, styles of quilts, quilts in different cultures, and quilts in literature. This class will test your artistic ability while simultaneously challenging your intellectual senses.

Piergiovanni

FYS 146 Paradoxes

Paradoxical statements are heard every day. Some are logically unsound; others are surprisingly true. How can the two be distinguished? In this seminar, students examine some paradoxes that are important rhetorical devices (yet lack significance) and others that have proved formative in the development of certain bodies of knowledge (Arrows theorem, the paradoxes of Galileo, Simpson, and Zeno, and the cause/effect paradoxes of quantum mechanics, for instance). Oral presentations are fundamental to the student-centered class structure.

Traldi

FYS 147 A War within a War: The American Bombing Campaigns against Nazi Germany and Imperial Japan

What is the impact of warfare on the human condition? Students engage this question through works of history, fiction, and film about the massive American bomber campaign against Germany and Japan in World War II. They examine the military impact of strategic bombing, its morality, and the appalling costs, both mental and physical, inflicted on its victims—both the non-combatants who were bombed and the young air crews who did the bombing.

Miller

FYS 149 Living with a Serial Killer: Life on Planet Earth

Floods, hurricanes, landslides, earthquakes, tsunamis...the planet has a full arsenal of weapons with which to kill you. Worse yet, this killer doesn't profile its victims; we're all potential targets. During the 20th century millions of people lost their lives to natural disasters. Can we do anything about these hazards? Should we manipulate earth systems and natural processes? Can we make matters worse? This seminar

examines the legal, ethical, and financial ramifications of these questions.

Germanoski

FYS 151 In the Media

Newspaper articles, movies, and television programs inform, transport, and entertain. In this course, nonfiction and fictional stories provide a starting point from which to explore theoretical concepts about decision-making. Documentaries often lay out ethical, leadership, business, or government controversies, but these issues arise in fictional work as well, such as the movie "Seabiscuit." Students use various media products as the starting point for discussion ethical standards and normative claims.

Crain

FYS 152 Problem-Solving Techniques

Throughout history, people have confronted difficult problems, and devised—or stumbled upon—solutions. For example, problems in the development of the Polaris submarine led to a widely used scheduling technique. Students examine a variety of techniques for solving problems. The techniques include articulating the problem, analyzing assumptions, formulating models, and (where appropriate) developing algorithms.

Collins

FYS 153 Nanotechnology: Less Really is More

Proponents of nanotechnology claim it will ease world hunger, revolutionize health care, and provide virtually unlimited clean energy. Imagine materials 100 times stronger than steel, computers one billionth the size of a laptop, and nanomachines implanted into your body to modify your DNA, enhance your senses, and improve your ability to process complex information. In this course we review the science behind nanotechnology, discuss its applications, and explore the ethical and economic implications of this emerging technology.

Schaffer

FYS 154 Nanotechnology and Modern Society

This course will develop the language and introductory scientific basis of nanotechnology, which will provide the technological foundation for discussions of ethical and societal issues related to various uses of nanotechnology. Such discussions are necessary if we as a society are to better address such issues that have already arisen

and others that will no doubt arise in the future.

Ferri

FYS 155 Asian Immigration and Assimilation into America

This course will explore the history and issues involved in the immigration and assimilation of various Asian ethnic groups into the United States and American culture. Students will read and view textual, video, and audio material to determine how a large and diverse group of people have experienced American culture and beliefs and how they have adapted. The students will also learn how issues such as age, ethnicity, gender and religion have affected how these immigrants have perceived American culture and society and vice versa.

Liew

FYS 156 Narratives of Mental Illness

Obsessive-compulsive disorder, Tourettes syndrome, depression, eating disorders—this seminar introduces students to a wide range of texts (memoirs and first-person narratives, films, painting, and medical and philosophical treatises) that focus on the experience of living with mental illness. Particular attention is paid to the style and form of textual representations of psychological disorders, as well as to the cultural and philosophical questions such texts raise about the very category of "mental illness."

Cefalu

FYS 157 Islands and Isolation

Islands are, almost by definition, unique. While being temporary homes to an increasing number of tourists, they also harbor endemic biological oddities and are among the most fragile ecosystems on Earth. This seminar examines the situation of isolation across the fields of geology, evolutionary biology, human geography, and literature. Topics include the dynamics of isolated populations, the historical importance of islands, and the effects of isolation on culture and the human psyche.

Sunderlin

FYS 158 Nonviolence: Theory and Practice

This course explores both the theoretical development of nonviolence and the practice of nonviolence as a means for waging and resolving conflict. Using the examples of Mohandas Gandhi and India's independence movement, the 1989

revolutions in Eastern Europe, the power of music in the anti-apartheid movement in South Africa, as well as the personal testimonies of individuals and various groups pursuing nonviolent change in the Lehigh Valley, this course explores the principles of nonviolence in action.

Fabian

FYS 159 In the Best Interests of the Children

Every day, parents, educators, doctors, and government officials make decisions "in the best interests of the children." Competing views of the relative importance of "nature" and "nurture" frequently influence these decisions. Recent advances in neuroscience, developmental biology, and genetics have dramatically changed this ancient debate, but not its importance. In this course, we will explore this issue and its place in parental decision-making and public policy choices in child welfare.

Pinto

FYS 160 Faith and Good Works

Volunteering, we are told, is honorable, be it in a homeless shelter or tutoring disadvantaged children. Why then, would volunteering when inspired by religious faith, become a hotly contested political issue? This seminar will examine the history of faith-based activism and how it has fueled a national debate. Students will conduct case studies of local organizations to gain a critical understanding of faith-based humanitarian work in the U.S. and the controversies it has generated.

Sayed

FYS 161 Crime and Society

How do we as a society deal with crime? What are the constitutional issues surrounding our laws and their application? What influences policymakers? This seminar focuses on topics that currently challenge our criminal justice system to operate in an effective, efficient, and constitutional manner: the torture of alleged terrorists, substandard conditions at detention facilities, race and gender issues, the debate over assisted suicide. Students examine cases, attend a criminal trial, and visit a prison.

Elliott

FYS 162 Music in European Society

The course does not assume knowledge of music on the students' part; nor does it require that they master notation or become

conversant with musical analysis. Rather, the course examines developments in European history that have left their traces in the music. It relates music to developments in European culture and explains the distinctive characteristics of the music of a period in relation to those larger developments that underlie its cultural productivity.
Cummings

FYS 163 Power and Political Cartoons
What makes a political cartoon powerful? Through oral and written analysis of cartoons, we will explore the political and cultural power of this important visual medium. As you study political cartoons and craft your own, we will discuss the significance of the creative process, point of view, cultural sensitivity and offensiveness, and censorship. Researching a political cartoon's and cultural specificity will help us interpret its message and evaluate its creativity and effectiveness.
Kelly

FYS 164 'Us' and 'Them': The Human Group Imperative
Will our future be one of continued divisiveness? Or are we 'progressing' towards global species consolidation and a decline in human diversity? In this seminar, we will examine evolutionary history to understand the human imperative to categorize people, exploring how 'race', ethnicity, nationality, and religion are used to define 'ingroups' and 'outgroups'. We also will ask if such groups are natural or artificial human constructs, acknowledging that such categorization leads to competition, stereotyping, discrimination and war.
Leibel

FYS 165 Writing History: Stories and Possibilities
How do we tell stories about the past? How do we find things to tell stories about? These two questions form the core of this seminar, which introduces students to methods of archival research as well as practices in writing academic and creative narratives based on that research. Readings in history and historical fiction, film screenings, and field trips to historical sites will be among the assignments that build into students' individual projects.
Phillips

FYS 166 Atheism and Skepticism
Why have people chosen to be atheists or skeptics? What arguments have they used to support their positions? Several recent bestselling books have criticized organized religion as a dangerous delusion, and scientists are currently searching for a possible biological (rather than supernatural) basis for religious faith. Criticism of religion, however, has a long and colorful history. In this course, we will study examples of atheism and skepticism in different cultural contexts from Asia and the West.
Rinehart

FYS 167 Beyond Belief
ESP, the occult, urban legends, conspiracy theories, and "weird" science.....Beliefs are perhaps the most central of all cognitive phenomena, yet there is widespread disagreement concerning what exactly beliefs are or how they are to be understood. In this seminar we will use examples of problematic beliefs-that is, those that have been marginalized by mainstream communities-in order to shed light on our own beliefs and how we formed them.
Shieber

FYS 168 Religion of Peace? Religion of Mass Conflict?
Religious orthodoxy and practice are expanding in diverse societies in North America, the Middle East, Asia and Africa. What are the relationships between religion, community, identity politics and mass violence? How does one respond to religious militancy? Can religion be a source of intercultural understanding and peace? This course examines aspects of Islamism, Hindu Nationalism and Christian Fundamentalism as well as violence between religious communities in order to comprehend complex religious conflicts and create peace.
Wendt

FYS 169 The 1960s: The Causes and Effects of Social Change
The Civil Rights Movement, the Antiwar Movement, the Space Race, and, of course, Sex, Drugs and Rock 'n Roll...Through an examination of written and oral histories, documentary film, and the poetry, music and visual arts of the Sixties, students will explore the underlying causes for change during one of the nation's most tumultuous decades. In addition to the causes, students will determine for themselves the lasting

influences that the 1960s have had on the present day.
Newman

FYS 170 Art, Morality, and the Limits of Expression

"Morally offensive...", "A danger to society..." Contemporary artistic creations sometimes elicit strong negative reactions, especially when they provoke moral, religious, or other cultural sensibilities, or when they are perceived as potentially influencing people's behavior in undesirable ways. In this seminar we will focus on such issues as freedom of expression and censorship, the status and role of propaganda, and the interpretation and reception of art, examining them from philosophical, legal, and social points of view.

Giovannelli

VALUES AND SCIENCE/TECHNOLOGY SEMINAR

The Values and Science/Technology (VAST) Seminar, normally taken in spring semester of the second year, is required of all students and is considered a critical part of their continued educational experience at Lafayette. Like the First-Year Seminar, it introduces students to intellectual inquiry by engaging them as active learners, thinkers, speakers, and writers. The VAST courses take advantage of Lafayette's unique institutional character of engineering within a liberal arts environment. Each course focuses intensively on issues that result from the application and introduction of technologies and scientific discoveries in society. These courses are limited to approximately 20 students per section and include significant reading, writing, discussion, and presentation. Students make extensive use of the library and each section is affiliated with the College Writing Program. While each course is taught independently, instructors collaborate through shared readings and lectures, external speakers, and cocurricular activities. Although all courses meet for three hours, a common fourth hour is scheduled to be used at the discretion of the faculty to facilitate joint activities. A representative listing of seminars appears at right, although the offerings change each year. Each fall, all sophomores receive a list

of the seminars to be given in the spring semester. Students are asked to indicate their first five choices; every effort is made to place students according to their preferences.

Values and Science/Technology Seminar Courses

VAST 200 Computers and Society

This course examines the computer's cultural context: the managerial, political, legal, ethical, psychological, and philosophical implications of computing. The laboratory focuses on the World Wide Web.

Van Dyke

VAST 202 Appropriate Technology for Development

The dogma of development that planners and policymakers worldwide have adhered to during the past 30 years emphasizes the importation of modernizing technologies in developing countries at the expense of other concerns, including evidence dealing with cultural patterns and resistance to technical change. Although this process is not inherently good or bad, it is crucial for policymakers in poor countries, as well as sponsors in rich nations, to examine the full range of benefits and costs that they entail. This course explores the ongoing debate over what technology is appropriate and how technologically poor nations can encourage its inflow and use.

Ahene

VAST 203 Sustainability of Built Systems

This interdisciplinary seminar introduces students to a process for evaluating the sustainability of built systems in both the industrialized and developing worlds. The course addresses the historical, moral, and ethical foundations for the current sustainability movement as well as frameworks that can be used to determine the economic, environmental, and social-equity components of sustainability across the life-cycle of built systems. Throughout the course, we highlight large-scale examples of sustainable built systems.

Bernhardt

VAST 205 Water and Society

The use of water has rapidly increased as societies have grown in scale and technological sophistication. Water needs and desires impose difficult demands upon the earth's resources and require societies to

confront “quality of life” issues related to environmental degradation and future economic growth. This course looks at a range of historical and contemporary topics involving water supply and quality on a regional, national, and international scale. Field trips to facilities in the Easton region supplement readings, videos, and discussions.

Jackson, Lennertz

VAST 206 AIDS: A Modern Pandemic

This course examines the world AIDS epidemic, with primary emphasis on the U.S. and secondary emphasis on Africa. Scientific topics include the biology of HIV, the human immune system, HIV drugs and therapies, and the progression of an HIV infection, which is also considered from a humanistic perspective. Political, economic, historical, and cultural factors influencing the spread of the epidemic and its control are discussed, as is the tension between individual liberties and the protection of public health.

Prerequisite: Biology 101 or permission of instructor

Yuster

VAST 207 Evolution: Science and Society

An inquiry into the theory of evolution through natural selection and its impact on the natural sciences, social sciences, and humanities. Students examine Darwin’s writings and modern-day approaches to the study of evolution. They critically evaluate “creation science” and discuss whether it is indeed a legitimate science that should be taught in schools. The course considers the relevance of natural selection to understanding human behavior, constructing societal norms, and evaluating contemporary ethical issues.

Hill

VAST 208 “Evaluating” Medical Technologies

In this course, students learn about the multiple levels of evaluation of medical technologies. They examine particular technologies and what is involved in evaluating them, including safety, risk assessment, and experimentation upon human beings. Further, students explore the limits that people impose upon themselves in evaluating medical technologies and why this society is fascinated with medical technology.

Lammers

VAST 209 Indigo: A World of Blue

Dip white fabric in the muddy-colored indigo dye vat and the cloth emerges green, then slowly turns azure, cobalt or sapphire before your eyes. The chemistry behind this reaction will be revealed - and practiced - in this course. This mysterious dye has an intriguing history, and we will study its societal and environmental impact. We will learn about the equipment used in producing indigo dye, and the three sources of indigo: synthetic, natural, and biosynthetic. The course will culminate with the design of a new indigo production facility.

Piergiovanni

VAST 211 Oil, Politics, and the Environment

Oil plays a significant part in global economy, politics, and the environment. The control of the oil market has caused wars and conflicts throughout this century. While it is hard to imagine life without petrochemicals, their increasing production has adverse effects on the environment. In addition to a brief review of the geological formation, exploration, drilling, production, and conversion of oil, this course studies the paradoxical role oil has played in shaping the economical and social structure of both exporting and industrial countries.

Tavakoli

VAST 212 Values and Technology in Gothic Architecture

Students study Gothic architecture and the related arts of stained glass and sculpture as expressions of medieval technology and societal values. They consider the dependence of architectural developments on advances in medieval structural technology and the interdependence of societal values and technological progress.

Van Gulick

VAST 213 Technology, Economics, and the Environment

This course examines relationships among technology, economic growth, and environmental degradation. In particular, the course analyzes how improvements in human living standards resulting from technological progress affect the environment and the welfare of future generations. The course also examines how humans value the environment and how conflicts between human welfare and the environment are resolved. Special emphasis is placed on public policies and the role they

play in fostering economic growth and improving the health of the environment.

Prerequisite: Economics 101

DeVault

VAST 214 Mapping Urban Ecology

Our planet is increasingly urban, over 50% of the world's population living in urban areas. Urban ecology is an important interdisciplinary approach to environmental science and sustainable development.

People throughout the world practice urban ecology, motivated by a desire to create healthy human ecosystems and livable communities. In this course, we will study some of these people, projects and places and with GIS technology produce a Green Map website and brochure of Easton.

Winfield

VAST 215 Technical Literacy

This course helps students understand the role technology plays in society and prepares them to form their own opinions about the social, political, economic, and ethical questions associated with technological advances. Issues discussed include the insatiable need for energy (alternative energy sources and energy conservation), genetic engineering, the environment (pollution control and prevention), and the explosion in the microelectronics field (computers and the information age).

Schaffer

VAST 217 The Art and Science of Flow Visualization

The flow of fluids explains how airplanes fly, why a curveball curves, why atherosclerotic plaque clogs arteries, why Jupiter's red spot is growing, and how hurricanes form. Yet it is difficult to see fluids flowing without the techniques of flow visualization. We will discuss these techniques, the fluid flow phenomena they seek to illustrate, and the photographic methods needed to create effective images that are successful both scientifically and artistically. This is a class in fluid dynamics, art history, laboratory technique, photography, scientific ethics, and concept-based art.

Rossmann, Skvirsky

VAST 218 Technological Development in the Third World

The course investigates technological development within third-world countries and the necessary resources for sustained

development including education, natural resources, location, and population.

Technological transfer from outside the third world is addressed along with trade and international aid. The course also focuses on culture, governments, economics, and other country-specific topics that affect technological development.

Ruggles

VAST 219 Multimedia Communications

This course addresses technological, economic, and social issues related to the proposition of building a national information infrastructure (the information superhighways). Technical aspects such as the concept of wide bandwidth transmission, digital communications, fiber optics, and multimedia communications are addressed. Also, a critical evaluation of the impact of forthcoming electronic services on current social values is developed through writing assignments and classroom discussions (focused mainly on ethics and privacy).

Jouny

VAST 220 Counting and Culture

This course examines connections between culture and mathematics. It concentrates on the mathematics found in ancient, non-literate, and non-Western cultures, especially traditional African cultures and pre-Columbian civilizations. Topics include number concepts; recordkeeping, including calendars; games, geometry, and symmetry. Students look at how to recognize mathematics in other cultures; and how culture influences the development of mathematics.

Meier

VAST 221 Value Meals: Technology at the Dinner Table

This course explores the intersections between technology and values as they relate to what we eat. Technological advances produce new food preservation methods, higher crop yields per acre and year round variety of relatively inexpensive foods. Topics such as genetic modification, cloned meat in the food supply and the Slow Food Movement will illustrate how technological capabilities balance with moral and ethical issues as we make daily food choices.

Diorio

VAST 222 Patient-Practitioner Interaction:

The Role of Medical Technology

The patient-practitioner interaction is the essence of medical practice. This course examines the psychological and social factors that contribute, in both positive and negative ways, to this dynamic relationship. Of major concern is the role of medical technology. Issues to be examined include factors that will affect the decision to use technology, such as age, costs, and prognosis, as well as the needs and interests of the patient, the practitioner, and, ultimately, society.

Childs

VAST 225 New Drug Development:

Benefits and Costs

This course examines the history of drug discovery, development, and production. Issues such as the ethics of drug testing, problems of overexposure to antibiotics, and the technological advancements necessary for large-scale production are discussed. Simple experiments demonstrate a few of the technologies used.

Piergiovanni

VAST 228 Recordings in Jazz History

An examination of jazz music, musicians, and careers. Main reference point: jazz recordings and how they have defined and shaped the business. Important Questions: Who was recorded? When? Where? How? How did developing technology change the music? Who did and did not benefit from the recordings? Central Studies: "Kind of Blue" (Miles Davis) and "A Love Supreme" (John Coltrane).

Wilkins

VAST 229 Transportation and Society

This course examines relationships between transportation and society, in terms of how transportation systems affect and are affected by societal conditions and trends. The course addresses societal conditions at the times of emergence of various transportation systems; factors that enabled their emergence; and the socioeconomic, demographic, political, technological, environmental, and cultural impacts of such systems.

Veshosky

VAST 230 Natural Forces, Human Choices:

Sustainable Use of Natural Resources

Neither natural science nor economics is independently capable of analyzing and developing solutions to environmental and

natural resource problems. Parallel readings in environmental science and economics are used to study the consequences of human behavior on the environment and the consequences of technology and the environment on human behavior. Natural resources studied include forests, wildlife, water, and land.

Bruggink

VAST 231 Don't Buy This Book

This course explores the relationship between publishing technology and our ideas about intellectual property, looking at both current issues and historical trends. Key topics may include the print revolution, e-books, adaptations, plagiarism, and international copyright.

Phillips

VAST 232 Intelligence Testing: Use and

Misuse

This course examines the history and present use of IQ testing including implications on social policy, especially those raised by the book *The Bell Curve* by Herrnstein and Murray. Students study some of the statistical tools used by researchers in social science, including population distributions, correlation, and factor analysis. Questions considered include "What do IQ tests measure?"; "Should political decision use this information for justification?"

Gordon

VAST 233 Endangered Species 101: Should We Save Fuzzy-Wuzzy?

The answer seems obvious for cute, furry, warm-blooded "charismatic megavertebrates." But what about "creepy-crawlies" like burying beetles and ambersnails? Species have come and gone throughout the fossil record: extinction has been a fact of evolutionary history and continues to be. Species rescue has profound economic, legal, and political implications and fallout. This course addresses the conflict and confusion over endangered species and attempts to save them.

Leibel

VAST 234 Technology and the City:

Chicago and New York

This course examines the role that industrial technology played in the rise of the two great American cities—Chicago and New York. It centers on Chicago and uses New York further to illuminate technology's

influence on the city-building process and the role that cities played in making America a technological wonder and the greatest industrial power on earth by 1900. The course is taught from an interdisciplinary perspective with the aim of relating history to present time and to students' lives.

D. Miller

VAST 235 Science, Technology, and Social Change

Progress, evolution, and continuous change are Western cultural ideals, but custom, tradition, and habit make fixity and persistence the dominant forces in human history. Minor shifts and adjustments aside, real changes in social structures and values are rare. Big changes are usually linked to crises and revolutionary events, some of which are provoked by advances in science and technology. This course examines what happens when scientific and technological innovations meet social forces promoting fixity and persistence.

Schneiderman

VAST 236 Energy, Environment, Society

Students develop an ability to think critically about modern energy and transportation technologies by reading, writing, and discussing the individual and social issues that attend advances in these areas. Energy plays an important role in connecting the ecosystem, the production system, and the economic system. The course focuses on the effects of energy production on the environment, technological, and social aspects of transportation (ground and air) and bridges, and the history and philosophy of technology.

Ulucakli

VAST 237 Media Presentation and Government Reaction to Scientific Information

An investigation of how scientific information is disseminated to the public via mass media, and the subsequent reaction by politicians and the public. Ethical theories are integrated into the course topics by examination of the professional obligations of scientist, engineers, media, and public officials. Case studies to be considered include several "scares" of the past including the Millenium Bug, DDT, electrical power lines, and Mad Cow Disease, among others.

Hummel

VAST 238 Human Reproductive Technology

The ability to control and assist reproduction has raised new issues concerning the creation of life and the rights and responsibilities of potential parents and children, as well as medical personnel and policy makers. Scientific, social, ethical, legal, and political dimensions of reproductive technologies are examined. Development of new technologies provides new opportunities to explore existing moral and legal questions (eugenics, attitudes and disabilities, and definitions of the family, for example) as well as raise new questions to address.

McGillicuddy-DeLisi

VAST 240 Plastics in Our World

This course deals with the increasingly important role that plastics (polymers) play in the modern world. After an introduction to the structure, properties, and processing of plastics, students explore new applications of plastics and examine some of the controversial aspects of plastics, including environmental effects of disposal and the impact on natural resources.

Martin

VAST 241 Engineering and Law as Learned Professions

A cross-disciplinary course going well beyond a review of professional/ethical codes of engineers and lawyers. This course prepares students for lives within the learned professions as communities of practitioners, called to honorable fiduciary service on behalf of worth public purposes, and rooted in rich intellectual traditions. The course will encourage collaborative learning, placing emphasis on critical reading, discussion, process writing, and interactive simulations. The course is team-taught and considers the moral and ethical issues raised by challenging, concrete, and open-ended case studies.

Hornfeck, Lennertz

VAST 242 The 3 Cs: Conception, Contraception, and Carrying Capacity

This course explores reproductive science and accompanying ethical issues. Students begin with an intensive overview of the evolution, physiology, endocrinology, and genetics of human reproduction. Topics include multiple births, artificial insemination, in vitro fertilization, teratogens, genetic screening, efficacy and global distribution of contraception, and

determining carrying capacity. Throughout, attention is given to research and development, funding, and distribution/accessibility issues.

Waters

VAST 245 Unity of the Sciences and Ethical Consequences

This course studies the conceptual unity of the physical sciences, giving an overall sketch from the physics of atoms and molecules to biochemistry and into the more speculative realm of the mind. Is there really any underlying unity across this wide spectrum of knowledge? And if so, what would be the consequences for the humanistic aspects of knowledge involving culture and ethics? This seminar compares different approaches to this conceptual unity and discusses their strengths and weaknesses.

Haug

VAST 246 Life's Uncertainties: An Introduction to Risk

How do individuals and society perceive and manage risk? This course explores the historical background of risk analysis, the assessment and quantification of risk, and how potential benefits are weighed against the costs of controlling risk. Science, history, probability, statistics, psychology, and public policy are among the disciplines that are employed to develop an understanding of risk. The course focuses on medicine, the environment, public safety, and government regulation.

Fisher

VAST 247 What Can Science Teach Us about Values?

Does Darwinism show that men are meant to be promiscuous? That women are wired to masquerade as virgins? That people are genetically determined to be utterly selfish? Does modern physics, meanwhile, demonstrate that the universe has a godless origin, and that the noblest actions and deepest thoughts are unpredictable byproducts of random subatomic forces? If so, what follows? That morality and freedom are illusory? That God is dead? The goal of this course is to pursue these questions, and to figure out what science can teach about values.

McLeod

VAST 248 The Dog Course

Employing a range of disciplinary perspectives—literary, philosophical,

archeological, biological, and technological—this course examines the interpretive “construction” of the dog in human history. Students consider issues of domestication, evolution, scientific research (including the Genome project), the morality and technology of breeding, and the psychological comforts of anthropomorphic representation. What is the dog? “Man’s” best friend? Or “nature’s” most successful parasite?

Donahue

VAST 249 What Can Be Automated?

Whatever damage the “Y2K bug” actually wrought, the widespread anxiety about it revealed society’s heavy dependence on automated systems. This course explores the achievements and the limits of computerized control. Students read novels and stories that satirize excessive automation; critique current efforts to automate human functions such as medical care, education, and creative writing; and examine the increasingly fuzzy boundary between real and virtual life.

Van Dyke

VAST 250 Controversy in Science

Although many people think of science as an objective, fact-driven field, there are many examples of significant controversies existing within science and between scientists and the public. This course examines three controversies chosen from the following: intelligence testing, the age of the earth and the universe, plate tectonics, global warming and pollution, and controversies of mathematics.

Gordon

VAST 251 Development of the Bomber

This course is an interdisciplinary examination of the development of the bomber from its infancy in WWI through the Gulf War with the major focus on development during World War II. This is a course on how ideas influence technology and how technology and its limits influence behavior. These ideas are still prevalent today in the discussions of military technology. The course also covers questions of ethics in war and the constraints that have been put upon the use of bombers in modern times.

Lammers

VAST 253 Global Climate Change

This seminar explores global climate change and its causes. Earth’s climate is a highly

complex system. In recent years, much progress has been made in understanding the behavior of the global climate system and the mechanisms that govern it. Students study global warming, its man-made and natural causes, and its impact on all aspects of life. Students are also introduced to ethical theories and their application to environmental issues.
Ulucakli

VAST 254 Ethical and Legal Challenges of the New Genomics

Biological and chemical understanding of the human genome has advanced dramatically in the past two decades. This course explores in-depth many of the ethical and legal challenges raised by scientific breakthroughs in several domains of new genomics, including: genetic testing for disease susceptibility, prenatal genetic testing, gene therapy, and cloning and other reproductive technologies.

Shaw

VAST 255 Plagues, Progress, and Bioterrorism

In the developed world, governmental support of a public health system has enhanced progress in eliminating many infectious diseases. Worldwide elimination would benefit all people, so what is the developed world's responsibility to countries without the political or economic means to support public health? What should be done about groups who intend to use biological warfare? This course examines human diseases and the ability to treat and prevent them.

Caslake

VAST 256 Body Politics

This course focuses on the political nature of body ideals and the significance of the body in scientific thought and feminist theory. Topics include how science, technology, social norms and values shape perceptions of sexual and racial differences, the view of women as "bodies" (relative to "minds"), and attempts to control the female body through appearance norms, sexual norms, and reproductive codes. Students debate whether and how change can be fostered through performativity, subversions, and resistance, including the use of science and technology.

Basow

VAST 257 Nightmares of Science

This seminar examines works of science fiction as manifestations of collective fear and ethical crisis that arise when society is faced with technologies perceived as threatening to either the essential nature or the continued existence of humankind. The course focuses on ethical debates surrounding issues such as automation, genetic engineering, nuclear power/weapons, and artificial intelligence, and explores society's changing reaction to these technologies as they pass from the realm of fiction into reality.

Jordan

VAST 258 Decadence, Frustrated Lovers, Madness, and Medical Scientists in Fin-de Siècle Vienna

The course scrutinizes the culture of Vienna at the turn-of-the-century when conflicting social pressures created a hothouse atmosphere that spawned radical intellectual thought and new directions. The work of writers, artists, architects, composers, and scientists is studied against the problematic sociopolitical development of the Habsburg Empire during the final millennium of its existence.

McDonald

VAST 260 Creeds and Computers: The Interplay of Science and Religion

Science and technology have changed the ways religious traditions have grasped what they stood for and how they spread their messages. Religion has influenced the directions taken by science, as witnessed in the latest debate over stem cell research; the sciences, in turn, have helped shape the content and the strategies of religious groups, evident in such concerns as nuclear arms and the phenomenon of televangelism. This course explores the topic as an ongoing dialogue between the two ways of thinking.

Briggs

VAST 261 Dance: Physically Limited or Spiritually Limitless

Scientific analysis of dance movement requires the acceptance of the physical limitations of the human structure and laws of motion. Conversely, the tradition-laden concept embraced by dancers stresses the exploration of the body's unlimited movement potential and the rejection of physical limitations. Dance kinesiologists stress the importance of the mind-body connection, preferring a more natural, less technically demanding, movement

approach. The course examines the tension among these philosophies.
Murgia

VAST 263 The Nature of the Past: Social Constructions of Evolution
Are humans the result of evolution shaped by “Nature, red in tooth and claw,” or were we formed by the hand of God? Students consider how explanations of the human past reflect social values and evaluate societal responses to scientific claims, going beyond listing “facts” to examine why “facts” are presented as they are. They consider how beliefs about the past inform contemporary debates, including the nature of race, gender roles, and the teaching of evolution.
Niles

VAST 264 Property and Theft
Some changes in ideas about property rights are catalyzed by technological developments. Students examine these changes from literary, social, and ethical perspectives. Topics include the varying cultural traditions of tangible property, studies in medical ethics cases that touch on property issues, and ethical discussions of slavery, indentured servitude, and reparations. The course ends with an examination of the evolution of intellectual property rights, with particular focus on the impact of the Internet.
Kimber

VAST 269 Reinventing the Machine
The goal of creating machines that mimic biology is close to being achieved through advances in the developing relationship between computer science and biology. In this seminar, students explore research trends to determine what changes this goal may have on the human body, society, and the larger world. Can machines be reinvented to mimic humans, and are we reinventing ourselves in the process?
Pfaffmann

VAST 270 Energy Resources, Uses, and Technologies
What are the planet's energy resources, what quantities exist, and where are these resources located? At what rate are these resources being depleted and for what uses? What technologies are applied in modern energy conversion processes, and what future technologies could be important to the global energy equation? Consideration of these questions involves practical,

ethical, political, economic, social, and environmental issues. This seminar explores the broad issues related to energy policies and also addresses technical aspects of energy systems. Issues in the United States are stressed within the context of global energy considerations.
Hornfeck

VAST 272 The Last Dance: Deliberations on Death and Dying
The essential question in this seminar on thanatology—the study of death—asks how best in a technological age to ascertain, acknowledge, and apprehend the various visitations of The Grim Reaper, whether natural, unnatural, or supernatural. Approaches to this emotionally charged and intellectually challenging field of study include reading, writing, discussion, and field trips. From the fused perspectives of medical/forensic science and ethics, psychology, religion, anthropology, art, literature, and more, students search to discover meaning in death.
Truten

VAST 274 Pathology and Pathography: Intersections of Literature and Medicine
Narrative inhabits medicine in a striking diversity of forms and texts such as clinical histories, patient illnesses, and even the course of illness itself. Equipped with narrative competence, health care professionals can identify, interpret, and respond to the stories and predicaments they encounter. This seminar brings responsible literary methods to the study of medical texts to help bridge the growing divide between the art and science of medicine.
Truten

VAST 275 Cancer: From Cause to Cure
While the number of deaths from heart disease has decreased by half in the last 50 years, the number of cancer-related deaths has remained relatively unchanged. This seminar covers a broad range of topics related to cancer to shed light upon what makes cancer more difficult to deal with than other diseases. One example is a discussion of how social, economic, and political factors influence research, prevention, diagnosis, and treatment for patients with cancer.
Kurt

VAST 276 Rome: Science, Technology, and Civilization

Science and technology shaped values in classical and late antiquity throughout the areas in Eurasia and Africa controlled by Rome. This seminar examines how Rome's receptiveness to the Epicurean atomic theory; its engineering, technology, and applied science; its vast systems of transportation, communication, education, and entertainment; its political, administrative, and legal systems; and the conduit that its institutions provided for the transmission of values and ideas decisively shaped the modern world.

Rosa

VAST 277 Questions of Trust in Science

This seminar examines three roles for the notion of trust in the scientific enterprise. First, the seminar considers the importance of bonds of trust between scientists, in part by examining mechanisms for dealing with those who break that trust. Second, students consider difficulties in fostering trust in science among non-scientists. The final notion is the way scientists today essentially create "trusts" by patenting their discoveries and the potentially adverse effects of this development.

Sheiber

VAST 278 Weapons of Mass Destruction

People once hoped that nuclear weapons would make war so terrible as to be unthinkable but it has not happened yet. What role should these weapons play in the world? Topics include development and use of biological, chemical, and nuclear weapons from scientific, political, and ethical perspectives, and the role of these weapons in conducting war and in maintaining peace and the means by which nations have tried to control their proliferation and use.

Stark

VAST 279 Eternal Youth and Immortality

Society has always yearned for immortality and a permanently youthful appearance. For many, this quest has become more urgent now that scientific and technological advancements seem to have brought these goals within reach. Topics include historical and religious perspectives, advancements in science, medicine, and technology, diet and lifestyle, the anti-aging industry, the role of the media, gender and aging, cross-cultural perspectives, and the social and ethical

implications of the search for the fountain of youth.

Bookwala

VAST 280 The Promise and Peril of Educational Technology

Rapid technological development is changing everything, including teaching and learning. This seminar examines how new technologies, particularly computers, are changing education at all levels. Students discuss the efficacy of educational technology and the equity of its distribution and imagine new uses and technologies that might enhance learning. Students serve as volunteers in an educational environment in the Easton community and reflect on experiences with technology in those settings.

G. Miller

VAST 282 Gambling: Here and Everywhere

This course introduces and analyzes the mechanisms of gambling and the games that are played. In parallel, it examines the benefits and costs of gambling, including those social, economic, and psychological, with the goal of answering the primary motivating question: is the proliferation of gambling good for society?

D. Smith

VAST 283 Music, Audio Technology, and Society

This course investigates how the evolution of audio technology has affected the creation, performance, perception, and dissemination of music from historical, aesthetic, and sociological perspectives. Through assigned readings, music listening exercises, direct interaction with performers and audio technicians, and hand-on laboratory sessions, students evaluate the application of technology to making music, music listening habits, styles and genres of music, and music's role in society. Emphasis is on learning to write about and discuss the application of technological data to musical phenomena and related cultural and sociological issues.

Stockton

VAST 284 Natural/Social Disasters: Urban Planning and Social Death

Glaveston, San Francisco, Johnstown, New Orleans--these are places that have battled floods, earthquakes, and hurricanes from their inception. In the wake of hurricanes Katrina and Rita, an urgent question arises: why, considering all the risks to human life,

were these communities developed in the first place? New Orleans, a kind of modern-day Atlantis, could be considered a feat of engineering, not unlike Amsterdam and Venice. But what is the social cost? What are the ethical implications of building in areas where natural disasters predictably occur?

Washington

VAST 285 Staging Science, Playing Technology

From its beginnings, one of the great paradoxes of theater has been its antipathy towards and dependence upon science and technology. By examining selected plays in which science and ethics are central subjects, this course explores how theater, which "theatricalizes" technology through using new inventions large and small in live performance, continues reinventing itself as a communal art form, remaking the particulars of cultural mythology, and shaping our response to inevitable change. O'Neill

VAST 286 Values, Ethics, and Leadership in Business and Government

Developments since the turn of the century have turned the attention of the nation and the world to the enduring issues of trust and leadership. This course will analyze the sources of tension between organizational mission and individual values by using examples from the corporate and public sectors of the economy. In the process of examining the incentives individuals have to stray from their value set, characteristics or aspects of an organization and its mission that contribute to unethical behavior will be evaluated. For example, students will consider the factors or characteristics of organizational culture that may pressure a person into lying or purposely misrepresenting evidence. In addition, students will spend time reflecting on the market forces in the economy that reinforce trust, sound leadership and cooperation. Crain

VAST 287 Stories Matter: Medicine and Melodrama in a Global Age

Medicine is currently a global phenomenon-disease in one part of the world can affect people across the globe in a matter of days. How does society seek to explain and cope with this circumstance? One method is by telling stories that transform unpleasant realities into harmless fictions. What messages do these stories deliver about

world health and its consequences? In this course, we will be the development of critical reading skills to allow students the opportunity to evaluate scientific and fictional texts and to make determinations about their relative reliability.

DeTora

VAST 288 A History of Spirits: The Distillation of Sin and Politics

This review of the history of spirits and our subsequent discussion of contemporary problems will help illuminate our cultural sentiment toward the production, distribution, and consumption of alcohol. The goal of this course is to instill a new perspective and attitude toward alcohol that encompasses the positives as well as the negatives as evidenced throughout history. Morton

VAST 289 Room at the Bottom:

Nanotechnology and Modern Society
Nanotechnology has become the popular term to describe manipulation and manufacturing where the characteristic dimensions are less than about 1,000 nanometers, which is about 1/100 the thickness of a human hair. This course will develop the language and introductory scientific basis of nanotechnology and provide the technological foundation for discussions of ethical and societal issues related to its various uses.

Wiesner

VAST 290 Climate Change: The Facts, the Issues, and the Long-Term View

Members of the scientific community have considered the potential threat of human-induced climate change for decades, yet only recently has this issue emerged in the consciousness of the broader society. This seminar considers the scientific evidence that has climate experts worried about the future, as well as the significant and global nature of economic, societal, and political-issues that human induced climate change raises. For valuable perspective on the fundamental linkage between the climate system and life on Earth, we draw upon the rich archive of information about past interactions between life and climate provided by Earth's geologic record.

Lawrence

VAST 291 Are We Prepared? Emergency Management, Planning, and Preparedness after 9/11

Why are we unable to plan and respond effectively and efficiently to a disaster? This course explores the science, technology and psychology of these events. Through work with local municipalities and class work, it examines the organizational structure in place to handle these disasters from the president to local emergency management coordinators, the laws and how they both facilitate and impede a timely response, and the importance of adequate training, communication and a coordinated response. Elliott

VAST 293 Pharmaceuticals: Scientific Challenges and Ethical Dilemmas

Pharmaceuticals provide an interface where science, technology, economics, and ethics interact, affecting our lives intimately. We will analyze complex issues surrounding drug discovery, development, testing, marketing, regulation, access, and distribution. Students will gain comprehensive understanding of guiding principles from initial R&D through to post-market follow-up. We will examine challenges - public skepticism about research, rising budgets, diminishing breakthroughs, escalating side effects, declining affordability and access - by identifying both beneficial and detrimental consequences of pharmaceutical innovation. Waters

VAST 294 From Frankenstein to Einstein: Public Perception of Scientific Research & Science

This course will focus on the public perception of science and scientific research. How are controversies resolved in the scientific communities? How are scientific controversies depicted in the media? What techniques can partisans use to influence the public debate? Gindt

VAST 295 Addiction

This course will examine the critical behavior-research findings relevant to understanding how addictive behavior begins, is maintained and can be successfully resolved. In addition, the course will explore models of addictive behavior that have assisted in developing treatments that actually work. The course will also consider many addictive behaviors that are publically accepted (e.g., caffeine,

alcohol, candy, exercise). The underlying neurological changes associated with addictions will also be explored. Finally, the ethics of current drug laws, penalties and treatments will be examined. Allan

VAST 296 Ethics, Medicine, and Mental Illness

Obsessive-compulsive disorder, Tourette's syndrome, depression, eating disorders... This seminar introduces students to a wide range of texts (memoirs and first-person narratives, films, paintings, and medical and philosophical treatises) that focus on the experience of living with mental illness. Particular attention will be paid to the style and form of textual representations of psychological disorders, as well as to the cultural and philosophical questions such texts raise about the very category of "mental illness." Cefalu

VAST 298 Rise of Industrial America

This seminar will explore the rise of modern America through the study of its major industries. A major focus of the course will be the entrepreneurs who employed new technologies to build the first powerful industrial corporations in the country and in doing so changed the course of world history. Businessmen such as Carnegie, Armour, Rockefeller and Ford will be central to the discussions. The everyday lives of the consumers, workers and immigrants impacted by industrial capitalism and the roles of urbanism, trade unions and socialist political organizations will be closely examined. The course will begin with the transformation in manufacturing brought about by the rise of the "American System" in Lowell, which employed women almost exclusively, continue through the age of steam and steel (with emphasis the central role of the Lehigh Valley region) and conclude with building of a new form of corporate capitalism as the driving force of the American economy. Tiernan

AFRICANA STUDIES

Faculty

Professors Ahene (Economics and Business) and Opoku (Religious Studies) Co-Chairs; Professors Bauer (Anthropology and Sociology), Blake (English), Holton (Art),

McCartney (Government and Law), Stockton (Music); Associate Professors Smith (English), Washington (English).

Africana Studies is the scholarly examination of the black experience universally—in Africa and its extensions in the United States, the Caribbean, and elsewhere in the world.

In this interdisciplinary major, students combine methods of the traditional disciplines (history, literature and languages, music, anthropology and sociology, art history, folklore, religion, economics, philosophy, political science) in analyzing the experiences, problems, and questions at the center of the social, cultural, and political thought and actions of peoples of African heritage. They are encouraged to pursue a coordinate major.

Majors are encouraged to participate in field work through research leading to an honors thesis, internships, course-related work in local communities, and study abroad in Africa, the Caribbean, or Latin America.

Majors are prepared for further study in Africana Studies and will find programs at many prestigious graduate schools including Howard University, Columbia, Yale, University of California-Los Angeles, and Wisconsin. They are prepared for careers in business, international organizations, government, teaching, medicine, and law. Some pursue careers in diplomatic services or global corporations that require experts able to operate in culturally diverse environments.

Requirements for the A.B. major

A minimum of nine approved courses selected from at least two academic disciplines including Africana Studies 101, 211, 400; one intermediate theory course selected from an approved list including Africana Studies 213, Anthropology and Sociology 214 and 216; five upper-level electives chosen from an approved list with at least two in humanities and social science areas.

Students must also complete the Common Course of Study. Courses designated as Africana Studies at Lafayette or elsewhere must focus significantly on the contribution and experiences of persons of African descent. Relevant study-abroad course listings appear under Interim Session in this catalog.

Requirements for the Minor

Five approved courses including AFS 101, 211 and three upper-level electives chosen from an approved list of AFS electives.

Honors: Students who meet College and major requirements may submit a written proposal for approval during their junior year or early part of their senior year for an honors thesis. Students pursuing honors will be allowed to substitute first-semester Africana Studies 495 for Africana Studies 400.

AFS electives include

All African Studies courses; Anthropology and Sociology 214, 216; Art 235, 236, 341; Economics and Business 330, 346, 354; English 246, 349, 352; Government and Law 207, 222, 233; History 106, 258, 367; Music 103, Psychology 120; and Religious Studies 215, 216, 266

Africana Studies Courses

AFS 101 African Cultural Institutions

This course examines the social and political institutions embodying patterns of culture that have evolved over thousands of years and represent Africa's contribution to global civilization. Contemporary African societies reflect the interplay of tradition and change since institutions of the past have not simply given way to ones of the present. African cultural institutions and practices continue to give direction to the internal and external changes that are taking place in Africa and in the Americas today. The course enables students to see Africa in a world perspective and provides a framework for scholarly research.
Staff

AFS 211 The Black Experience

This course introduces students to the study of the black experience in its global context. As such, it is most immediately focused on the exposure of students to the life experiences of blacks from a variety of perspectives so that they become familiar with a broad range of fact and opinion about these experiences. The course reflects a strong multidisciplinary perspective in addressing topics and issues.
Offered: Fall semester
McCartney

AFS 230 Environmental Justice

This interdisciplinary course explores the intersection of social justice and environmental stewardship in an attempt to understand the various dimensions of the environmental justice movement and how it affects modern society. Students will be exposed to humanities, social sciences, and environmental science/engineering aspects relevant to the topic. Cross-listed with EP 230.

Prerequisite: At least one college-level mathematics course and one college-level social science course

Staff

AFS 307 Black Social and Political Thought

This course examines the complexity of ideas of black leaders in Africa, the Caribbean, and the Americas, including Kwame Nkrumah, Julius Nyerere, Nelson Mandela, Marcus Garvey, George Padmore, W.E.B. DuBois, Martin Luther King, Malcolm X, Elijah Mohammed, and Jesse Jackson. Theories and thoughts presented both in scholarly formats and in nonformal fashion in everyday life are examined in a way that makes them not less powerful or rigorous but accessible. The course reflects diverse theoretical traditions such as Afrocentric philosophy, liberal and conservative thought, capitalist and Marxist social thought, sociology of knowledge, postmodernism, etc.

Prerequisite: AFS 211

Staff

AFS 310 Contemporary African Society: Ghana

This course provides a critical understanding of the roots of contemporary Ghanaian culture and African traditions. It examines the move from traditional political and economic entities that were radically modified by the sixteenth-nineteenth century slave trading economy, followed by 100 years of colonialism, and the emergence of contemporary Ghana. The course examines history, ethnicity, community relationships, individualism, and the impact that the acquisition of a national identity has had on Ghanaian culture. The course considers the anthropological dimensions of the current social and political lives of ordinary people and allows students to examine how contemporary culture affects Ghanaian attitudes towards other aspects of life, including work and leisure, Christianity, technology, politics, and the Ghanaian state.

Ahene**AFS 325 Global Africa: Comparative Black Experience**

This course combines the study of Africa with the study of the two diasporas. The Diaspora of Enslavement concerns slaves and descendants of slaves in both the Western and Eastern Diaspora. The Diaspora of Colonization concerns demographic dispersal as a result of colonialism. African Americans are in their majority part of the diaspora of enslavement. Recent African immigrants into France are part of the Diaspora of Colonization. Jamaicans and Trinidadians in Britain are a double diaspora—products of both enslavement and colonialism. The course examines black genesis from Africa, comparative slavery, emancipation and reconstruction, and comparative liberation from colonialism.

Prerequisite: AFS 211

Staff

AFS 360 Racial Identity Development

A course on the major issues in personality development and socialization of African Americans. Students are guided through a selective review of current racial identity trends (including strengths and difficulties) in the African American community. Environmental and intrapsychic factors that contribute to these trends are identified, and strategies for effectively addressing these issues are discussed. Emphasis is given to the issues of racial and cultural identity development among African Americans. Students are exposed to strategies for developing a healthy racial identity. Preference given to seniors and juniors. Offered: Spring semester
Richardson

AFS 380 Africana Studies Internship

Provides opportunities for the practical application of theory and real-world problem-solving techniques. A limited number of students are placed in a community outreach center, business organization, or governmental agency to carry out an organized and supervised program of study and research under a designated internship sponsor. Interactive learning and research projects are selected to provide in-depth exposure to the creative analytical capacities, critical thinking, and problem-solving techniques necessary for finding solutions to actual concerns.

Prerequisite: AFS 101, 211, or permission of instructor
Staff

AFS 390, 391 Independent Study
Independent study projects for juniors and seniors.
Staff

AFS 400 Capstone Seminar in Africana Studies
Students carry out an in-depth reading and textual analysis of seminal works in essential areas of the black experience and its status in today's global culture. The goal is for students to understand the history and contributions of people of African descent, and the relationship of these to human development as a whole. The seminar also gives students opportunities to demonstrate mastery of the seminal works, acquire new knowledge, and place courses they have taken toward the major in a broader perspective.

Prerequisite: Open to seniors or by permission of instructor
Ahene, McCartney

AFS 495, 496 Honors Thesis
An independent research project on a topic to be selected by the student and approved by the program coordinator. A student must undertake such a program for two semesters to graduate with honors.
Staff

AMERICAN STUDIES

Faculty

Assistant Professor A. Smith (English/American Studies), Chair; Professors Jackson (History), Johnson (English), Mattison (Art), D. Miller (History); Associate Professors Shulman (Anthropology and Sociology), Torres (Music), Washington (English), Wilkins (Music); Assistant Professors Belletto (English), Kissane (Anthropology and Sociology), Lee (Anthropology and Sociology/American Studies), Phillips (English), Skvirsky (Art/American Studies)

American Studies offers students the chance to develop valuable critical skills and diverse perspectives in the study of American culture. As a unique interdisciplinary field of study with a long intellectual tradition, American Studies seeks to empower students with

combinations of useful analytical tools for exploring the complexity and diversity of American culture past and present. American Studies encourages independence. Students have a unique opportunity to structure their own education as they study American culture and society from an interdisciplinary perspective, taking advantage of courses offered in nearly every department of the College. With guidance from program faculty, students select courses in a variety of subject areas that focus on a particular theme. The curriculum provides an introductory course in interdisciplinary study as well as seminars on a variety of topics. All seniors take a collaborative and supportive research seminar where they develop a major project on a subject in their focus area.

Requirements for the Major

American Studies majors shape their own degree programs in accordance with their own interests and objectives. AMS majors take a minimum of nine courses to complete the major.

All majors take American Studies 150, 362, and 363, plus at least six other courses (typically at the 200 or 300 level) from various disciplines related to their chosen or individually constructed theme of concentration.

In order to prepare for course work in multiple disciplines, students must, by the end of their sophomore year, have completed AMS 150, plus introductory courses in at least three other relevant disciplines. Especially important are introductory-level courses in Anthropology & Sociology, American History, and American Literature.

All majors select or construct a "theme of concentration" that focuses their course of study around crucial issues and questions. Guidelines to help students plan a theme of concentration are available via the American Studies website and in the office of the program chair. The guidelines describe in detail the following five themes of concentration.

1. Social Justice in America. Students in this concentration investigate issues of social justice as connected to race, gender, class, and ethnicity in American history and culture. Students may study these concerns generally or focus on one particular group in

American society (such as women or African Americans, for example). As one of the six courses within their theme of concentration, students take an appropriate 200-level Anthropology and Sociology course. They also select five additional courses relating to Social Justice including: (a) at least one course in Government and Law, Economics, Anthropology, or Sociology, (b) at least one course in History, and (c) at least one course in another field, such as Women's and Gender Studies, Africana Studies, Psychology, Art, or Literature.

2. Popular Culture and High Culture in America. Students in this concentration study American "high" and popular culture as represented in literature, art, film, music, and new media. As one of the six courses within their theme of concentration, students take an appropriate 200-level Anthropology and Sociology course. Students also select five courses relating to Popular Culture and High Culture including at least one course from three of the following four categories: (a) literature, (b) art, (c) music, film, TV, or media studies, and (d) intellectual history or political philosophy.

3. Business, Work, and Society in America. This concentration focuses on the role of business and work in American society and culture. As one of the six courses within their theme of concentration, students take an appropriate 200-level Anthropology and Sociology course. Students also select five courses relating to Business, Work, Society, including at least one course from each of the following three categories: (a) anthropology or sociology, (b) economics, and (c) economic history.

4. Place in America. Students in this concentration examine the role of place--the city, the natural world, a geographical region--in American history and culture from an interdisciplinary perspective. As one of the six courses within their theme of concentration, students take an appropriate 200-level Anthropology and Sociology course. Students also select at least five concentration courses relating to Place in America in such fields as government and law, economics, history, and sociology.

5. Independent Concentration. Students may shape their own programs if they prefer to focus on a theme of concentration other than those described here.

American Studies Courses

AMS 150 Introduction to American Studies
This course is a broad introduction to American Studies as a method of academic inquiry. It examines American personal and national identity through an interdisciplinary examination of American culture, with particular emphasis on issues of race, class, gender, and ethnicity. Students consider the ways in which various cultural forms--including novels, film, music, painting, sociological studies, laws, journalism, governmental, the built environment and the physical landscape itself--shape and are shaped by the cultural contexts and historical monuments in which they appear. This course must be taken in the first or second year. Normally closed to Juniors and Seniors.

Offered: Fall and Spring semesters
Staff

AMS 241 Work, Culture, and Society in Industrial America: Regional Culture in the Industrial Age

An introduction to the study of the modernization process in America with emphasis on the Lehigh Valley-anthractic region, the seedbed of the American industrial revolution. Topics include the development of industrial capitalism and the factory system; changing modes of work; the rise of the labor movement; immigration and ethnicity; and literature in the industrial age.

Staff

AMS 350-352 Special Topics

These courses offer the study of various unique topics in American Studies. Topics are announced before each semester in which the courses are offered. Recent topics have included "The Story of World War II." Staff

AMS 362 Seminar in American Studies
Topics for this in-depth interdisciplinary seminar change by semester. Majors are strongly encouraged to take more than one seminar during their course of study. Multiple AMS 362 topics courses count as electives in the student's course of study to complete the major, and are the best and most intensive method of preparation for the Senior capstone experience, AMS 363. Recent seminar topics have included "Photography and Memory in American Culture," "The American Indian in American Culture," "Designs for Living:

Environmentalism, Counterculture, and Utopias," "The 1920's", "Nature in American Culture." "American Censored," "America, a Hydraulic Society," and "The Beat Generation in American Culture." [W]
 Prerequisite: American Studies 150
 Offered: Fall and Spring semesters
 Staff

AMS 363 Senior Research Seminar
 The purpose of this capstone research seminar is to allow students to do in-depth, interdisciplinary work on a topic of their own choosing and to integrate the diverse courses they have taken for the American Studies degree. AMS 363 provides a supportive, coordinated, workshop-based structure for students' original research on a major project or paper. The projects are based on original sources and must involve a combination or integration of at least two disciplines (such as art and literature, economics and sociology, or history and law). [W]
 Prerequisite: American Studies 150 and 362
 Offered: Fall semester
 Staff

AMS 390, 391 Independent Study
 Qualified students may develop, in consultation with a faculty member, a one-semester course directed to a particular theme or topic in American Studies.
 Prerequisite: American Studies 150 and 362
 Offered: 390/Fall, 391/Spring
 Staff

AMS 495, 496 Thesis
 Students majoring in American Studies who wish to become candidates for honors register for the senior thesis. During the senior year, honors candidates pursue independent study culminating in a thesis that utilizes more than one discipline. Honors are awarded upon successful defense of the thesis in oral examination.
 Offered: Fall and spring semesters
 Staff

ANTHROPOLOGY AND SOCIOLOGY

Faculty
Professors Niles, Schneiderman; Associate Professors Shulman, Department Head;

Smith; Assistant Professors Bissell, Kissane, Lee

Is human society to be viewed as an orderly, integrated, cohesive system, or is it a battleground of conflicts between classes and ethnic groups, even men and women? What does it mean to be human? These and similar questions are studied in the Anthropology and Sociology major. They probe beneath the surface of human relations and reach into the primary processes of human society.

Learning what's behind comfortable assumptions may be uncomfortable but the knowledge gained provides vision, understanding, and an added dimension of personal control. The curriculum begins with an introduction to the general perspectives of anthropology and sociology and moves on to courses that emphasize theory, methodology, and special topics.

Requirements for the Major
 The major consists of at least eight courses in the department in addition to Anthropology and Sociology 102 and 103. Among these eight courses are two methods courses (Anthropology and Sociology 340 and 341), a senior capstone course (Anthropology and Sociology 342), and five additional courses.

Requirements for the Minor
 The minor in Anthropology and Sociology consists of six courses: two chosen from among 102, 103, and 342, and four additional courses selected in consultation with the minor adviser.

Anthropology and Sociology Courses

A&S 102 Cultural Anthropology
 By offering in-depth study of selected cultures to illustrate general organizing principles of society, the course provides students with skills appropriate to the understanding of foreign cultures and our own. Included are consideration of government, law, economics, and religion, and their role in understanding social change, stratification, language, and social conflict.
 Staff

A&S 103 Introduction to Sociology
 This course takes a social scientific approach to the study of human social relationships. Its purpose is to introduce the

basic concepts, theoretical orientations, and methods of the sociological perspective.

Topic areas include the socialization of personality, culture, urbanization, alienation, deviance, inequality, and the rationalization of society.

Staff

A&S 104 On Human Origins

The course explores the idea of human nature, as a cultural construct and as the focus of philosophical, scientific, and anthropological inquiry. We will consider primate behavior, hominid evolution, and the origin of cultural diversity through the Stone Age. Films, novels, and artifacts are used to supplement class discussion.

Niles

A&S 203 Peru Before the Incas

The course explores the nature of civilization in the Andes in the millennia preceding the Spanish Conquest, using the region as a case study for analyzing the growth of civilization. It considers Andean systems of thought expressed in media of importance in the region (e.g. cloth, architecture, geoglyphs), and in aspects of its religion and social organization. [W]

Prerequisite: A&S 102, 103, or 104, or permission of instructor

Niles

A&S 204 European Communities

Although most people think of Europe in terms of “national” cultures, it is the local community, whether urban or rural, that teaches its members a way of acting in and seeing the world. This course considers some of the general cultural variations that characterize European communities and some possible explanations (historical, ecological) for that variation, and then proceeds to a series of community studies of a small number of cultures. [W]

Prerequisite: A&S 102 or 103, or permission of instructor

A. Smith

A&S 206 People of the Andes

The course considers the roots of contemporary Andean culture in the Pre-Columbian and Iberian traditions. It examines the move from rural villages to urban areas, and the impact that the acquisition of a national identity has had on these villages and on national culture. It also considers the anthropological dimensions of such current social and political problems as the Shining Path guerrilla movement and the

growth of the cocaine economy in Andean nations. [W]

Prerequisite: A&S 102 or 103, or permission of instructor

Niles

A&S 207 The Inca World: Empire and Imagination in the Ancient Andes

The course explores the empire created by the Incas, noting the ways that the ordered their society and reconstructed their natural world through terracing, irrigation, and architecture. Using archaeological evidence and eyewitness accounts of their society, students consider how Inca political organization and handiworks reflect an Andean orientation toward the supernatural world. The course concludes with an examination of native resistance to Spanish rule. [W]

Prerequisite: A&S 102 or 103, or permission of instructor

Niles

A&S 208 New World Civilizations

The course considers the rise of native civilizations in Mesoamerica and the Andes, focusing on the Mayas, the Aztecs, and the Incas. It considers the evidence by which we understand these cultures—including glyphic inscriptions, works of art and architecture—and their legacy in the contemporary cultures of Latin America. [W]

Prerequisite: A&S 102, 103, or 104, or permission of instructor

Niles

A&S 209 Selected Studies in Ethnography

This course focuses on ethnography as the key narrative form of anthropological research while foregrounding critical issues in a specific ethnographic area (for example, Africa, South or East Asia, the Middle East). Descriptions of current offerings are available through the departmental office or through the Registrar's Office.

Prerequisite: A&S 102 or 103, or permission of instructor

Staff

A&S 210 Contemporary American Society

This course provides a critical understanding and analysis of modern American society, culture, and state. The approach is interpretive and thematic, examining individualism, community, ethnicity, work and leisure, technology, politics, the state, etc. The course builds on introductory level perspectives, applying

them in a more detailed and focused manner.

Prerequisite: A&S 102 or 103, or permission of instructor
Staff

A&S 211 Symbolic Interaction

This course covers sociological perspectives on social psychological issues dealing with emotions, the formation of a self-concept, impression management and conformity. Particular emphasis is paid to understanding the social influences on individual and social behavior through a microsociological perspective.

Prerequisite: A&S 102 or 103, or permission of instructor
Shulman

A&S 212 Sex and Gender: A Cross-Cultural View

Students explore the variety of ways that cultures assign roles on the basis of gender by in-depth consideration of several contemporary societies. Students also consider the evolution of gender roles, and the way in which Western perceptions of these roles may have contributed to explanatory models in the social sciences.

[W]

Prerequisite: A&S 102, 103, or 104, or permission of instructor
Staff

A&S 214 Race and Ethnic Relations

This course highlights issues of race and ethnicity in multiple contexts, with a focus on the U.S. It explores the limits of race and ethnicity as scientific categories and their legacy as powerful social constructions, with a special focus on the legacy of slavery. As social constructions, race and ethnicity are often elusive, shifting, and negotiable principles. Students explore how such fluid principles can have such lasting effects and consider their sometimes hidden links to economic status.

Prerequisite: A&S 102 or 103, or permission of instructor
Smith

A&S 215 Occupations and Professions

This course focuses on the sociological study of occupations and professions in modern societies. Among topics to be discussed are the social meaning of work; the concept of career; and the process of professionalization. Special attention is given to the study of occupational groups as

a means of exploring some basic social problems and issues of American society.

Prerequisite: A&S 102 or 103, or permission of instructor
Staff

A&S 216 Class, Status, and Power

This course focuses on the development, application and redefinition of the concept of social class as related to contemporary society. Power and status relations, social mobility, and mass society will be topics of special interest. [W]

Prerequisite: A&S 102 or 103, or permission of instructor
Schneiderman

A&S 217 Poverty in America

This course considers the nature, causes, and consequences of poverty in America, primarily from a sociological perspective. It examines the measurement, scope, demographics, and dynamics of poverty in the U.S., as well as factors closely connected to poverty, such as low-wage work, neighborhood, family structure, education, violence, and crime. In this course, the experiences of the urban poor will be of particular interest.

Prerequisites: A&S 102 or 103, or permission of instructor
Kissane

A&S 218 Political Sociology

This course is devoted to an examination of the social causes and consequences of various types of power distributions within or between societies, and with the political and social conflicts that lead to changes in the distribution of power. Such sociological theorists of political power as Weber, Marx, Tocqueville, Michels, and Simmel are examined in detail. [W]

Prerequisite: A&S 102 or 103, or permission of instructor
Schneiderman

A&S 219 American Communities: Cities, Suburbs, and Towns

This course traces the development and significance of urban communities in America. Topics include city growth and industrialization, suburban sprawl, urban villages, and post-industrial "electronic cottages." Attention is also given to how regional shifts and changes in social organization, environment, and technology have transformed America's urban landscape.

Prerequisite: A&S 102 or 103, or permission of instructor
Lee

A&S 220 Who Gets What and Why

This course uses sociological perspectives to examine the nature and mechanisms of social inequality in the United States and abroad. Specific topics may include distributions of income, wealth, and political power; discrimination in the work place; disparities in health outcomes; impacts of the media and educational system; extreme wealth; and global stratification. Special attention will be paid to how inequality is patterned by race, class, and gender, including the intersections of these social groups.

Prerequisite: A&S 102 or 103, or permission of instructor
Kissane

A&S 222 Medical Anthropology

This course explores, through ethnographic studies of other cultures and constant comparison with our own, the various ways in which illness is defined, explained, and treated. We will examine both the influence of culture on medical beliefs and practices, and the degree to which an anthropological view of medicine reveals central features of any sociocultural system.

Prerequisite: A&S 102 or 103, or permission of instructor
Staff

A&S 223 The Anthropology of Politics

The cultural dimensions of power will be examined in a comparative framework, exploring in depth a non-Western setting such as village Mexico or Africa and Western settings such as the Mafia or college committees. The emphasis is on how individuals use power within their culture, be it a village or an office.

Prerequisite: A&S 102 or 103, or permission of instructor
Staff

A&S 224 Self, Society, and Culture

What are the principal ways in which the individual is shaped by the surrounding social and cultural world? Each semester we will pose this question in relation to a particular foreign culture in order to: (1) learn how anthropological models and theories interpret and/or explain this relationship and (2) find an anthropological route into that culture.

Prerequisite: A&S 102 or 103, or permission of instructor
Staff

A&S 225 Deviance

This course examines social deviancy with a particular focus with competing theoretical explanations of deviant behaviors such as corporate crime, delinquency, sex work, substance abuse and violent crime. Attention will be given to the normative, symbolic processes through which individuals and acts become defined as deviant.

Prerequisite: A&S 102 or 103, or permission of instructor
Shulman

A&S 226 The Forms of Folklore

The course will survey major genres of folklore and the methods of analysis applied to them. Examples will be taken from many parts of the world, and will include such forms as myths, legends, folktales, proverbs, riddles, games, jokes, and superstitions.

Students will be expected to prepare an original collection of folklore materials. [W]
Prerequisite: A&S 102 or 103, or permission of instructor
Niles

A&S 227 The Family

The family is the most universal of all institutionalized human groups and yet, in our own society, seems fragile and unstable. A primary theme throughout the course is in the changing forms and functions of the family with emphasis on contemporary society. Consideration will be given to class, ethnic and life-style variations in family form.

Prerequisite: A&S 102 or 103, or permission of instructor
Kissane

A&S 228 Alienation

The last century was a century of “release” from the traditional bonds of community—family, place, class and religion. The paradox of that release (as yet unresolved) is that this new freedom from traditional forms was accompanied by alienation—the estrangement of individuals from each other, from the world of objects, from the world of thought, and from themselves. [W]

Prerequisite: A&S 102 or 103, or permission of instructor
Schneiderman

A&S 230 Social Memory

Shared representations of the past both reflect and shape social identities. Because societies are heterogeneous, differing views of the past coexist, and history itself can become a battleground. What are the outcomes of clashes over the interpretation of past events? How are distinct visions of the past preserved over the generations? Through a rigorous schedule of readings and writing, culminating in a final research project, students consider the many ways in which the past enters everyday lives and may even shape the future. [W]
Prerequisite: A&S 102 or A&S 103
Smith

A&S 232 Magic, Science, and Religion

The course deals with “systems of thought,” addressing such questions as: Do forestworshipping pygmies think in ways that are fundamentally different from quark-hunting physicists? Magic, science and religion will be compared as competing ways of explaining reality.
Prerequisite: A&S 102 or 103, or permission of instructor
Staff

A&S 233 Anthropology of the City

This course centers on cities as sites and subjects of anthropological inquiry. Across the globe, urbanization has increasingly defined the landscape of modern life. What makes the metropolis meaningful, and how do spatial forms shape social practices? In what sense does the cultural milieu of the city—material and symbolic, dynamic and diverse—challenge us to critically re-imagine anthropology? How are social identities shaped by the everyday experience of urban communities, commodities, and cultural forms?[W]
Prerequisite: A&S 102 or 103, or permission of instructor
Bissell

A&S 235 Business and Society

This course explores the impact of business upon our culture and the role of business in modern society. Of special interest are the growth and development of capitalism and business thought, the influence of the corporation, and the role of management in society. Case materials are utilized extensively.
Prerequisite: A&S 102 or 103, or permission of instructor
Staff

A&S 236 Sociology of Knowledge

The central focus of this course will be upon an examination of the social creation of knowledge and the consequences of knowledge for social organization. Definitions of knowledge will be drawn from such sociological theorists as Weber, Marx, Mannheim, Scheler, and Durkheim.
Prerequisite: A&S 102 or 103, or permission of instructor
Lee

A&S 239 Social and Cultural Change

This history course will focus on theories of change. Consideration will be given to evolutionary and diffusionist perspectives. More recent neo-evolutionary, structural-functional and other current social and cultural approaches to the processes of change will be considered. [W]
Prerequisite: A&S 102 or 103, or permission of instructor
Schneiderman

A&S 245 Mass Communications and Society

This course is designed to give students an overview of mass media theory and research rooted in a number of ideological perspectives of society. Topics include the rise of mass communications, the audience, media effects, news ideologies, the sponsor, mass media politics, and new communications technologies. The goal is to provide detailed understanding of the social, cultural, economic, organizational, and political forces that have shaped our contemporary mass media.
Prerequisite: A&S 102 or 103, or permission of instructor
Staff

A&S 247 Organizations in Action

This course is designed to give students a better understanding of today’s organizational world through the lens of organizational theory. Topics include the rise and nature of bureaucracy, the evolution of managerial ideologies, theories of leadership and decision making, organizational culture, technological and ideological determinism, and the influence of the environment. Theory is related to practice through the examination of specific case studies.
Prerequisite: A&S 102 or 103, or permission of instructor
Shulman

A&S 255 Contemporary Society and the Cinema

This course examines the place of movies in shaping and changing popular culture in contemporary societies. Between two and four movies will be seen and discussed each week. These include American- and British-made films, as well as films made in France, Germany, Italy, Spain, and Japan. The purpose of the course is to expose students to a variety of cultural responses to similar genre, and to see how one culture influences the cinematic traditions of another culture. Prerequisite: A&S 102 or 103, or permission of instructor
Offered: Interim Session
Schneiderman

A&S 340 Qualitative Methods of Research

The course focuses on anthropological methods, how "facts" are established, methodology and technique. Techniques include: participant observation, interview, questionnaire construction, census and genealogy collection, photography and video. Original research is done in preparation for further study. Required for A&S majors and recommended to be taken the junior year.[W]
Prerequisite: A&S 102 or 103, or permission of instructor
Bauer

A&S 341 Quantitative Methods of Research

This course is concerned with the logic of social inquiry, methodologies of empirical social research, and with data analysis and interpretation. Topics include research design, measurement, sampling, survey and field research, and writing research reports. Quantitative methods of data analysis are emphasized.
Offered: spring semester; required for A&S majors. [W]
Prerequisite: A&S 102 or 103, or permission of instructor; A&S 340 recommended
Lee

A&S 342 Theories of Society

The Upper-level course provides an intensive grounding in broad range of anthropological and sociological theory. The course addresses the development of social theory since the 19th century. Over the course of the semester, students will explore the limitations and uses of different social theories, applying what they are learning as they pursue an extended research project in consultation with the instructors.

The course serves as a capstone and is required of all majors. [W]

Prerequisite: A&S 102 or 103, or permission of instructor(s)
Staff

A&S 351-380 Special Topics Seminar

A seminar devoted to a subject to be selected by the instructor. Announcement of the proposed subject will be made in advance of each seminar. The course will place a responsibility upon the student for independent study, research, and reporting. Prerequisite: A&S 102 or 103, or permission of instructor
Staff

A&S 390, 391 Independent Reading and Research

Individual investigation of a topic under the supervision of an adviser.
Prerequisite: Permission of instructor
Staff

A&S 495, 496 Thesis

Under the guidance of a staff member, the student writes a thesis based on an approved project in a specialized field of anthropology or sociology. If at the first semester's end the project has honors potential the student applies to continue toward graduation with honors. After completing the thesis the student takes an oral examination on it and its field. [W]
Staff

ART

Faculty

Professor Mattison, Head; Professors Ahl, Holton, Kerns, Weiss; Associate Professor Sinkovic; Assistant Professors Noble, Skvirsky; Community-Based Teaching Director Toia

The curriculum is a combined studio/art history course sequence in which students may concentrate in the area that most interests them. Museum and gallery internships, independent studio projects, student art exhibits, field trips, and an exceptional visiting artists program contribute to the special character of the program, as does the College's proximity to New York and Philadelphia. Individual studios in the Williams Visual Arts Building are made available to students who qualify for honors work in studio art. Professors encourage individual and communal

learning and become deeply involved with the special interests of students.

Requirements for the Major

The major consists of a minimum of nine courses, including two introductory courses in art history (101 and 102); one additional course in art history; Fundamentals of Drawing (109); one additional studio course; and five additional courses chosen from offerings in art history or studio art. Students emphasizing art history must take a 300-level seminar. For students focusing on art history, one non-Western art history course (128, 216, 238, 240, 242) is strongly recommended. Study of at least one foreign language through the intermediate level is strongly recommended for those contemplating graduate study in art history. Students emphasizing studio art must take one 300-level studio course. The department is committed to strong student advising and may recommend courses in other departments based on the programmatic needs of individual students.

Requirements for the Minor

The minor in art consists of six courses, including two introductory courses in art history (101 and 102); Fundamentals of Drawing (109), and three other courses chosen from offerings in art history or studio art in consultation with the minor adviser or the department head.

Additional departmental course listings appear under Interim Session.

Independent projects and honors

The department offers advanced students the opportunity to develop their interests in an intense experience of individualized learning. In partnership with faculty, students work for one or two semesters on rigorously designed projects that culminate with critical review by art department faculty and, in the case of honors, appraisal by professionals from outside the department.

Art Course Areas:

Art History--101, 102, 126, 216, 221, 222, 223, 224, 226, 231, 233, 234, 235, 236, 340, 392-393, 495-496.

Studio Art--103, 107, 109, 110, 111, 114, 120, 190, 191, 196, 212, 215, 218, 290, 292, 312, 330, 337, 339, 344, 390-391, 497-498

Art Courses

ART 101 Introduction to Art History I

A survey of visual culture from prehistoric through the Middle Ages. The course is designed as an introduction to basic problems and terminology of art history, and to methods of analyzing and interpreting individual works of art. Emphasis is placed upon historical and cultural contexts, and upon the development of major styles. Recommended for first-year students and sophomores who are considering art as a major; open to all students.

Offered: Fall semester

Ahl, Sinkevich

ART 102 Introduction to Art History II

This course is organized like Art 101, but deals with painting, sculpture, and architecture from the Renaissance to the present. Recommended for first-year students and sophomores who are considering art as a major; open to all students.

Offered: Spring semester

Ahl, Mattison, Sinkevich

ART 103 Principles of Studio Art

This course is designed to introduce art majors as well as interested non-majors to the visual problem-solving process. Emphasis is placed on basic design components such as line, shape, and color by the assignment of projects exploring the principles of balance, spatial relationships, and visual unity.

Staff

ART 107 The Dynamics of Sculpture

A foundation for basic sculptural techniques, materials, and creativity in the studio. Students examine sculpture from the past to the present as a means of developing their technical and creative skills, including drawing, then implement their knowledge through studio projects using such materials as clay, plaster, wood, and found objects. They are also trained in the use of basic power and hand tools. At least two field trips required. Open to all students with or without prior knowledge of sculpture.

Noble

ART 109 Drawing I

An introduction to various approaches to drawing, including the use of line, hatching, contour, and shading. More emphasis is placed on immediacy than on finishing

technique. Human and other natural forms as well as inanimate objects are drawn in both experimental and disciplined ways.

Open to all students.

Staff

ART 110 Drawing II

A continuation of Drawing I with greater emphasis on compositional relationships and the human figure. There is further exploration of various media and techniques. Drawings by artists of the past and present are studied. Problems associated with aesthetic quality are discussed.

Prerequisite: Art 103 or 109, or permission of department head

Staff

ART 111 Beginning Printmaking

A study of, and studio experience in, the basic techniques of both monotype and intaglio printmaking. Students are instructed in the proper use of printmaking equipment and tools, including metal plates, acids, inks, grounds, and print papers.

Development of visual discernment is stressed.

Prerequisite: Art 103, or permission of instructor

Holton

ART 114 Beginning Painting

An introduction to acrylic, watercolor, and oil painting, evolving from basic studies to more involved problems in formal and expressive relationships. The achievement of a sense of life and meaning in relatively simple subject matter is emphasized.

Prerequisite: Art 103, or permission of instructor

Offered: Fall and spring semesters

Kerns

ART 120 Architectural Design and Theory

The course provides an introduction to the theoretical basis and process by which architects design buildings. Course work includes three or four design projects focusing on significant architectural issues such as urban revitalization, sustainable building, historic preservation, etc. Architectural drafting (by hand) and presentation techniques are developed. No prior background in architecture or drafting is required.

Felder

ART 126 History of Architecture

A survey of Renaissance, Baroque, Rococo, Neoclassical, Eclectic, and Modern

architecture. Buildings and urban plans will be studied in relationship to the cultural, social, and structural character of each period.

Offered: Spring semester

Mattison

ART 128 Introduction to Asian Art

Introduction to Asian Art is an introductory survey of Chinese and Japanese art from their respective Neolithic periods through the 19th Century. The purpose of the course is to provide an historical framework from which an overall concept of the arts of China and Japan may be derived.

Staff

ART 150 Video Art I

A digital media course, designed for those with little or no experience in time-based media art practices. Students explore how conceptual art, performance art, sound, animation, video and computer technology can be a basis for art making. Upon completion of the course, a student can expect to have a thorough understanding of video and sound editing, familiarity with conceptual art practices and competency with digital video cameras.

Skvirsky

ART 155 Digital Photography I

Creative expression, explorations of content and articulation of ideas will be emphasized. The course comprises technical lectures, laboratory demonstrations, slide lectures of historic and contemporary photography, and critiques of student work. Upon completion of the course, a student can expect to have a thorough understanding of the basics of digital photography—proper and consistent image exposure, basic Photoshop skills and competency with scanning and digital printing.

Staff

ART 180 Art in New York

This course introduces students to the wide range of activities and experiences in New York's Arts community. Through exhibits, lectures, and conversations with artists, the course provides experiences equally valuable to art students and artists. Though emphasis is placed on the historical development, elements, and process of making art, the primary focus will be experiential.

Staff

ART 190 Advertising and Promotion Design: Differences in Conceptualization
Advertising and promotion design are marketing tools, each of which, theoretically, communicates the same message. The focus of this course is to expose the issues of, and develop the individuals sensitivity to, the communication in terms of both the technologies available and the conceptual differences inherent in each type of design project.
Minter

ART 191 Promotion Design: The Creative Potential of Production Techniques
This course looks at promotion design as not simply decoration of verbal content, but as the visual communication of that content. It explores the three main aspects of the production process—typography, paper, and special production techniques—with regard to their inherent creative and communicative properties as well as their efficient use in effective visual communication.
Offered: Interim Session
Minter

ART 192 Experiencing the Found Object
This course offers students an opportunity to understand how to manipulate and assemble found materials into exciting and convincing sculptural forms that transcend their original source into poetic visions. The Dada and Surrealists founded the Art of Assemblage at the beginning of the twentieth century. Since then many artists have assembled found objects—either natural or pre-fabricated—into structures that equal any other sculptural medium.
Noble

ART 196 Basic Photography (Black and White)
This course introduces students to the techniques of film exposure, developing, contact printing, and proofing. In addition, the course exposes students to the aesthetics of black and white photography, presentation of work, and a brief history of the subject. Students should have their own cameras. Limited to 12 students.
Offered: Interim Session
Staff

ART 212 Intermediate Printmaking
Further study and studio experience in the more advanced aspects of intaglio printmaking. A strong involvement with the

conceptual development of “proof” states is also emphasized, as well as the ability to recognize and evaluate relationships of line, value, and form through the intaglio printmaking processes.
Prerequisite: Art 111, or permission of instructor
Holton

ART 215 The Land and the Global Environment
In this sequel to Art 107 students explore specific frameworks and concepts. This course will explore unique and innovative approaches for using art as a catalyst to explore the interrelationships of the physical, biological, cultural, technological systems in our environment through a multidisciplinary approach. Students complete projects to reflect an understanding of these areas using a variety of materials including found objects and natural materials. Students' technical skills in the use of materials and tools are expanded.
Noble

ART 216 Byzantine Art
An exploration of the art and architecture of Eastern Europe, Balkan, Asian, and Mediterranean countries during the period of Byzantine rule (343-1453). Works of architecture, sculpture, and painting as well as illuminated manuscripts, icons, and liturgical objects are examined in terms of both their iconography and style. Their significance within the historical, social, religious, and economic context in which they were produced is explored. [W]
Prerequisite: Art 101
Sinkevich

ART 218 Intermediate Painting
Intermediate study in painting methodology. Technical instruction in acrylic, oil, and egg tempera. Investigations into figurative and abstract modes of painting, with emphasis on individual preference. Critiques are regularly scheduled.
Prerequisite: Art 114, or permission of instructor
Kerns

ART 221 Ancient Art
A study of the architectural and artistic achievements of the ancient civilizations around the Mediterranean: Egyptian, Minoan, Mycenaean, Greek, and Roman. The monuments are analyzed in terms of

style, technique, function, patronage, and influence. [W]
 Prerequisite: Art 101 or 102, or permission of instructor
 Sinkevic

ART 222 Medieval Art

An analysis of major works of art and architecture from the Early Christian period to the Late Gothic era. Concentration is extended beyond the traditional art forms of painting, sculpture, and architecture to include those specific to the Middle Ages: manuscript illumination, ivory carving, stained glass, and tapestries. [W]
 Prerequisite: Art 101 or 102, or permission of instructor
 Sinkevic

ART 223 Italian Renaissance Art

A study of the art and architecture of Florence, Rome, Siena, and environs from the late thirteenth to the late fifteenth centuries. The works are analyzed in terms of style, technique, function, and patronage. [W]
 Prerequisite: Art 101 or 102, or permission of instructor
 Offered: Fall semester, alternate years
 Ahl

ART 224 Baroque Art

A study of seventeenth-century European painting, sculpture, and architecture, focussing on the most important masters of the day: Caravaggio, Bernini, Poussin, Rembrandt, and Rubens. The works are analyzed in terms of style, technique, function, and patronage. [W]
 Prerequisite: Art 101 or 102, or permission of instructor
 Ahl

ART 226 Age of Michelangelo

A study of sixteenth-century painting, sculpture, and architecture, focussing on the most transcendent artists of the age: Michelangelo, Leonardo da Vinci, Raphael, and Titian. [W]
 Prerequisite: Art 101 or 102, or permission of instructor
 Ahl

ART 231 American Art

A study of American architecture, painting, photography, and sculpture from colonial times to 1900. American art is considered relative both to European developments and to indigenous conditions and attitudes.

Prerequisite: Art 102, or permission of instructor
 Mattison

ART 233 Nineteenth-Century Painting and Sculpture

A study of important developments in European art from the time of the French Revolution through Post-Impressionism. Visual culture is related to the social and political attitudes of the period.
 Prerequisite: Art 102, or permission of instructor
 Mattison

ART 234 Modern Art

A study of major trends in modern European and American art. Expressionism, Cubism, abstraction, Surrealism, and more recent developments are emphasized, as are their relation to cultural, social, and political attitudes of the period.
 Prerequisite: Art 102, or permission of instructor
 Mattison

ART 235 African American Art I

A study focusing on African American art and its aesthetic and philosophical origins, including a survey of various art forms such as sculpture, masks, pottery, and architectural structures. Discussions concern the African diaspora and the resulting distribution of Afrocentric creative elements throughout Europe and the Western Hemisphere—the Americas and Cuba, etc.
 Prerequisite: Art 101 or 102, or permission of instructor
 Offered: Fall semester
 Holton

ART 236 African American Art II

This course is a continuation of African American Art I. It includes the Harlem Renaissance and progresses through the WPA program (Federal Arts Project), Black artists in Europe, the protest art of the 1960s, and contemporary Black art.
 Prerequisite: Art 101 or 102, or permission of instructor
 Offered: Spring semester
 Holton

ART 238 Ukiyo-e and Beyond: History of the Japanese Woodblock Print

This course explores the art of Japanese woodblock printing from its origins in early Buddhist texts to the present day. The focus is on the "Floating World" (Ukiyo-e) prints of the seventeenth through nineteenth

centuries, and includes an examination of their impact on nineteenth-century Western painting. Issues of class, censorship, pornography, and national identity are key to this exploration of the tumultuous history of the Japanese print.
Staff

ART 239 From Samurai to Cyberpunk: Japanese Animation (Anime) and the Japanese Art Tradition
This course explores Japanese animation (Anime) from its roots in Western science fiction and the Japanese art historical tradition, to its impact on modern society and contemporary art around the world. Beginning with films (like *Godzilla*) that set the stage for the introduction of Anime in the early 1960s, the course traces the development of this world-wide phenomenon to the present day. Students choose their own areas of interest for independent research papers.
Staff

ART 240 History of Japanese Art
This course is an introductory survey of Japanese painting, sculpture, and architecture from the Neolithic period through the nineteenth century. The purpose of the course is to provide a historical framework from which an overall concept of the arts of Japan may be derived.
Staff

ART 242 History of Chinese Art
This course is an introductory survey of Chinese painting, sculpture, and architecture from the Neolithic period through the twentieth century. The purpose of the course is to provide a historical framework from which an overall concept of the arts of China may be derived.
Staff

ART 255 Digital Photography II
In this intermediate course, students will refine both their aesthetic and technical digital photography skills. Studio assignments are designed to develop students' individual styles, contextualize photography in terms of its history, its relationship to other art mediums and its cultural implications. In addition to studio assignments and group critiques, there will also be slide lectures, technical demonstrations, reading and writing assignments.
Prerequisite: Art 155 or permission of the instructor

Skvirsky

ART 290 Graphic Design: Solving Communication Problems
Communicating through design is as complex as the amount of information being disseminated in today's environment of rapid communication. This is an intermediate studio course which explores in-depth the technologies, visual language, and studio skills necessary to create effective marketing communication.
Prerequisite: Art 191
Offered: Interim Session
Minter

ART 292 Visual Communication through Technology
This is an intermediate design course intended to familiarize students with the basic visualization tools available through computer technology. In the course, students research a project, develop concepts to visualize the ideas set forth by the project, and apply the skills learned to make those ideas visible.
Prerequisite: Art 190, 191
Offered: Interim Session
Minter

ART 312 Advanced Printmaking
This course is for advanced study and research in the printmaking medium. Emphasis is placed on mastering all technical aspects of printmaking. The course covers various color applications and surface modification techniques. Students are required to design and execute a book or portfolio project, and participate as a printer's assistant in the publishing of works of art by professional practicing artists. Critiques are a regular requirement with at least two public presentations of students' work during the semester. Prerequisites required unless otherwise approved by instructor and department chair.
Prerequisite: Art 111, 212, demonstrated proficiency, and permission of instructor
Holton

ART 330 Studio Theory and Practice
Today artistic practice crosses many boundaries and incorporates a wide plethora of mediums and approaches. A series of practical projects will be undertaken both in the studio and on campus exploring a variety of mediums and technical processes many of which have been adopted by artists over the past century. Includes field trips,

visiting artists and regularly scheduled critiques.

Prerequisite: Art 103 or Art 107 or Art 109, 200 level studio course or by permission of instructor
Kerns

ART 337 The Space of Sculpture

This advanced course addresses public art and installation art. Students are introduced to public art through field trips and by creating temporary site-specific sculptures within a public space either on or off campus. They investigate the stages necessary to create a public sculpture by securing a site; developing a proposal with maquettes, budget, public opinion, fabrication, and installation; documenting; removing; and restoring the site to its original condition. This process is repeated for the development and execution of an environmental installation. Students develop their own projects and work collaboratively.
Noble

ART 339 Advanced Painting

Advanced study of the types and combinations of pictorial space through the techniques of composition and modern structural concepts. Emphasis is placed on the dynamic relationships of the subject to the expressive network of formal elements: color, rhythm, value, scale, and form.
Prerequisite: Art 103, 109, or 218
Kerns

ART 340 Seminar in Art History

A study of particular periods, movements, and artists that relates theoretical, historical, and formal approaches, such as protest art, abstract expressionism, Picasso studies, installation and video art and 15th-century Italian painting. Topics vary according to the specialty of the professor. Open to juniors and seniors who have completed Art 101 and 102 and at least two intermediate-level art history courses.
Offered: Spring semester
Staff

ART 344 Internships

Students majoring in art may take an approved internship at a museum, gallery, or related institution. The internship includes reading assignments, art-related work experience, and a written report on selected activities.
Staff

ART 390, 391 Independent Study in Studio Art

Advanced independent study with regularly scheduled critiques. Individual projects in painting, printmaking, sculpture, graphic design, or special work in portfolio development and presentation may be proposed. For junior and senior art majors and minors. Hours to be arranged.
Prerequisite: Permission of instructor
Staff

ART 392, 393 Independent Study in Art History

Advanced independent study and research in art history with individually designed research programs done in consultation with a member of the art history faculty. For junior and senior art majors and minors. Hours to be arranged.
Offered: Spring and fall semesters
Staff

ART 495, 496 Thesis in Art History

Majors with a strong performance in art history are invited to become candidates for departmental honors during second semester of junior year. During the senior year, candidates conduct research in a specialized field of art history under the guidance of art history faculty. The project culminates in a written thesis and an oral defense. [W]
Prerequisite: Art 101, 102, or Art 125, 126, and three intermediate or advanced courses in art history
Staff

ART 497, 498 Thesis in Studio Art

Majors with a strong performance in studio art are invited to become candidates for departmental honors during the second semester of their junior year. In their senior year, candidates conduct research in a specialized field of studio art under the guidance of the studio art faculty. The project culminates in a body of work, a written thesis, and an oral defense.
Prerequisite: Art 103 or 109, 214, and 338 or 339; or 103, 107, 215, and 337; or 103, 111, and 212
Staff

BIOCHEMISTRY

Majors in Biochemistry take a core of chemistry and biology courses including molecular biology. The curriculum involves the study of the chemical characteristics and reactions of organisms or living systems.

All of the chemistry and biology faculty carry on active research programs in which students are encouraged to participate. Biochemistry majors sometimes carry out projects in which they are guided by both a biology and a chemistry professor. Students can perform research as independent study or through the honors program. Based on their academic record and an interview, upperclass students may apply to be teaching assistants.

Requirements for the A.B. degree

Mathematics 125/186 or 161/162 or 161/176; Physics 111/112 or 131/133; Chemistry 121, 122, 221, 222, 231, 311 (or: (323 or 325) and (324 or 326)), 351, 352, 452, and at least one other advanced (200-level or above excluding independent study or thesis) Chemistry course (or none if Chemistry (323 or 325) and (324 or 326) are taken); Biology 101, 102, 261, and at least one other advanced Biology (200-level or above) course in addition to other College-wide requirements for the A.B. degree.

Requirements for the B.S. degree

Mathematics 161, 162, and 263; Physics 131/133; Chemistry 121, 122, 221, 222, 231, 323 or 325, 324 or 326 (must complete one of either 325 or 326), 332, 391 or 495, 351, 352, 452, and at least one other advanced chemistry course (200 or higher level, excluding independent study or thesis). Biology 101, 102, 261, and one additional Biology course (200 level or higher), and one additional 300- or 400-level course in either Chemistry or Biology in addition to other College-wide requirements for the B.S. degree.

Biochemistry Courses

Note: For courses see Biology and Chemistry

BIOLOGY

Faculty

Professor Leibel, Head; Professor Holliday; Associate Professors Caslake, Kurt; Reynolds, Waters; Assistant Professors Dearworth, Kurt, Ospina-Giraldo; General Biology Laboratory Coordinator Drummond

Biology, the study of life, challenges students to think creatively and analytically

and allows them to participate in a fascinating academic adventure. The many exciting discoveries in medicine, genetics, molecular biology, agriculture, and ecology throughout the twentieth century are continuing into this millennium. Lafayette's biology curricula are designed to prepare students to contribute to these developments by preparing them for careers in research, teaching, the health professions, and industry.

Biology majors enjoy small classes and may choose from a wide variety of courses.

Special opportunities include independent study and collaborative research projects with faculty, a senior honors thesis program, and paid laboratory teaching assistant positions. Non-credit internships for students considering careers in biology and the health professions may be available through the Office of Career Services.

Requirements

The Bachelor of Arts (A.B.) curriculum combines a solid background in biology with increased opportunity for the student to explore other fields of study. The A.B. biology major consists of 10 courses including Biology 101, 102; one course at the 200-level in each of the three course areas noted below; two 300-level courses, one in each of two of the course areas given below; and three 200-level or higher electives. In addition, the A.B. major must complete the following courses: Chemistry 121/122 (with laboratory), Mathematics 161 and either Mathematics 176 or Mathematics 186, or Mathematics 125/186 and a Foreign Culture unit. (The sequence Mathematics 161/162/186 is recommended for A.B. majors planning careers in quantitative fields or medicine; students who are unsure of their degree program should begin with Mathematics 161. In unusual circumstances Psychology 120 may substitute for Mathematics 186 with the approval of the department head.)

The Bachelor of Science (B.S.) curriculum is broader in basic sciences and allows the student ample opportunity to explore advanced areas in biology. The B.S. biology major consists of 12 courses including Biology 101, 102; one course at the 200-level in each of the three course areas noted below; two 300-level courses, one in each of two different course areas noted below; and five 200-level or higher electives. Note that no more than a total of four courses in

Biology 401-404 and Biology 495/496 may be taken for credit. In addition, the B.S. major must complete the following courses: Chemistry 121/122 and 221/222 (all four with laboratory), Mathematics 161 / 186. (The sequence Mathematics 161/162/ 186 or 165/166/186 is recommended for B.S. majors planning graduate work and careers in quantitative fields or in medicine. In unusual circumstances Psychology 120 may substitute for Mathematics 186 with the approval of the department head), and Physics 111/112 or 131/133. Candidates for the B.S. degree in Biology may elect a minor program in addition to their major. The requirements for a minor are the same as the College requirements.

A.B. and B.S. candidates must also complete the Common Course of Study, which includes a First-Year Seminar, English 110, a VAST course (sophomore year), three courses in Humanities/Social Sciences (at least one in each division) and two "writing-designated" courses (either biology courses or electives), normally taken in the junior or senior year.

For information on the B.S. degree in Neuroscience, offered jointly with the psychology department, see Neuroscience.

Biology Course Areas:
Genetics/Cellular/Molecular Biology (GCMB): 212, 241, 245, 256, 261, 304, 310, 312, 340, 401-404, 495-496, Chem 351.

Physiology/Organismal Biology (POB): 201, 213, 214, 221, 225, 251, 308, 314, 345, 390, 401-404, 495-496, Neur 201.

Ecology/Evolutionary Biology (EEB): 231, 234, 235, 271, 332, 336, 401-404, 495-496, Geol 320.

Biology Courses

BIOL 101, 102 General Biology
An introduction to the scientific study of life and basic biological principles. Emphasis is on the properties of living systems, their variety, their relationships in space and time to each other, evolution and the environment. Lecture/ laboratory. Course 101 is not a prerequisite for 102.
Offered: Fall/101, spring /102
Staff

BIOL 201 Invertebrate Zoology
In this introduction to the biology of the invertebrates students study the natural history, phylogeny, anatomy, development, physiology, and importance to human populations of the major invertebrate phyla and a few of the minor ones.
Lecture/laboratory/film sessions. Offered in spring semester.
Prerequisite: Biology 101-102
Holliday

BIOL 211 Histology
This course explores the structural features of human cells, tissues, and organs. Emphasis is on the morphological features unique to each type of cell and tissue, the functional consequences of these structural specializations, and the cellular basis of pathology. The laboratory portion of the course involves examination of prepared microscope slides. Lecture/laboratory.
Prerequisite: Biology 101-102, or permission of instructor
Offered: Fall semester alternate years
Staff

BIOL 212 Developmental Biology
A study of the process of development at the cellular molecular level as a description of the stages through which an organism attains increasing complexity. In addition to lecture, students become actively involved through discussion of primary literature and laboratory. The laboratory features vertebrate and invertebrate examples of the developmental processes discussed in class as well as a student-designed research project with an oral presentation.
Lecture/laboratory.
Prerequisite: Biology 101-102, or permission of instructor
Offered: Spring semester
Staff

BIOL 213 Comparative Vertebrate Anatomy
This course explores the structure and function of vertebrate animals. Emphasis is placed on the form/function relationship, the evolution of anatomical specialization, and the comparative method.
Prerequisite: Biology 101-102, or permission of instructor.
Lecture/laboratory/independent laboratory.
Offered: Fall semester alternate years
Dearworth

BIOL 214 Neuroanatomy

An in-depth exploration of the vertebrate nervous system with emphasis on mammals and humans. Lectures detail the structure and function of the brain and spinal cord. The laboratory includes dissection, examination of prepared slides and other materials, and work with computer resources. In the experiential portion of the course, students use classical anatomical and modern molecular techniques to study the brain.

Prerequisite: Biology 101-102, and permission of instructor.

Dearworth

BIOL 215 Mycology

In Biology 215 students discuss the most important groups of true fungi and oomycetes (fungal-like organisms), their taxonomy, nomenclature and systematics, as well as their morphological and physiological characteristics, and ecological roles. These concepts are presented from both organismal and molecular perspectives. In addition, the importance of fungi as economic and ecological agents is discussed.

Prerequisite: Biology 101 and Biology 102
Ospina-Giraldo

BIOL 221 Biology of Vascular Plants

A survey of the major groups of vascular plants emphasizing the angiosperms and relating form to function at the cell, tissue, organ, and organismal levels. The overall importance of plants in ecosystem structure and environmental interactions are addressed. Laboratory includes plant tissue culture and some field work.

Lecture/discussion/laboratory. [W]

Prerequisite: Biology 101, 102 or permission of instructor

Offered: Spring semester

Staff

BIOL 225 Microbiology

The biology of microorganisms, emphasizing prokaryotic structure, growth and cultivation, metabolism, genetics and gene regulation. Lecture topics include bacteria-to-bacteria signaling, biofilms, secretion, microbial diversity, and bacteriophage biology. Lectures are supplemented with readings from the primary literature. Laboratory exercises demonstrate principles covered in lecture and instruct students on research techniques.

Prerequisite: Biology 101-102

Offered: Fall or spring semester

Caslake

BIOL 231 Ecology

A study of the relationships between organisms and their environment emphasizing basic ecological principles and methods. Laboratory and field exercises illustrate the theoretical concepts discussed in lecture and are writing-intensive.

Lecture/discussion/laboratory. [W]

Prerequisite: Biology 101-102, or permission of instructor

Offered: Fall or spring semester

Waters

BIOL 234 Environmental Biology

While recognizing the interrelatedness among different areas of environmental science, this course focuses on how biological and ecological applications relate to environmental issues. Emphasis is on how the human population impacts ecosystem function, giving attention both to population regulation mechanisms and to disruption/conservation of ecosystem processes. Laboratory exercises focus on classical applied ecology as well as field excursions targeting policy and management issues. Satisfies core component of Environmental Science minor.

Lecture/laboratory.

Offered: Fall or spring semester

Waters

BIOL 235 Evolutionary Biology

An introduction to the principles of organic and molecular evolution. Topics include: genetic variation, natural selection, speciation, adaptation, diversification, biogeography, molecular evolution, and the mechanisms underlying each. Laboratory includes experimentation, computer simulation, and relevant reading/presentation of current primary literature in the field.

Lecture/discussion/laboratory.

Prerequisite: Biology 101-102

Offered: Fall or spring semester

Leibel

BIOL 241 Genetics

This course focuses on the study of the hereditary principles that govern cellular processes, organismal development, biological diversity, and the evolutionary changes in populations. The goal of the course is to provide an in-depth understanding of these principles, from both classical and modern perspectives. In the laboratory component of this course, model

organisms from the animal, fungal, and plant kingdoms will be utilized to help students become familiar with current methods of genetic analysis.

Prerequisite: Biology 101
Ospina-Giraldo

BIOL 245 Immunology

This course examines the immune system at the cellular and molecular level. After examining the basic architecture of the immune system, the course explores the specificity that allows your body to recognize and respond against a virtual unlimited number of potential pathogens.

Additionally, the course investigates the development of vaccines and the inappropriate immune responses that lead to allergies and autoimmune disease.

Lecture/laboratory.

Prerequisite: Biology 101-102, or permission of instructor

Offered: Fall semester

Kurt

BIOL 251 Human Physiology

This course uses a systems approach to human physiology. The functions of the major human organ systems and the physiological mechanisms by which these functions are controlled are considered.

Lecture/laboratory.

Prerequisite: Biology 101-102, or permission of instructor

Offered: Fall semester

Holliday

BIOL 256 Neurobiology

This course examines the field of neuroscience from a cellular and molecular perspective, with the neuron and neural networks as the focus of discussion and experimentation. After an intensive look at neuronal cell biology and signaling, the course examines the cellular basis of higher-order functions, such as sensation, behavior, and memory. Lecture/discussion/laboratory.

Prerequisite: Biology 101-102, or permission of instructor

Offered: Fall semester

Reynolds

BIOL 261 Molecular Biology

A survey of nucleic acid structure, function, and regulation in both prokaryotic and eukaryotic organisms. Material emphasizes modern techniques and their uses in answering questions at the molecular level.

Laboratory exercises allow students to gain experience with the basic techniques used in

molecular biological research.

Lecture/laboratory. [W]

Prerequisite: Biology 101 and Chemistry 121-122

Offered: Yearly

Caslake

BIOL 271 Marine Biology

An introductory study of the natural history, physiology, and ecological relationships of marine plants and animals. Major emphasis is placed on plant and animal adaptations to marine environments, factors influencing primary production, food webs, fisheries, and the effects of marine pollution. In addition to the lectures, a film is presented each week. Lecture/film.

Prerequisite: Biology 101-102, or

permission of instructor

Offered: Spring semester

Holliday

BIOL 302 Biological Electron Microscopy

This course introduces students to the recent advances in transmission and scanning electron microscopy, cryoultramicrotomy, freeze fracturing, autoradiography, and immunoelectron microscopy. In the laboratory, students learn the use of both the transmission and scanning electron microscopes and ultramicrotomy, including the use of the critical point drying apparatus and sputterer-coaters. Additionally, students carry out two out-of-class mini-research projects and present oral and written reports at intervals over the semester.

Lecture/laboratory/discussion. [W]

Prerequisite: Biology 101-102, and permission of instructor

Offered: Fall or spring semester

Staff

BIOL 304 Tissue Culture and Virology

An introduction to the theories, principles, and evaluations of the latest techniques employed in tissue culture and virology. Laboratory work stresses experimental procedures and designs used in the culturing, handling, and study of animal cells. Additionally, students carry out one or more independent research projects.

Prerequisite: Biology 101-102, and permission of instructor.

Offered: Interim Session

Staff

BIOL 308 Comparative Animal Physiology

In this seminar animal species are treated as variables in the study of the diversity of adaptations to physiological problems

presented by the environment (e.g., salt and water balance, temperature regulation, circulation, respiration). After an initial series of lectures, students present papers from the scientific literature and lead ensuing discussions. In addition, several laboratory exercises and films demonstrate basic physiological processes in invertebrates. Practicum. [S]
Prerequisite: Biology 251 or permission of instructor
Offered: Fall semester
Holliday

BIOL 310 Aging and Age-Related Disease
In this course, we will study aging as a developmental process defined by changes in the anatomy, physiology, and biochemistry of the brain as well as age-associated changes in behavior. We will also examine the biological basis of neurological disorders, such as Alzheimer's disease, associated with the brain's aging process. The basis of our learning will be the formation of questions, discussions and review of the current literature, and field experiences with aging populations.
Prerequisite: Biol 256, Biol 212, Biol 241, Biol 261 or permission of instructor
Offered: Interim Session
Reynolds

BIOL 312 Cell Biology
This course covers structure, function and chemistry of cells, organelles, and membranes. Specific topics include cellular energetics, information flow in cells, cytoskeletal structure and functions, signal transduction mechanisms and cellular aspects of the immune response, and cancer. Students read selected topics of current importance in cell biology and present oral and written reports.
Lecture/seminar/discussion/ computer simulation. [S]
Prerequisite: Biology 101-102, and permission of instructor
Offered: Fall or spring semester
Kurt

BIOL 314 Anatomy of Vision
An exploration of the conceptual approaches and modern experimental techniques used in functional morphology. Through a combination of anatomy, physiology, and biomechanics, students explore the functional basis of locomotion and feeding in vertebrate animals.
Lecture/seminar/laboratory. [S]

Prerequisite: Biology 211 or Biology 213 or Biology 251 or permission of instructor
Offered: Spring semester
Dearworth

BIOL 332 Limnology
Students develop advanced knowledge of freshwater ecosystems and ecological analysis. Laboratory and lecture are tightly integrated. Students develop a small-scale experimental model of a freshwater ecosystem, plus do individualized field-based investigations. Both oral and written presentation of findings are required. Examples of some topics include temporal change in biotic communities, nutrient cycling and biota, and predator impacts on ecosystem dynamics. Strong emphasis on ecological design/ analysis, identifying experimental variation, and self-directed learning. Lecture/seminar/ laboratory. [S]
Prerequisite: Biology 231. Knowledge of statistics is highly recommended
Offered: Fall or spring semester
Waters

BIOL 336 Evolutionary Genetics
This course introduces students to topics in population genetics and molecular evolution, with particular emphasis on the experimental quantitation of genetic variation, molecular systematics, and the molecular evolution of genes. The main focus is to give students direct experience in the critical reading, evaluation, presentation, and discussion of primary literature in the field of evolutionary genetics.
Prerequisite: Biology 241, 261, or 235
Offered: Fall or spring semester
Leibel

BIOL 340 Molecular Medicine
This course covers the methods used to elucidate the molecular component of human disease. Readings and discussion focus on the primary literature of diseases inherited as defects in single genes, those most amenable to gene therapy. Disease management, therapeutic protocols, federal oversight of gene-based therapy, and personal genetic medicine are discussed. DNA microarray analysis of whole genome expression and techniques to manipulate genes are covered in a practicum.
Lecture/practicum/discussion/seminar. [S]
Prerequisite: Biology 241 or 261, or permission of instructor
Offered: Fall or spring semester
Caslake

BIOL 345 Infectious Disease

Extended exposure to immunology (following Biology 245) covering various aspects of human pathogens and how the immune system handles them. Vaccines either in use, in trials, or under development are explored for each of the pathogens. Students read primary research articles and participate in discussions. Practicum provides hands-on opportunity to explore aspects of vaccine development.

Lecture/practicum/discussion/seminar. [S]

Prerequisite: Biology 245

Offered: Fall or spring semester

Kurt

BIOL 351-380 Special Topics

Dependent upon student and staff interests, one or more specialized areas of biology are examined each year.

Prerequisite: Biology 101-102, and other courses as specified by instructor

Offered: Fall and spring semesters

Staff

BIOL 390 Botanical Measurements

Employing techniques commonly used with botanical materials, this course surveys the algae, lichens, and bryophytes in the areas of anatomy, morphology, physiology, and ecology. Laboratory includes field collections, specimen identification, practice in aseptic techniques, physiological measurements, and assessment of morphogenic changes. Limited to 12 students.

Prerequisite: Biology 101-102 and permission of instructor.

Staff

BIOL 401-404 Independent Research

A limited number of juniors and seniors may conduct an in-depth investigation of a particular topic in biology under the supervision of a faculty mentor. Hours by arrangement.

Prerequisite: Permission of faculty mentor and department head

Offered: Fall and spring semesters

Staff

BIOL 495, 496 Thesis

Majors with strong academic records and research potential are invited to become candidates for departmental honors toward the end of the first semester of their junior year. The courses consist of an original laboratory investigation and culminate in a thesis submitted at the end of the senior year and defended before the department staff

and guests they may invite. Hours by arrangement. [one W credit only upon completion of both 495 and 496]

Prerequisite: Permission of faculty mentor and department head

Offered: Fall and spring semesters

Staff

CHEMISTRY

Faculty

Professor Miles, Head; Professor Husic; Associate Professors Gindt, Haug, Nataro, Nutaitis; Assistant Professors Huang, Mylon, Rutherford; General Chemistry Laboratory Coordinator Salter; Instrumentation Specialist Chejlava.

Majors learn to interpret the physical world through the study of the properties, composition, and structure of matter.

The Bachelor of Science is the most structured and is preferred by graduate schools and employers who seek maximum professional capability at the undergraduate level. The Bachelor of Arts requires fewer chemistry courses and more study in other fields; it is chosen by students who plan health service careers or others who desire a broader educational experience.

Requirements for the A.B. degree

Mathematics 161/162 or 161/176; Physics 111/112 or 131/133; Chemistry 121, 122, 212 or 213, 221, 222, 231 plus either 311 and three other advanced Chemistry courses (not to include Chemistry 323 or 325), or Chemistry 323/324 (or 325/326) with two other advanced Chemistry electives (not to include Chemistry 311). Chemistry 323 or 325 plus three advanced courses not including either 324 or 326 is not an option. In addition, College-wide requirements for the A.B. degree must be satisfied. Advanced Chemistry electives are 300- or 400-level courses, only two of which may be Biochemistry courses.

Requirements for an American Chemical Society certified B.S. degree

Chemistry 121, 122, 213, 221, 222, 231, 325, 326, 332, 351, 391 or 495, 431, and two advanced (300- or 400-level, excluding independent study or thesis) Chemistry electives (including a minimum of 500 hours of chemistry laboratory); Physics 131/133 or 151/152; Math 161, 162, 263,

and 272 ; and other College-wide requirements for the B.S. degree.

Requirements for the Minor

The minor in chemistry consists of six courses: Chemistry 121, 122, 221, 222, 311 (or 323, 324), and an additional course selected from 212, 231, or 351.

For information on the A.B. and B.S. majors in Biochemistry, go back to the main catalog page and select "biochemistry."

Chemistry Courses

CHEM 102 A Chemical Perspective

Designed for non-science students. After a coverage of basic principles, a case study approach is used to examine societal problems caused, influenced, or solved by chemistry. Background information and rationale are discussed as well as the chemistry in-volved. Specific topics will vary from year to year depending on the interests of students and staff. The laboratory emphasizes the scientific approach with experiments using consumer products. Lecture/laboratory. Students who have credit for Chemistry 121 or 122 may not take 102 for credit. Students who have credit for 102 may not take 121 for credit. Offered: Fall and spring semester
Staff

CHEM 121, 122 General Chemistry I/II
Students will understand the basic principles of reaction stoichiometry, atomic structure, chemical bonding, chemical thermodynamics and kinetics. They will develop strategies and skills for solving quantitative and qualitative problems. The laboratory work illustrates fundamental principles emphasizing proper laboratory techniques.

Prerequisite: Chemistry 121 for Chemistry 122
Offered: 121/Fall, 122/Spring
Staff

CHEM 212 Inorganic Chemistry I

Introduces the theories of atomic structure and bonding in main-group and solid-state compounds. Common techniques for characterizing inorganic compounds such as NMR, IR and Mass Spectrometry are discussed. Descriptive chemistry of main group elements is examined. Conductivity, and magnetism, superconductivity and an introduction to bio-inorganic chemistry are additional topics in the course. In lieu of the

laboratory students have a project on a topic of their choice. Serves as an advanced chemistry elective for Biochemistry majors.

Prerequisite: Chemistry 122
Nataro

CHEM 213 Inorganic Chemistry I with Laboratory

Same as Chemistry 212 plus one three-hour laboratory per week, which includes experience in the synthesis, purification, and characterization (infrared and electronic spectroscopy, magnetic susceptibility, NMR, cyclic voltammetry, and x-ray powder diffraction) and properties of inorganic compounds.

Prerequisite: Chemistry 122
Offered: Spring semester
Nataro

CHEM 221, 222 Organic Chemistry I and II

General aspects of organic chemistry including nomenclature, structure, reactions, synthesis, and spectroscopy are surveyed. This course is intended to prepare students for a career in chemistry or biochemistry, as well as the medical and engineering professions. Lecture/laboratory.

Prerequisite: Chemistry 122 or 213 for Chemistry 221; Chemistry 221 for Chemistry 222
Offered: 221/Fall, 222/Spring
Miles, Nutaitis, Rutherford

CHEM 231 Analytical Chemistry I

A thorough study of the fundamental techniques and theoretical background of classical volumetric and gravimetric analysis together with some instrumental analytical methods such as colorimetry, potentiometry, and separation techniques. Lecture/laboratory.

Prerequisite: Chemistry 122 or 213
Offered: Fall semester
Huang

CHEM 252 Environmental Chemistry

This course discusses the chemical principles underlying natural processes and the ways in which human activity affects those processes. Sources, sinks, and interactions of important environmental compounds are investigated.

Prerequisite: Chemistry 122
Offered: Fall semester
Mylon

CHEM 311 Elementary Physical Chemistry

A one-semester course designed primarily for A.B. majors and premedical students. A

study of gas properties, thermodynamics, elementary quantum mechanics, kinetics, and lasers.

Prerequisite: Chemistry 122 or 213;
Physics 112; Mathematics 125, 162, or 172
Offered: Fall or spring semester
Mylon

CHEM 323 Physical Chemistry I without Lab

A study of classical thermodynamics, equilibria, ideal and real gases, and solutions.

Prerequisite: Physics 112, 122, or 131;
Mathematics 162; Chemistry 122
Offered: Fall semester
Gindt

CHEM 324 Physical Chemistry II without Lab

This course covers quantum mechanics, spectroscopy, and kinetics.

Prerequisite: Physics 112, 122, or 131;
Mathematics 162; Chemistry 122
Offered: Spring semester
Haug

CHEM 325 Physical Chemistry I with Lab

A study of classical thermodynamics, equilibria, ideal and real gases, and solutions. The laboratory focuses on the thermodynamics of phase changes, solution formation, and chemical reactions. Lecture/laboratory.

Prerequisite: Physics 112, 122, or 131;
Mathematics 162; Chemistry 122
Offered: Fall semester
Gindt

CHEM 326 Physical Chemistry II with Lab

This course covers quantum mechanics, spectroscopy, and kinetics. The laboratory utilizes techniques in IR and UV-VIS absorption and fluorescence spectroscopy, to investigate concepts in quantum mechanics, spectroscopy, and kinetics. Lecture/laboratory.

Prerequisite: Physics 112, 122, or 131;
Mathematics 162; Chemistry 122
Offered: Spring semester
Haug

CHEM 332 Analytical Chemistry II

A study of advanced optical, electroanalytical, chromatographic, and other instrumental methods of analysis. Lecture/laboratory. [W]

Prerequisite: Chemistry 221, 231, and 311 or 325, 326
Offered: Spring semester

Huang

CHEM 342 Advanced Organic Chemistry

This course builds upon the basic concepts and reactions of organic chemistry. Topics to be included are the effect of structure on chemical reactivity, molecular orbital theory as applied to organic molecules, heterocyclic chemistry, natural products chemistry, and the application of computers to organic chemistry. Lecture.

Prerequisite: Chemistry 222
Nutaits

CHEM 351 Biochemistry Survey

This course provides an understanding of structure, function, and metabolism of biological molecules including proteins, carbohydrates, lipids, and nucleic acids. Other topics include enzyme catalysis, bioenergetics, metabolic control mechanisms, and information transfer at the molecular level.

Prerequisite: Chemistry 222
Offered: Fall semester
Husic

CHEM 352 Experimental Biochemistry

This course provides laboratory experience and a theoretical analysis of modern preparative, analytical, and physical techniques utilized for the study of proteins, nucleic acids, polysaccharides, membranes, and organelles. Lecture/laboratory.

Prerequisite: Chemistry 351
Husic

CHEM 391-392 Independent Research

An independent chemistry research project carried out under the guidance of a faculty member. These courses meet the research requirement of the B.S. Chemistry or Biochemistry major, and do not count as advanced chemistry electives.

Offered: 391/Fall, 392/Spring
Staff

CHEM 393-394 Independent Study

Can either be a continuation of Chemistry 391/392 or independent study of one or more advanced topics in chemistry carried out under the guidance of a faculty member. These courses do not meet the research requirement of the B.S. Chemistry or Biochemistry major, and do not count as advanced chemistry electives.

Offered: 393/fall, 394/spring
Staff

CHEM 431 Inorganic Chemistry II

This course uses molecular orbital theory to explain the electronic structure and reactivity of inorganic complexes. Topics include symmetry and its applications to bonding and spectroscopy, electronic spectroscopy of transition-metal complexes, mechanisms of substitution and redox processes, organometallic and multinuclear NMR. [W]

Prerequisite: Chemistry 213, 311, or 324, 325 or 326. Mathematics 162

Offered: Fall semester

Nataro

CHEM 440 Structure Determination by**Physical Methods**

Use of infrared, ultraviolet, nuclear magnetic resonance, mass spectrometry, and computational methods in the determination of the structures of organic molecules.

These methods also have application to the problems of inorganic chemistry.

Lecture/laboratory.

Prerequisite: Chemistry 311, or 323, 324 or 325, 326

Rutherford

CHEM 452 Topics in Advanced**Biochemistry**

This course covers a variety of topics with emphasis on the molecular basis of human disease, new areas of biochemical research, and advances in biotechnology. Topics may include immunobiochemistry, molecular mechanisms of cellular signal transduction, advanced topics in metabolism, chemical carcinogenesis, and the physical basis of biochemical methodology.

Prerequisite: Chemistry 351

Offered: Spring semester

Husic

CHEM 462 Advanced Physical Chemistry

A study of one or more selected topics of current interest in physical chemistry.

Dependent upon staff, topics may include advanced spectroscopy, computational chemistry, materials chemistry, or statistical thermodynamics.

Prerequisite: The topics and prerequisites (Chemistry 323 or 324 depending on topics, or permission of instructor) for a given semester will be announced before registration

Gindt

CHEM 470-480 Special Topics

Dependent upon staff and student interest, one or more special topics in chemistry are examined.

Staff

CHEM 495, 496 Thesis

A student may register for this course after meeting with department staff and finding a faculty member who agrees to act as his or her research adviser. Discussion of research areas with the faculty and preliminary work involving literature searching and planning should be completed before the beginning of the senior year. Research in some areas requires certain prerequisite courses.

Offered: 495/Fall, 496/Spring

Staff

COMPUTER SCIENCE

Faculty

Associate Professor Liew, Head; Associate Professor Collins; Assistant Professors Pfaffmann, Xia, Instructor Li

Computer science is the study of algorithms and their implementations. This field of study is quite recent—almost all of the computer scientists who ever lived are still alive. Its growth has been explosive, especially in subfields such as networks, artificial intelligence, and e-commerce.

The main emphasis of the curriculum is software engineering: a systematic approach to the development of medium-to-large programs. One aspect of this approach is the separation of principles from technology. Students learn underlying concepts in lecture sections and learn technical details—such as programming languages and operating systems—in laboratory sections. Students have opportunities for team projects as well as independent study and research.

Lafayette's fiber-optic networked campus provides computing resources to support course work, research, and personal projects. Many students gain additional experience by working part-time for the Computing Services department.

Requirements for the Bachelor of Science degree

Requirements for the Bachelor of Science degree are 32 courses, distributed as follows: Computer Science 102, 103, 202,

203, 205, 301, 303, 406, 470 or 496, and three additional 300 or 400-level courses; Mathematics 161, 162, 182, 186 (or 335 & 336), 263, 282; Philosophy 150; a Values and Science/ Technology seminar from a list of courses approved by the department that cover the social and ethical implications of computing; First-Year Seminar; College Writing; Physics 131 & 132, 131 & 133, or 151 & 152 and one other laboratory course in the natural sciences for science/engineering majors; four additional Humanities/Social Science courses (at least one of each); three free electives. At least two of the 32 courses must be enhanced writing courses.

Requirements for the Bachelor of Arts degree

Requirements for the Bachelor of Arts degree are 32 courses, which must include the following: Computer Science 102, 103, 202, 203, 205; three additional computer science courses at the 300 or 400 level; Mathematics 161, 182, 186; Philosophy 150; a coherent, pre-approved (by the department) cluster of five or six courses outside of computer science (this requirement is waived for double majors); the Common Course of Study.

Requirements for the Minor
Computer Science 102, 103, and four courses at the 200 level or above.

Computer Science Courses

CS 100 Introduction to Computing

The computer is the most versatile tool ever invented. In this course, students learn how to work with computers and how computers affect lives. Lecture/laboratory. (This course does NOT satisfy any requirement of the Common Course of Study.)

Staff

CS 102 Principles of Computer Science I

A rigorous introduction to object-oriented design and implementation.

Lecture/laboratory. This course requires considerable analytical ability; it is not a course in computer literacy or basic computer skills.

Staff

CS 103 Principles of Computer Science II

Continuation, from Computer Science 102, of an object-oriented approach to the design and implementation of software systems.

Lecture/laboratory.

Prerequisite: Computer Science 102

Collins

CS 202 Analysis of Algorithms

The design and analysis of algorithms and their complexity. This course studies techniques for measuring algorithm complexity, fundamental algorithms and data structures, intractable problems, and algorithm-design techniques.

Prerequisite: Computer Science 103 and Mathematics 182

Xia

CS 203 Computer Organization

A study of digital logic, computer components, internal and external memory, instruction sets, interrupts, micro- and macroprogramming. Lecture/laboratory.

Prerequisite: Computer Science 103

Pfaffmann

CS 205 Software Engineering

The analysis, design, implementation, and maintenance strategies appropriate for large software projects. Lecture/laboratory. Permission of department head required.

Prerequisite: Computer Science 103

Li

CS 301 Principles of Programming

Languages

An introduction to the theory of the design and implementation of contemporary programming languages. Topics include the study of programming language syntax and semantics, translators, and imperative, functional, logic and object-oriented language paradigms. Lecture/laboratory.

Prerequisite: Computer Science 202, 203

Xia

CS 303 Theory of Computation

An introduction to the theoretical foundations of computer science and formal models of computation. Topics will include formal languages, finite automata, computability, and undecidability.

Prerequisite: Computer Science 202 and Philosophy 150

Xia

CS 305 Computer Networks

The implementation and use of computer networks. Topics include the ISO reference model, communication protocols, local-area and wide-area networks, and satellite communications. Lecture/laboratory.

Prerequisite: Computer Science 203 or Electrical and Computer Engineering 313

Corequisite: Computer Science 205

Li

CS 320 Database Management Systems

This course examines the organization, design, and implementation of database management systems. Lecture/laboratory.

Prerequisite: Computer Science 205

Corequisite: Computer Science 202

Staff

CS 390-394 Independent Study and

Research

Independent study projects for juniors and seniors. Hours arranged. Permission of department head required.

Staff

CS 401 Computer Graphics

The creation and use of graphical information and user interfaces.

Lecture/laboratory.

Prerequisite: Computer Science 202, 205;

Mathematics 162

Liew

CS 406 Operating Systems

An in-depth study of operating systems, covering such topics as concurrent processes, memory management, input/output and file systems, and resource allocation. Lecture/laboratory.

Prerequisite: Computer Science 203 or

Electrical and Computer Engineering 313

Corequisite: Computer Science 205

Li

CS 410-415 Special Topics

This course considers recent advances and/or subjects of current interest in computer science.

Prerequisite: Prerequisites vary according to the topic.

Staff

CS 420 Artificial Intelligence

An introduction to the study of intelligence as computation. Topics include problem-solving techniques, heuristic searches and knowledge representation.

Lecture/laboratory.

Prerequisite: Computer Science 202, 205

Pfaffmann

CS 470 Senior Project

In this course, students work in teams on the analysis, design, and implementation of a large-scale software project.

Prerequisite: Senior standing and either Computer Science 320 or 305

Staff

CS 495, 496 Senior Thesis

A two-semester, independent research project on a topic selected by the student and approved by the department. A student must undertake such a program for two semesters to graduate with honors. [W]

Staff

ECONOMICS AND BUSINESS

Faculty

Professor Averett, Head; Professors Ahene, Bodenhorn, Bruggink, Bukics, Chambers, Crain, Gamber, Heavey, Seifried; Associate Professors DeVault, Hutchinson; Assistant Professors Handy, Kelly, Ruebeck, Smith, Stifel

The foundation of the department's program is economics, that branch of social science that studies how societies allocate scarce resources among competing ends. The core courses include mathematics and statistics, economic theory, and financial accounting. Within these courses students have the opportunity to learn spreadsheet and econometric software.

Upper-division electives allow students to further their study of business and government, domestic and foreign economies, and current issues. The course offerings are well suited to concentrations in political economy, finance, applied economics, and international economics. Special opportunities include participating in research with faculty members, internships, and the Lafayette Student Investment Research Fund.

Requirements for the Major

Economics and Business 101, 211, 212, 213, 218 and a minimum of five department electives excluding internships; Mathematics 141 and 186 or Mathematics 161, the Mathematics Department multivariate calculus module, and 186.

Requirements for the Minor

Six courses within the department, with prerequisites enforced.

Requirements for the Certificate in

Financial Policy and Analysis
 Nine courses including Economics 101, 211, 218, and 320; Mathematics 141 or 161, an approved statistics course; one Category A elective (CS 102, CM 151, EP 261, 450,

Math 272, PSTD 300) and two Category B electives (Econ 303, 319, 321, 323, 324, 326, 342, Math 373).

The following Economics and Business courses may not be used to satisfy the requirements for the Mathematics/Natural Sciences unit or the Humanities/Social Sciences unit of the Common Course of Study: Economics and Business 213, 218, 319, 303, 320, 321, 322, 324, 352, 365, 367.

For information on the joint major in Mathematics and Economics, refer to the Mathematics and Economics major.

For information on the coordinate major in International Economics and Commerce, refer to the International Economics and Commerce major.

Additional departmental course offerings appear under Interim Session.

Economics and Business Courses

ECON 101 Principles of Economics

An introduction to economics stressing the fundamental and central concepts in economics and discussing methods and topics that engage economists. Topics include supply and demand analysis, determination of prices, output and profits, distribution of income, determination of real GDP, and fiscal and monetary policy.

Offered every semester.

Staff

ECON 210 Foundations in International Economics

This course provides nonmajors with an intermediate level microeconomic and macroeconomic foundation for the study of international economics. It addresses trade-related issues, such as why trade exists and who gains and loses from trade.

International financial concepts, such as exchange rates and the balance of payments, are also examined. The course is open to nonmajors only and is designed specifically for International Affairs majors.

International Affairs majors should take this course in the fall of sophomore year.

Students who receive credit for 210 may not receive credit for 211 or 212. Similarly, students who receive credit for 211 or 212 may not receive credit for 210.

Prerequisite: Econ 101. Offered every year DeVault

ECON 211 Intermediate Microeconomics

A study of how individuals and organizations deal with the problem of scarcity, the role of prices in coordinating economic activity, criteria for determining desirable allocation of resources, the mix of private and public institutions, and the economic basis of public policies.

Prerequisite: Econ 101 and Mathematics 161

Offered: Every semester

Staff

ECON 212 Intermediate Macroeconomics

An examination of aggregate economic activity focusing on the forces that determine the behavior of real GDP, interest rates, and the price level. Economic growth, fluctuations, unemployment, and inflation are analyzed along with alternative policies for dealing with them.

Prerequisite: Econ 101 and Mathematics 161

Offered: Every semester

Staff

ECON 213 Fundamentals of Econometrics

This course focuses on building multiple regression models useful for testing economic theories and making business forecasts. Topics include simple and multiple regression, dummy variables, multicollinearity, heteroscedasticity, serial correlation, and binary dependent variable models. The coursework includes extensive use of statistical software packages and large data sets.

Prerequisite: Econ 211; Mathematics 176 or 186

Offered: Every semester

Averett, Bruggink, Heavey

ECON 218 Financial Accounting

An introduction to the basic concepts and standards underlying the measurement and reporting of the financial effects of economic events on the business entity.

Emphasis is on the theory of asset valuation and income determination and its implications for the communication function of accounting. Students are required to attend a weekly one-hour lab in which they learn spreadsheet techniques and applications to financial accounting.

Offered: Every semester

Staff

ECON 300 Industry, Strategy, and Policy

This course serially examines the major sectors of the global economy using the

tools of economic theory. For each sector, students analyze current market conditions and trends, financial performance, critical challenges, and relevant public policies.

Prerequisite: ECON 211
Staff

ECON 303 Income Tax Topics

This course introduces students to the concepts and intricacies of federal income tax policies. Students learn to recognize the major transactions inherent in business and financial transactions.

Prerequisite: Prerequisite: Econ 319
Staff

ECON 313 Forecasting for Business and Economics

This course teaches the basic techniques used by business, academic, and government economists to forecast a wide variety of economic variables. The emphasis is on statistical technique. Students learn how to decompose time series data into their key components: seasonal, cyclical, trend, and white noise. Autoregressive and moving average techniques as well as econometric modeling are used to model and forecast economic and business data. [W]

Prerequisite: Econ 213 or Econ 365.
Gamber

ECON 319 Financial Theory and Analysis

This course takes the principles of accounting and applies them to the world of finance. The emphasis is on the theory that underlies corporate accountability for financial reporting. Selected reporting and disclosure issues, such as financial statement presentations, earnings per share (EPS), debt, equity, and investments of excess funds for strategic financial management, as well as cash flow analysis, are incorporated. Excel spreadsheets are used extensively.

Prerequisite: Econ 218
Offered: Offered every semester.
Bukics

ECON 320 Corporate Finance

Analysis and practical application of corporate financial data as it relates to managerial decision making. Particular emphasis is placed on the corporate investment and financing decision, risk management, and the dividend decision.

Prerequisite: Prerequisites: Econ 211, 213 (may be taken concurrently), 319.
Offered: Every semester
Chambers, Kelly

ECON 321 Investments

An examination of the portfolio theory and security analysis involved with both fixed income and equity securities. Topics include analysis, pricing, and risk management.

Prerequisite: Prerequisite: Econ 320.
Chambers

ECON 322 Financial Markets

This course is an introduction to Flow of Funds analysis and interest rate determination in the money and capital markets, the structure of interest rates, efficient market hypothesis, and major financial institutions in the United States.

Prerequisite: Prerequisites: Econ 211, 212, or permission of instructor
Staff

ECON 323 Money, Financial Intermediation, and the Economy

A theoretical analysis of the role of money in determining the level of economic activity. Topics covered include the determination of interest rates and inflation, the institutional structure of financial intermediaries and the Federal Reserve, and the history of monetary policy in the United States. [W]

Prerequisite: Prerequisites: Econ 211, 212, or permission of instructor
Gamber

ECON 324 Options and Futures

This course examines the practices and principal theories of major options and futures markets. Special emphasis is placed on the role of derivative securities in facilitating risk management.

Prerequisite: Prerequisite: Econ 321.
Chambers, Kelly

ECON 325 Women and the Economy

This course surveys a wide range of economic issues relating to women's lives with special emphasis on family, work, and income. Public policy applications are stressed. [W]

Prerequisite: ECON 101
Staff

ECON 326 Entrepreneurial Finance and Management

This course is designed for students with an interest in the critical examination of small businesses from inception to growth phase and ultimately to the mature business model. The course focuses on key elements of new business ventures with particular emphasis on differences that exist in the

financing and cash-flow management techniques critical to the survival of entrepreneurial ventures. [W]

Prerequisite: Econ 319

Bukics

ECON 330 Urban Economics and Public Policy

An introduction to the economic analysis of urban areas. Theories of urban growth and of intra-metropolitan land use are explored. Topics include trends in the location of economic activity within urban areas, the urbanization of poverty, and problems of urban government.

Prerequisite: Prerequisites: Econ 211, 212, or permission of instructor

Ahene

ECON 331 Industrial Organization

This course integrates microeconomic theory with economic application techniques in an investigation of various market structures, strategic firm interaction, antitrust issues, and economic regulation. Beginning with the standard Structure-Conduct-Performance paradigm and proceeding through some of the most recently developed theories in noncooperative games, the course content exposes students to an array of methods that facilitate the analysis of market structures, antitrust, and regulatory issues.

Prerequisite: Econ 211 or permission of instructor

Ruebeck

ECON 332 Economics of Labor

A general course in labor economics with a focus on the theoretical and actual operation of the labor market. The course includes consideration of problems, policies, and theories concerned with the labor force, wages, unemployment, productivity, human capital, worker health and safety, poverty, the economic effect of unions, and alternatives to orthodox theories. [W]

Prerequisite: Econ 211, 212, 213, or permission of instructor

Averett

ECON 333 Managerial Economics

This course covers the practical application of microeconomic theory to business problems. Examples of these problems include: price and output decisions and cost and demand functions in various markets under risk and uncertainty. Case studies are used to exemplify specific problems.

Prerequisite: Econ 211, 213

Staff

ECON 334 Economic Growth

This course explores the causes of long-term growth. It begins by asking why some countries are rich and others are poor, then investigates the roles of population growth and capital accumulation in the growth process in the context of the neoclassical growth model. Finally, the course investigates the roles of technology and social infrastructure in the growth process in the context of new growth theory. The course concludes with an investigation of the impact of long-term growth on the environment.

Prerequisite: Econ 211, 212

Gamber

ECON 335 Environmental Economics

This course is designed to give students a better understanding of how the environment and the economy interact and how public policy can be used to shape this interaction. The course begins by sketching out the flows of natural resources associated with economic activity and how the environmental effects produced by these flows are valued. The course then proceeds to show how market economies affect the environment. Particular emphasis is placed on the environmental damage generated by market economies and how public policy can best be used to address this damage.

Prerequisite: Econ 211

DeVault

ECON 338 Economics of Sports

The application of theoretical economics to the sports industry. Professional and collegiate sports offer opportunities for both theoretical and empirical research due to the amount of data that is available. Topics include market structure and antitrust, managerial decisions for inputs and outputs, pay and performance in labor markets. Students chose a topic area for presentation and write a paper on a contemporary sports issue.

Prerequisite: Econ 211, 213; 365; or permission of instructor

Buggink

ECON 341 Public Sector Economics

A study of the public sector of the economy that includes the theories of public revenues and expenditures, the tax structure of American governments including analysis of the rationale and consequences of major taxes, and major expenditure programs.

Fiscal problems of state and local governments and intergovernmental fiscal relations are also examined.
Prerequisite: Econ 211, 212, or permission of instructor
 Staff

ECON 342 Public Finance
 This course is a study of the role of government in the economy: when should government intervene, how does it intervene, and what is the effect of interventions on economic outcomes? These issues are examined using the tools of economic theory and statistics, with emphasis on applications and analysis of policies in the U.S. and other countries.
Prerequisite: Econ 211, 213.
Offered: Every semester
 Crain

ECON 343 Economic History of the United States
 A study of the growth and development of the American economy from the Jamestown colony to the Cold War. The course introduces students to the fundamental debates concerning the importance of various historical episodes and institutions that forged the modern American economy. Underlying the historical analysis is the explicit use of economic models and theories. Wherever possible analogies between historical experience and contemporary issues are drawn providing useful and often unique insights.
Prerequisite: Econ 211, 212
 Bodenhorn

ECON 345 Political Economy
 Political economy examines issues that lie on the boundary of political science and economics. At one level, the course uses the tools of modern economics to examine behavior in political settings: why people vote, make campaign contributions, run for political office, favor specific legislative programs, and so forth. At another level, the course seeks a rich understanding of economic policymaking by considering the role of political institutions and non-market incentives.
Prerequisite: Econ 211, 213.
Offered: Every semester
 Crain

ECON 346 Economic Development
 An introductory survey of the economic structures and behavior of developing countries and how these factors influence

their approach to the challenges of reducing poverty, improving health and education, and increasing their productive capacity and national and per capita income. The course examines the applicability of conventional economic logic and analytical tools to developing economies. Competing paradigms of development and the implications of different sets of behavioral assumptions are explored.
Prerequisite: Econ 210 or 211-212, or permission of instructor
 Ahene, Beckman

ECON 347 Comparative Systems and Transitional Economies
 An examination of the elements of capitalism, socialism, markets and planning and of their applications worldwide. Special emphasis is given 1) to economies currently moving from socialist planned forms of economic organization to market capitalism, found primarily in Eastern Europe, Russia, and in former republics of the Soviet Union, and 2) to developing nations currently privatizing many state-owned enterprises and strengthening their reliance on market forces.
Prerequisite: Econ 101 and 210, or 211-212, or permission of instructor
 Beckman

ECON 349 A Business History of the United States
 Employing an economic approach, this course explores a number of topics relevant to an understanding of the American experience. It is a course about economic growth and development. Students study a number of institutions and developments believed to be critical to the United States ascendancy from a marginal country on the periphery of the Atlantic economy to the dominant economy in an increasingly globalized world. The course begins with a discussion of what makes a firm a firm, why they exist, and their special advantages, then explores the nature of entrepreneurship. What makes entrepreneurs tick? What makes them successful? Is it a unique vision? Is it a capacity to organize resources and motivate people? Next, students study several specific businesses. How did they develop successful managerial structures that became self-perpetuating? Finally, the course turns to modern business and its response to the competitive and regulatory environment.
Prerequisite: Econ 211, 212
 Bodenhorn

ECON 351 International Finance

This course provides students with an understanding of the international monetary system. The course examines the foreign exchange market and the role that governments play in this market. A review of previous and current exchange rate systems and an analysis of international capital markets is provided.

Prerequisite: Econ 210 or 211-212, or permission of instructor, and junior/senior standing
DeVault

ECON 352 International Business

This course examines the mechanics of doing business abroad and thoroughly explores the challenges that management faces today within an international environment. The greater the number of countries in which a corporation operates, the more "multinational" it is. More specifically, students are introduced to the field of global strategic management and are provided with a good understanding of the fundamental importance of cultural, economic, political, and environmental factors in the growth of global business and investment.

Prerequisite: Econ 210, or 211-212, 218
Ahene

ECON 353 International Trade Policy

This course examines the ways in which international trade in goods and services is regulated through trade policy. This course has several objectives: 1) to provide students with an understanding of how and why international trade is regulated, 2) to demonstrate to students how particular trade policies affect international trade and international economic welfare, and 3) to expose students to the economic and political forces that shape international trade policy.

Prerequisite: Econ 210 or 211-212, or permission of instructor
DeVault

ECON 354 Contemporary African Economics

Analysis of the contemporary economic environment in Africa: political sociocultural identity and economic structure, trends in public and private capital flows, African regional and international economic institutions, trade development and relations with world markets, investment concessions and risk, with case illustrations from African countries.

Prerequisite: Econ 210 or 211-212,, or permission of instructor
Ahene

ECON 355 Economics in Latin America

This course examines economic thought and trends pertaining to Latin America from structuralism to neoliberalism. It explores how state ownership, private ownership, markets, and planning have been combined in attempts to achieve desired goals.

Selected issues of economic importance in the region are addressed, including regional trade efforts such as NAFTA and native peoples' struggles over land rights. Country studies based on student research are used throughout. [W]

Prerequisite: Econ 210, or permission of instructor; Econ 346 recommended
Beckman

ECON 356 Economic History of Russia in the Twentieth Century

A study of the economy of Russia from the beginning of the twentieth century: the economy on the eve of World War I, the Russian Revolution, Lenin's NEP, the Stalinization of the Russian economy, the period of stagnation under Brezhnev, the reforms under Gorbachev and Yeltsin, and current problems.

Prerequisite: Econ 210 or 211
Heavey

ECON 358 An Economic History of African Americans: Middle Passage to Great Society

Employing an economic approach, this course explores the African American experience from their introduction as indentured servants in 1619-20 Jamestown to later importation as slaves. The course begins with the arrival of the first Africans to the Virginia colony, then traces the economics of the transition from servitude to slavery, from tobacco slave culture centered in the Chesapeake region to cotton culture in the Deep South, from slavery to freedom, and the slow transition to even a semblance of racial equality. Topics include economic consequences of the broken promise of "40 acres and a mule," segregation and Jim Crow, the Great Depression and the apparent abandonment of African Americans by the New Deal, policy changes wrought by the Civil Rights Movement, and affirmative action.

Prerequisite: Econ 211, 212
Bodenhorn

ECON 359 European Business Environment

This course examines the functional elements of business in Europe. Issues include the economic environment and economic policies, the methods of business formation, how firms raise capital, how cultural characteristics affect the marketplace, the legal and tax environment and the labor markets. Consideration of the structure of the European Union and its impact on business are also discussed, particularly in light of the new member countries expecting to join in 2004.

Prerequisite: Econ 211, 212 (or 210) and 218
Bukics

ECON 360 Marketing Science

What products do firms decide to introduce? How do they price and promote existing products? Drawing from knowledge in the areas of microeconomic theory and strategic marketing, students use analytical modeling, case study, and computer simulation methods to explore techniques as well as ethics and economic efficiency of product promotion, pricing, and differentiation in today's diverse and evolving markets.[W]
Prerequisite: Econ 211 or permission of instructor
Ruebeck

ECON 361 Marketing Research

Although the pervasive assumption in microeconomics is that firms know their markets demand functions, understanding how firms actually acquire this information requires studying the well-established techniques embodied in the field of marketing research. Consumer demand features studied include preferences among existing products, new product development, competitive analysis, and customer satisfaction. Research design, data collection methods, sampling issues, and data analysis using basic and advanced statistical techniques are covered. Students apply econometrics to the task of understanding consumers' needs.
Prerequisite: Economics 211 and Economics 213
Staff

ECON 365 Econometric Analysis

Econometric analysis is a blend of mathematics, statistics, and economic theory. It focuses on the development of multiple regression models useful for testing economic relationships and making business forecasts. The multiple regression model

and problems encountered in its application are developed in lecture and individual applied research papers. Topics include serial correlation, heteroscedasticity, simultaneous equations, limited dependent variable models. Special attention is given to the matrix algebra determination of estimators.

Prerequisite: Mathematics 272 or 275, 336, 176, 186 or 336; Econ 211, 212 (one of the preceding can be taken concurrently)
Averett, Bruggink

ECON 366 Macroeconometrics

The twin objectives of this course are to 1) introduce students to macroeconomic theory and techniques and 2) provide students with practice applying those techniques. The topics covered in the course are: Solow Growth, Okun's Law, the Phillips curve and monetary policy. Techniques covered include time series decomposition, vector autoregressions and cointegration. The course involves frequent use of econometric software to provide students with experience in applying the techniques discussed in class.
Prerequisite: Econ 365 (may be taken concurrently), Math 272
Gamber

ECON 367 Internship

A one-semester course that emphasizes the practical application of economics and business management principles. A limited number of students are placed in either community business organizations or governmental agencies. Under the direction and supervision of a designated internship sponsor, the student completes a training program and a practical work project. Internships do not count toward the elective courses required in the major. Permission of instructor required.
Averett

ECON 370-375 Special Topics

A seminar study of major economic issues facing the United States and world economies. Topics to be announced in advance of each semester.
Prerequisite: As stated for each special topics course
Staff

ECON 390, 391 Independent Study

An investigation and report on a subject selected by the student. Open by permission of the department. Hours to be arranged.
Staff

ECON 400 Advanced Monetary Policy

A small group of selected students work together with faculty mentors in competition with teams from other colleges and universities. Each team develops a presentation involving U.S. monetary policy and delivers this presentation to judges from the U.S. Federal Reserve System. Interested students are encouraged to take Econ 323-Money, Financial Intermediation, and the Economy.

Prerequisite: Economics and Business 212, Committee Recommendation
Staff

ECON 495, 496 Thesis

For honors candidates. One course each semester, only Econ 496 counts toward the required electives in the major; Econ 495 does not. 496 [W]
Staff

EDUCATION**Faculty**

Instructors Squarcia and Tiernan

Students interested in pursuing a teaching career upon graduation should contact the Education Program Adviser at the earliest opportunity. Although Lafayette does not offer teaching certification, several possibilities exist for receiving secondary teaching certification. Students who have completed the core education requirements at Lafayette may enroll in DeSales University's ninth-semester program for teaching certification at an additional cost established by DeSales.

Lafayette students may also receive advanced standing toward a graduate degree and certification at University of Pennsylvania and other universities. Students wishing to pursue teaching certification need to plan their academic program in cooperation with the Education Program Adviser.

Education Courses**EDUC 150 Principles of Education**

The course examines the historical, sociological, and philosophical foundations of education. Topics include learning, curriculum, current educational issues, and the relationship of education to society. Emphasis is on current literature, primary source materials, interviews, and classroom

observations. The class requires a high degree of participation and preparation, and a minimum of 10 hours of observation in a public school.

Squarcia

EDUC 250 Curriculum and Instruction

This course, designed for students interested in the field of secondary education, focuses on curriculum design and construction, and the conceptual and practical knowledge of teaching methods. The use of technology for instruction and accommodations for students with special needs are addressed. The course includes a field experience with 24 hours of observation and opportunities for practice teaching at a local high school.

Prerequisite: Education 150 or permission of instructor

Offered: Interim Session
Squarcia

EDUC 350 Curriculum and Instruction II

This course emphasizes the teaching of mathematics, science, English, social studies, and foreign languages. In addition to reinforcement of the research-based essential elements of instruction, it includes an extensive field experience requiring students to observe and engage in micro-teaching at a local secondary school. Designed for those seeking secondary teacher certification.

Squarcia

PSYC 242 Educational Psychology

This course introduces students to the theory and research underlying instructional practice. Topics include cognitive and behavioral approaches to learning, components of effective teaching, classroom motivation, measurement and testing issues, and consideration of individual differences.

Prerequisite: Psychology 110 or permission of instructor
Ms. McGillicuddy-DeLisi

ENGINEERING**Faculty**

Professor Jones, Director

The Division of Engineering offers four Bachelor of Science degrees in Chemical, Civil, Electrical and Computer, and Mechanical Engineering, as well as a Bachelor of Arts in Engineering, and a dual degree: Bachelor of Arts in International Affairs/B.S. Engineering.

Candidates for a Bachelor of Science in one of the engineering disciplines may elect a minor program in addition to their major. The minor requirements are the same as the College requirements.

Engineering Science Courses

Courses designated as Engineering Science are basic courses for all engineering programs. (101, 225, 226, 230, 231, 241).

Engineering Courses

ES 101 Introduction to Engineering

This is an introductory engineering course that is designed to give the student a wide exposure to the engineering method and the different engineering disciplines at Lafayette College. The course emphasizes engineering skills such as problem-solving, design methodology, creativity, and communication including the fundamentals of Engineering Graphics and Computer-Aided-Design. Students participate both independently and as members of multi-disciplinary teams to solve problems
Staff

ES 225 Engineering Professionalism and Ethics

An introduction to engineering decisions using moral theories and engineering codes of ethics. A case-study approach is used to demonstrate the relationship between engineering decisions and a range of considerations: economic, professional, environmental, sustainability, ethical, health and safety, social, and political. The course also develops student technical writing skills as a tool for engineering communication.

Prerequisite: Sophomore standing
Offered: Fall and spring semesters
Staff

ES 226 Statics

Introduction to the analytical methods of engineering and engineering computation through the analysis of equilibrium force systems. The fundamental principles of mechanics are explored through extensive problem-solving exercises. Topics include vector algebra, resultants of force systems; free body analysis, friction; first and second moments of area, shear and bending diagrams.

Prerequisite: Mathematics 162/166;
Physics 131

Offered: Fall semester

Staff

ES 230 Strength of Materials

Stress and strain relationships in tension, compression, shear, and combined loading. Material properties. Theory and design of pressure vessels, beams and columns. Analysis of torsion, bending and transverse loading. Deflections. Lecture.

Prerequisite: ES 226

Corequisite: Mathematics 264

Offered: Spring semester

Staff

ES 231 Nature of Engineering Materials

Nature and properties of metals, ceramics, polymers, and other materials in engineering applications. Interpretation of the mechanical, physical, and chemical properties from the viewpoint of scientific disciplines. Offered as an elective for physics and chemistry majors.

Lecture/recitation/laboratory.

Prerequisite: Chemistry 121 or permission of instructor; Mathematics 161.

Offered: Fall and spring semesters

Staff

ES 241 Basic Electrical Circuits for Engineers

This course develops a basic understanding of DC and AC circuits and their analysis, simple analog and digital systems, basic electronics and electromechanical devices. This course may serve to better prepare non-ECE majors for the electrical engineering component of the Fundamentals of Engineering exam.

Prerequisite: PHYS 131, MATH 162.

Gum

A.B. IN INTERNATIONAL STUDIES/B.S. ENGINEERING

Faculty

Professor Van Gulick (Mechanical Engineering), Chair; Professor Jones (Director of Engineering), Professor McDonald (Foreign Languages and Literature), Professor Duhl, (Foreign Languages and Literature), Professor Ferri (Chemical Engineering), Professor Veshosky (Civil Engineering)

Globalization of engineering and technology is increasing the number of attractive job opportunities in foreign countries for

engineers with proficiency in a second language and an understanding of foreign cultures. This two-degree program helps students prepare for these careers with international corporations.

Students earn a Bachelor of Science degree in chemical, civil, electrical, or mechanical engineering and a Bachelor of Arts in International Studies. Besides studying a chosen language, students take international politics, international history, and other humanities or social science courses related to the countries or regions where the language is spoken. The capstone experience, either a foreign practicum or study abroad, involves total immersion in a non-English-speaking culture.

A.B. in International Studies Courses

ENGR 401, 402 International Studies Practicum

I, II. A professional experience involving total immersion in a non-English-speaking foreign culture. Students practice engineering at an appropriate foreign location. Students document their accomplishments so that they can be evaluated and graded. At least part of the documentation may be required to be in the foreign language spoken. [W]
Prerequisite: Advanced standing in International Studies
Van Gulick

CHEMICAL AND BIOMOLECULAR ENGINEERING

Faculty

Professor Piergiovanni, Head; Professors J. R. Martin, Schaffer, Tavakoli; Associate Professors Ferri; Assistant Professors Darcy, Morton.

Chemical engineers discover and implement new processes and products that are useful and economical. The chemical engineering profession has evolved in concert with the technological landmarks of the last century: from petroleum refining at the beginning of the last century, to the biotechnology and biomedical developments, innovations in digital communications and microelectronics, and nanotechnology.

Lafayette chemical engineers are well suited to take on these challenges. Our curriculum

emphasizes general proficiency in science and mathematics the first two years, followed by professionally oriented work the next two. Students may enroll in technical electives to learn more about a variety of areas. Students who do well may take on an independent research project, and seniors may complete a thesis.

The main laboratories are equipped for work on bench-scale and pilot scale equipment in the areas of fluid flow, heat transfer, mass transfer, separation processes and chemical reactor design. The department is accredited by the Engineering Accreditation Committee of the Accreditation Board for Engineering and Technology. Graduates are eligible to become members of the American Institute of Chemical Engineers.

The goals of the program are to graduate students who:

- Are able to tackle unfamiliar problems and demonstrate an ability to understand, formulate, analyze, design and provide solutions in the field of chemical engineering
- Demonstrate professional responsibility, addressing economic, sustainability, and environmental considerations in the solution of engineering problems in both local and global settings
- Work well in multi-disciplinary teams and appreciate the value of multiple perspectives in engineering problem solving
- Explain and defend their solutions and communicate effectively using graphic, verbal and written techniques to all audiences
- Value mentoring, life-long learning and developing the talents of others and by accomplishing these objectives become effective leaders in engineering.

Requirements

Majors must complete Mathematics 161, 162, 263, 264; four courses chosen from an approved humanities and social science list plus English 110 and a First-Year Seminar; two free electives and two technical electives, one from departmental electives and another 300-level or higher course in engineering, mathematics, or natural sciences; Chemistry 121, 122, 221, 324 plus two chemistry electives one of which may be a non-chemistry course with heavy chemistry content; Physics 131; Engineering Science 101, 225, and an elective (Engineering Science 226: Statics or Engineering Science 241: Basic Electric Circuit Analysis); and Chemical

Engineering 211, 222, 311, 312, 314, 321, 322, 323, 324, 411, 412, 413, 415, and 422.

Chemical Engineering Courses

CHE 211 Material and Energy Balances
 Mathematical analysis of steady-state flow processes including those with chemical reactions. Emphasis on general principles and techniques used in problem solving. Material and enthalpy balances as applied to physical and chemical systems. Heats of reaction. Recycle and purging. Digital and graphical procedures. Lecture/recitation.
Prerequisite: Chemistry 121, 122
Offered: Fall semester
Staff

CHE 222 Thermodynamics
 Fundamental thermodynamic relationships and their application to non-reactive chemical engineering systems. Equations of state involving ideal and non-ideal behavior. Estimation and use of thermodynamic properties. Analysis of open systems. Lecture/Problem-solving.
Prerequisite: Chemistry 121, 122; Mathematics 263
Offered: Fall semester
Staff

CHE 311 Transport Phenomena
 Unified treatment of continuum descriptions of momentum, heat, and mass transfer and analogies among the three. Evaluation and use of transport coefficients. Shell balances and equations of change. Molecular (laminar) transport and introduction to convective transport. Lecture/Problem Solving.
Prerequisite: Chemistry 121, 122
Corerequisite: Mathematics 264
Offered: Fall semester
Staff

CHE 312 Experimental Design I
 Statistical analysis of data from laboratory experiments which illustrate the basic principles of thermodynamic and transport properties. Emphasis on laboratory safety, statistical analysis of data, and technical writing. Lecture/laboratory. [W]
Corequisite: CHE 311
Offered: Fall semester
Staff

CHE 314 Chemical Engineering Computing
 Applications of high-level computer languages, spreadsheets, software, and computer operating systems as tools for

engineering problem solving. Lecture/laboratory.
Prerequisite: CHE 211
Offered: Spring semester
Staff

CHE 321 Applied Fluid Mechanics and Heat Transfer
 Analysis of fluid flow in complex geometries and porous media; unsteady heat conduction, convection, and heat exchange. Analysis and design of driving forces. Introduction to integrated fluid flow-heat transfer processes.
Prerequisite: CHE 311
Offered: Spring semester
Staff

CHE 322 Experimental Design II
 Statistical design of laboratory experiments which illustrate the principles of fluid flow and heat transfer culminating in integrated separations processes in pilot-scale equipment. Emphasis on statistical experimental design and analysis of data, instrumental analysis, technical writing, and oral presentations. Lecture/Laboratory.
Corequisite: CHE 321
Offered: Spring semester
Staff

CHE 323 Fluid Phase and Reaction Equilibria
 Application of fundamental thermodynamic relationships to phase and reaction equilibria in chemical and biological systems. Solution thermodynamics; solid, liquid, vapor equilibria for ideal and nonideal systems; prediction of equilibrium data; chemical reaction equilibria for ideal and nonideal systems. Lecture/Problem-solving
Prerequisite: CHE 222
Offered: Spring semester
Staff

CHE 324 Process Control
 Analysis of dynamic process and control systems including controllers, measuring elements, control elements, and system components. Design of controlled systems. Analytical and experimental evaluation of process dynamics. Dynamic simulation and stability analysis. Lecture/problem period.
Prerequisite: Mathematics 264
Offered: Spring semester
Staff

CHE 331 Polymers

Formation, structure, and properties of polymers. Thermoplastic and thermosetting polymers; stereospecific structures; polymer solutions and solvent resistance; chain conformation; molecular weight; morphology; transitions; condensation polymerization; free radical and nonradical addition polymerization; copolymerization; rubber elasticity; viscous flow; viscoelasticity. Lecture/laboratory.

Prerequisite: ES 231, or permission of instructor

Martin

CHE 334 Chemical Processes in**Environmental Engineering**

Principal chemical processes in environmental engineering for wastewater treatment, air pollution control, and solid waste management. Chemical, physical, and mathematical principles used in defining, quantifying, and measuring environmental quality. Engineering fundamentals governing the operation and design of pollution control devices. Lecture/Problem Solving.

Prerequisite: Permission of instructor
Tavakoli

CHE 337 Biochemical Engineering

Introduction to prokaryotic and eukaryotic cells, cell metabolism, and genetic engineering. Mathematical modeling of enzyme kinetics and its importance in reactor design. Large- scale fermentation, such as bioreactor design and scale-up, cellular and membrane transport processes, growth media development, sterilization procedures, and protein purification. Lecture/recitation/ laboratory.

Prerequisite: CHE 311; Chemistry 221, or permission of instructor
Piergiovanni

CHE 341 Green Engineering

An introduction to the concept of environmentally conscious process development and the application of green engineering principles to the chemical process industry. Students are challenged to rethink the classical chemical process in order to satisfy regulatory and policy issues, balance process economics and environmental performance, and develop a refined sense of sustainability with respect to the wider chemical industry.

Prerequisite: Chemistry 121 and Chemistry 122 or permission of instructor
Staff

CHE 344 Interfacial Phenomena in Nanotechnology

Chemistry, physics, and engineering of nanoscopic systems dominated by interfacial behavior. Equilibrium interfacial thermodynamics, capillary interactions, and surface forces in disperse systems. Electrical double layer and electrokinetic phenomena. Emerging applications including bionanotechnology and smart materials illustrated using seminars in current literature and laboratory experiences.

Lecture/Seminar/Laboratory
Prerequisite: Mathematics 161; Chemistry 121; or permission of instructor
Staff

CHE 390/391 Independent Study and Research

An opportunity for selected students to undertake a project during the junior and/or senior year. Before registering, a proposal for the work must be submitted to a faculty member who serves as the adviser and to the department head for approval. Each student is required to submit and orally defend a paper embodying the results of the project.
Staff

CHE 411 Mass Transfer, Separations, and Bioseparations

Unit operations of chemical engineering pertaining to mass transfer and separations processes. Staged and continuous equilibrium separations including multi-component distillation, gas absorption/stripping and liquid extraction. Rate-based separations such as chromatography and membrane systems. Lecture/Problem Solving.

Prerequisite: CHE 321 and 323
Offered: Fall semester
Staff

CHE 412 Integrated Chemical Engineering

Principles of separation processes, mass transfer, reaction kinetics in developed and emerging applications illustrated by multi-scale laboratory experiments. Emphasis on analysis of safe practices, hazards analysis, kinetic data, computer simulation, technical writing, and oral presentation.

Lecture/Laboratory.
Corequisite: CHE 411, 413
Offered: Fall semester
Staff

CHE 413 Reaction Kinetics and Reactor Design

The kinetics of reacting systems and the design of chemical reactors. Analysis of rate data; multistep reaction mechanisms, enzymatic reactions, catalysis and heterogeneous processes; design of single phase isothermal reactors, multiple-phase reactors, non-isothermal reactors, and nonideal reactors. Lecture/recitation.
 Prerequisite: CHE 323
 Offered: Fall semester
 Staff

CHE 415 Design Analysis

Quantitative study of current processes. Analysis and flowsheet layout of typical systems; safety, health, environmental, quality control, and ethical concerns in design; economic factors in estimation, design, construction, and operation of process equipment. Lecture/recitation.
 Prerequisite: CHE 324
 Corequisite: CHE 411 and 413
 Offered: Fall semester
 Staff

CHE 422 Design Synthesis

This capstone design course provides opportunities for the application of all prior course work in the resolution of an industrially realistic or derived chemical process design problem in a team format. Teams demonstrate a practical ability to define the required technical challenge, develop relevant criteria to evaluate alternatives, and present the resolution of the technical challenge in both oral and written formats.[W]
 Prerequisite: CHE 411, 413, and 415
 Offered: Spring semester
 Staff

CHE 495, 496 Thesis

This program is designed and operated in accordance with the requirements of the Honors program as administered by the Academic Progress- Committee.
 Prerequisite: Senior standing
 This is a Technical Elective.
 Staff

CIVIL AND ENVIRONMENTAL ENGINEERING

Faculty

Professor Roth, Head; Associate Professors Brandes (Acting Head), Jones, Ruggles, Veshosky; Assistant Professors Kney, Kurtz, Raich, Sanford-Bernhardt.

Civil engineers, like all engineers, are problem-solvers. They find the best ways to construct, operate, and maintain bridges, buildings, dams, and highways. They design water plants and waste treatment systems, and look for ways to manage hazardous materials.

The curriculum prepares students for a variety of situations by emphasizing fundamental principles of engineering, an appreciation of the effect of human factors on technology, logical thinking, resourcefulness, and ethical considerations in applying science to human problems. In addition to a thorough grounding in science and technology, students select more than one-fifth of their courses in the liberal arts and humanities.

Students may choose to focus on structural, environmental, geotechnical, transportation, construction or hydraulic engineering. Facilities include laboratories for structural systems, materials, fluid mechanics, geotechnical engineering, geographical information systems, and environmental engineering. Design concepts and analytical techniques are integrated into the curriculum, which includes extensive use of state-of-the-art computer systems.

Juniors and seniors may undertake independent studies and research projects in conjunction with faculty. Seniors may also do honors theses.

Requirements

Majors are required to take Mathematics 161, 162, 263, and 264; Physics 131; Chemistry 121; Engineering Science 101, 226, and 230; either Chemistry 122 or Engineering Science 231; Civil and Environmental Engineering 201, 251, 271, 311, 321, 331, 341, 351, 361, 372, 473 and three departmental electives; two science or mathematics electives; two technical electives (upper-level mathematics, science, or engineering courses, usually requiring one or more prerequisites); a First Year

Seminar and English 110; a sustainability related VAST course or any VAST course and another approved course with sustainability outcomes; five courses chosen from an approved list of humanities and social science courses (including one course chosen from an approved list in the fields of economics and/or policy); and two free electives.

Civil and Environmental Engineering Courses

CE 201 Civil Engineering Computing

This course provides students with an introduction to computer programming as a tool for engineering problem solving and to techniques in computer-aided design (CAD) for civil engineering systems.

Prerequisite: MATH 162, CE 271

Corequisite: CE 271

Staff

CE 251 Fluid Mechanics

Basic principles of fluid mechanics. Topics include fluid properties, hydrostatics, and fluid flow concepts including continuity, energy, and momentum. Dimensional analysis is also covered. Applications include open channel flow, pipe systems, and fluid flow measurements.

Lecture/laboratory.

Prerequisite: ES 226

Offered: Spring semester

Staff

CE 271 Design I

An introductory course in engineering design and measurement. Topics include fundamentals of surveying, statistical analysis, project management, and technical writing all of which are applied throughout the course in a series of design projects.

Laboratory work includes surveying field work, CAD, project management, and CAD-based civil engineering applications.

Lecture/laboratory.

Prerequisite: Mathematics 161, 162; and ES 101.

Offered: Fall semester

Staff

CE 311 Structural Analysis and Steel Design

This course covers both classic determinate structural analysis and the design of steel structures. Topics include loads, load paths, tributary areas, degree of determinacy, stability, approximate methods of

indeterminate structural analysis, trusses, cables, arches, influence lines, deflections of trusses and frames by various methods, the principal of virtual work, introduction to force methods of indeterminate structural analysis, structural optimization, steel tension members, bolted and welded connections, steel columns, beams, and beam-columns.

Prerequisite: ES 230

Offered: Fall semester

Kurtz

CE 321 Introduction to Environmental Engineering

Application of engineering principles to a variety of environmental problems. Topics include environmental chemistry, hydrology, watersheds, water quality assessment, risk assessment, water supply and pollution control, air pollution, solid and hazardous waste management, and environmental management. Laboratories consist of field trips, computer modeling, sample collection, and chemical analysis methods. Students complete a semester project on an environmental engineering issue of their choosing.

Prerequisite: Mathematics 162; Chemistry 122 or ES 231, or permission of instructor

Offered: Fall semester

Staff

CE 325 Sustainable Environmental Management

Sustainable environmental management is currently one of the essential elements in product design and facilities management. At the facility level, environmental management means everything from manifesting hazardous waste, to redesigning a product, to installing air pollution control equipment. Key considerations include economics, long-term liability, and public perception, both in the USA and globally.

The emphasis in this course is on management, policy, and technological solutions that can promote sustainability with a focus on manufacturing facilities.[W]

Prerequisite: Sophomore standing

Staff

CE 331 Civil Engineering Project Management

This course addresses management of civil engineering projects, including planning and feasibility studies, environmental assessments, resource development, design, construction, and other types of projects in

which civil engineers are involved. Topics include definition and scheduling of project tasks and resource management. The course also provides an overview of the concepts and analytical techniques of engineering economics, including present and annual worth analysis, capitalized cost analysis, rate of return analysis, cost/benefit analysis, and sensitivity analysis. The course introduces students to software packages used in project management and economic analysis. Lecture.

Prerequisite: ES 225

Offered: Fall semester

Staff

CE 341 Introduction to Transportation Systems

Technical and policy related aspects of transportation systems. Topics include traffic analysis and control, traffic flow theory, geometric design, capacity analysis and level of service, transportation demand analysis, and transportation planning. Computer applications. Design projects include oral presentations and written reports. Lecture/discussion.

Prerequisite: Mathematics 264 and junior or senior standing in engineering

Offered: Fall semester

Staff

CE 351 Water Resources Engineering

An introductory course in hydraulics, hydrology, and water resources engineering. Topics include groundwater and surface water supply, flow measurements, flow and pressure losses in pipe systems, probability concepts in design, open channel design including storm sewers and culverts, pump design, and detention basin design. Written laboratory and design reports are required.

Prerequisite: CE 251

Offered: Spring semester in alternate years

Staff

CE 361 Geotechnical Engineering

An introductory course in soil mechanics and geotechnical engineering. Studies include the classification, permeability, consolidation, and strength of soils in lecture and laboratory settings. Written reports for laboratory and design results are required. Discussion of traditional design methods in foundation engineering is included. Lecture/laboratory. [W]

Prerequisite: ES 230 and CE 251

(corequisite) or permission of instructor

Corequisite: CE 251

Offered: Fall semester

Staff

CE 372 Design II

Students work in teams to complete four projects in four areas of civil and environmental engineering. The projects are designed to provide design experience in each area. At the end of each project, each team presents their design results. Students develop skills in project design, project management, engineering report preparation and presentation, leadership, and are given an opportunity to utilize many of the skills learned in previous courses within the CE disciplines. Lecture/laboratory.

Prerequisite: Civil Engineering 311, Civil Engineering 321, Civil Engineering 331, Civil Engineering 341, Civil Engineering 361, or permission of instructor.

Corequisite: Civil Engineering 351

Offered: Spring semester

Staff

CE 390, 391 Independent Study or Research

Independent study or research projects selected based on the background and interests of the student. An outline of the proposed work is submitted for approval by the department head and the faculty member who serves as adviser. A final paper presenting the results of the work is required. Hours arranged.

Offered: 390/Fall, 391/Spring

Staff

CE 395, 396 Special Topics

This course considers recent advances and/or subjects of current interest to students and faculty. The special topic(s) for a given semester are announced prior to registration.

Offered: 395/Fall, 396/Spring

Staff

CE 411 Advanced Mechanics of Solids

This course considers advanced topics in engineering mechanics. Included are: orthotropic elasticity, bending of nonprismatic members, torsion of thin-walled members, and energy methods. Introduction to nonlinear mechanics including elasto-plastic analysis and bending of flat plates. Introduction to finite element methods.

Symbolic programming is used as well as finite element programs

Prerequisite: CE 311

Offered: As needed

Staff

CE 412 Advanced Structural Analysis

Analysis of forces and deflections in indeterminate beams, frames, and trusses. Topics include energy methods, slope-deflection, moment distribution, direct stiffness, and the matrix analysis method. Computer applications. Lecture.

Prerequisite: CE 311

Offered: As needed

Staff

CE 413 Design of Concrete Structures

This course focuses on the mechanics and design of components of reinforced concrete structures and builds upon the knowledge gained in CE 311. Extensive use of the ACI 318 design code is made. Topics include concrete and reinforcement properties, slender beams, deep beams, T-beams, shear, torsion, columns, one- and two-way slabs, walls, footings, and reinforcement splicing and development lengths. Introduction to prestressed concrete structures.

Prerequisite: CE 311

Staff

CE 414 Structural Dynamics

This course considers the analysis and design of structures subjected to time-dependent loads. Included is the formulation of dynamic models for single and multiple degree of freedom systems. Deterministic and stochastic responses to shock and environmental loadings (earthquakes, winds, and waves) are developed. Emphasis is given to design applications using existing codes and commercially available structural software.

Prerequisite: CE 311

Offered: As needed

Staff

CE 415 Timber, Masonry, and Advanced Steel Design

This course covers the design of timber structures, masonry structures, and advanced topics in structural steel design. Timber topics include the physical properties of wood, allowable design stresses, diaphragms, shearwalls, beam design, P-M interaction, and fasteners. Masonry topics include pilasters, walls, and lintels. Steel design topics include connections, plate girders, composite construction, plate girder bridges, and the analysis and design of highway bridges.

Prerequisite: CE 311

Kurtz

CE 421 Hydrology

Introduction to engineering hydrology, primarily dealing with surface waters. Topics include hydrologic cycle, frequency analysis, rainfall/runoff relationships, routing, and stormwater management and design. Design problems using current hydrological computer models are assigned. Lecture.

Prerequisite: CE 251

Offered: Fall semester in alternate years

Staff

CE 422 Environmental Site Assessment

Introduction to preliminary site investigations for environmental hazards. Topics include identification of wetlands, title searches, air photo interpretation for environmental hazards, visual site surveys, operation of environment monitors, current EPA regulations regarding site assessment and investigation, and sampling of surface materials. Lecture/discussion/laboratory.

Prerequisite: Chemistry 122, and permission of instructor

Staff

CE 423 Water Quality

Basic chemical principles and applications to the analysis and understanding of aqueous environmental chemistry in natural waters and wastewaters. Modeling of dissolved oxygen, nutrients, temperature, and toxic substances with applications to rivers, lakes, estuaries, and coastal waters. Lecture/laboratory.

Prerequisite: Chemistry 121; CE 221, 251

Offered: Spring semester, alternate years

Staff

CE 424 Groundwater Hydrology

Analysis of groundwater flow and contaminant transport in the subsurface. Topics covered include geologic and physical factors affecting the movement of water and contaminants, sources of pollution, mathematical formulation and solution of groundwater flow and transport problems, remediation methods, and an introduction to computer simulation models. Lecture.

Prerequisite: CE 251; Mathematics 264, or permission of instructor

Offered: Spring semester in alternate years

Staff

CE 425 Water Supply and Pollution Control

Application of basic principles to the design of water and wastewater systems. Process design and equipment selection for water

and wastewater treatment facilities.

Lecture/discussion.

Prerequisite: CE 221, 251

Offered: Fall semester in alternate years

Staff

CE 431 Construction Management

This course addresses the concepts and techniques used in effectively managing construction projects. Topics include work breakdown systems, critical path scheduling, cost estimating, budgeting, monitoring and reporting progress, change orders, quality management, labor relations, and relevant legal and regulatory issues. Students develop capabilities with software packages used in cost estimating, scheduling and budgeting, reporting, and document management.

Prerequisite: CE 331

Offered: Spring semester in alternate years

Staff

CE 442 Urban Transportation Planning

Study of the transportation planning, design, and impact estimation process, including population changes affecting demand and mobility needs, transportation demand and supply analysis, service policy variables, and estimation of air pollution and energy use impacts. Computer applications. Student projects include impact studies of new facilities and system analysis to meet specific transportation requirements.

Lecture/discussion.

Prerequisite: CE 341, or permission of the instructor

Offered: Fall semester in alternate years

Staff

CE 444 Civil Infrastructure Systems

Management

This course presents an integrated approach to the management of civil infrastructure systems. Students examine the many aspects of performance and different management approaches in the context of available tools, new technologies, institutional issues, and resource constraints.

Prerequisite: ES 225 or permission of instructor.

Sanford Bernhardt

CE 451 Open Channel Hydraulics

Application of fluid mechanics principles to flow in open channels. Uniform, gradually varied, rapidly varied, and unsteady flow conditions are analyzed and applied to a variety of practical problems. Both

laboratory and computer models are employed. Lecture/ discussion.

Prerequisite: CE 251

Offered: Fall semester in alternate years

Staff

CE 461 Foundation Engineering

This course focuses on the application of the basic principles of soil mechanics to the design of foundations for structures. Shallow footings, mat foundations, and deep foundations will be studied. Includes use of design software for foundations. Soil improvement methods are introduced. Oral presentations and written design reports are required. Lecture.

Prerequisite: CE 361

Offered: Spring semester in alternate years

Staff

CE 462 Retaining Walls, Slopes, and Earthen Dams

This course applies the basic principles of soil mechanics to the analysis and design of structures built primarily from soil or to retain soil. Use of traditional construction methods as well as geotextiles and soil improvement methods are considered. Includes significant use of computers for analysis. Oral presentations and written design reports are required. Lecture.

Prerequisite: CE 361

Offered: Spring semester in alternate years

Staff

CE 464 Environmental Geophysics

Introduction to the geophysical techniques used to study large- and small-scale features and processes of the Earth. Emphasis is placed on the fundamental principles of gravity, magnetism, seismology, heat transfer, and electrical methods as they apply to environmental problems. Lectures, laboratory, and field exercises.

Staff

CE 471 Advanced Civil Engineering Analysis

A study of the analytical and design methods used in solving certain civil engineering problems. Lecture/discussion.

Prerequisite: Senior standing in Civil Engineering or permission of instructor

Offered: As needed

Staff

CE 473 Design III

Students work in teams to develop the design of a comprehensive and realistic project that involves several interrelated

civil engineering disciplines. At the end of the project, they submit a detailed set of design drawings and related documents, as well as present the results orally. Participants develop skills in project design, project management, engineering report preparation and presentation, leadership, and are also given an opportunity to utilize many of the skills learned in previous courses within the CE disciplines.

Lecture/discussion.

Prerequisite: Senior standing

Offered: Spring semester

Staff

CE 481 Advanced Surveying

The application of current surveying methods in the civil engineering field. Topics include Global Positioning Systems (GPS), Geographical Information Systems (GIS), and advanced topics in surveying such as remote sensing, the fundamentals of photogrammetry, and methods of precise measurements. Lecture/ laboratory.

Prerequisite: CE 271

Offered: Fall semester in alternate years

Staff

CE 495, 496 Thesis

This program is designed in accordance with the honors program of the College. Enrollment is limited to seniors.

Offered: 495/Fall, 496/Spring

Staff

ELECTRICAL AND COMPUTER ENGINEERING

Faculty

Professor Jouny, Head; Professors Greco, Hornfeck; Associate Professors Jemison, Nestor; Assistant Professors Wey, Yu; Director of ECE labs Nadovich.

Electrical and computer engineers, like all engineers, are problem-solvers. They plan and direct the design and development of electrical, electronic, electromechanical, and computing equipment. In addition, they apply computers as design tools, control systems, communications systems, and research resources. Careers in electrical and computer engineering are widely varied and include electronics design, communications, computing, manufacturing, wireless systems, electric power generation and distribution, consulting, and research.

The curriculum builds on the fundamentals in the physical and engineering sciences as well as mathematics and computer science. More than 20 percent of the program may include social sciences and humanities courses. Well-planned, hands-on engineering design experiences are woven into the curriculum. Facilities include computer systems, control systems, microelectronics, photonics, microwaves, VLSI and signal processing laboratories. Juniors and seniors are encouraged to undertake independent study and research projects.

The program prepares students to achieve the following career and professional accomplishments also known as Educational Objectives:

EO1-To have the ability to continually educate themselves

EO2-To adapt to changing job assignments/challenges

EO3-To function in a team and provide leadership

EO4-To apply their engineering education to solving a broad range of problems

EO5-To demonstrate involvement in professional/public/community service

EO6-To excel in their chosen area of professional activity

EO7-To have mature and effective communication skills

EO8-To have an appreciation of business enterprise, technology management, and social and legal issues.

Requirements

An introduction to engineering course, Engineering Science 101; a Values and Science/Technology (VAST) course, Engineering Science 225; 14 required courses in electrical and computer engineering and computer science in the areas of computer hardware: ECE 211, 212, 313; circuits and electronics, ECE 221, 322, 323; signals and systems, ECE 331, 332, 433; and applied physics, ECE 341, 445; computer software: Computer Science 102, 103, 205; three elective courses in electrical and computer engineering chosen from ECE 390-399, 414, 415, 417, 425, 426, 427, 434, 435, 436, 437, 438, 442, 444, 446, 450, and 451; or two electives from this list and one approved computer science elective; a two-course senior design laboratory sequence, ECE 491, 492; six courses chosen from an approved list of humanities and social sciences, including English 110 and a First-

Year Seminar; majors also take Mathematics 161, 162, 182, 263, and 264; Physics 131 and 132 (or Physics 151 and 152); Chemistry 121 and either Chemistry 122 or Engineering Science 231; two free electives.

Departmental Electives—ECE 390-392, 393-399, 414, 415, 417, 424, 425, 426, 427, 434, 435, 436, 437, 442, 444, 446, 450, 451, 495-496.

Electrical and Computer Engineering Courses

ECE 211 Digital Circuits I

This course introduces the analysis and design of digital circuits. Topics include: combinational circuit analysis and design, number representations and codes, addition circuits, analysis and design of synchronous circuits, programmable logic array, programmable array logic and field-programmable gate array (FPGA). The course includes a design project using an FPGA. Lecture/discussion/laboratory.[W]

Prerequisite: ES 101

Corequisite: ES 101

Offered: Fall semester

Greco, Hornfeck

ECE 212 Digital Circuits II

This course covers the design of digital systems using a microcontroller, and field programmable gate array. Topics include: register transfers; special-purpose computer architecture; microcontroller architecture, instructions, and interfacing; assembly language programming; C programming. Lecture/discussion/ laboratory.

Prerequisite: ECE 211

Offered: Spring semester

Greco

ECE 221 Basic Electric Circuit Analysis

Introduces students to concepts, ideas, and techniques that are fundamental to the analysis of linear electrical circuit models. Circuit analysis techniques are derived from Kirchhoff's Laws and topics covered include DC circuits, AC circuits, RC/RL circuits, operational amplifier circuits, and AC power calculations. Laboratory exercises reinforce theories presented in lectures. Lecture/laboratory.

Prerequisite: Mathematics 162

Offered: Spring semester

Hornfeck

ECE 313 Computer Organization

The features of a digital computer are examined at various levels. Topics include: CPU architecture and instruction sets (machine level), the microprogramming level, virtual memory (operating system level), the assembly language level.

Lecture/discussion.

Prerequisite: ECE 211

Offered: Spring semester

Greco, Nestor

ECE 322 Introduction to Solid State Devices and Circuits

The course begins with discussion of semiconductor devices to obtain their volt-ampere behavior. First order models for the devices are developed and used to analyze both analog and digital circuits. The use of computer-aided design programs is presented. Required of junior electrical engineering students.

Lecture/discussion/laboratory.

Prerequisite: ECE 221 and

pre/corequisite: Mathematics 264

Corequisite: ECE 331

Offered: Fall semester

Jemison, Wey

ECE 323 Analysis and Design of Solid State Circuits

The course continues to develop the topics introduced in ECE 322 with emphasis placed on more complex circuits used in analog and digital applications. Extensive use is made of simulation programs as an aid in the design process. Required of junior electrical engineering students.

Lecture/discussion/ laboratory.

Prerequisite: ECE 322

Offered: Spring semester

Jemison, Wey

ECE 331 Signals and Systems

Fourier, Laplace, and Z-transforms are developed and applied to the analysis of electrical circuits. Transient and frequency characteristics of transfunctions are discussed. Required of junior electrical engineering students. Lecture/ discussion.

Prerequisite: ECE 221, and

Pre/corequisite: Mathematics 264

Offered: Fall semester

Jouny

ECE 332 Communications Systems

This course is devoted to a study of systems used to transmit information. Continuous (Analog) and Discrete (Digital) Systems, and the principles of frequency division and

time division multiplexing are treated. The effect of noise on the various systems is investigated. Required of junior electrical engineering students. Lecture/discussion.
Prerequisite: ECE 331
Offered: Spring semester
Jouny

ECE 341 Engineering Electromagnetics
Maxwell's Equations in integral and differential forms are introduced to describe the propagation of electromagnetic waves in a variety of media. Necessary vector integration and differentiation techniques are developed. Required of junior electrical and computer engineering majors. Lecture.
Prerequisite: Mathematics 264; Physics 132
Offered: Fall semester
Staff

ECE 390-392 Independent Study or Research
An opportunity for selected students to undertake independent study or research projects during the senior year. Each student is required to submit work or demonstrate a project embodying the results of the study or research. The proposal for this work is submitted to a faculty adviser and is also submitted to the department head for approval. This work may be substituted for certain technical courses normally required.
Hours by arrangement.
Offered: Each semester
Staff

ECE 393-399 Special Topics
These courses consider recent advances and/or subjects of current interest to students and members of the staff. The special topic for a given semester will be announced prior to registration.
Prerequisite: Senior standing in electrical engineering
Staff

ECE 414 Embedded Systems
This course covers the design of a stand-alone digital system using an embedded microcontroller. Both software and hardware are covered. Additional topics include: microcontroller architectures; hardware interfacing; mixed language programming; interrupts; real-time operating system.
Prerequisite: ECE 313
Greco

ECE 415 Computer Arithmetic Circuits
This course introduces algorithms and computing circuits which are applicable to performing addition, subtraction, multiplication, and division. The design trade-offs encountered in the development of an Arithmetic Logic Unit for a digital computer are considered. Both fixed-point and floating-point arithmetic are covered.
Lecture/discussion.
Prerequisite: ECE 212
Offered: Spring semester
Hornfeck

ECE 417 Digital Control Systems
Control systems using digital logic/computers are studied. Analytic techniques employing Z transforms and state variables are developed. Response, performance, stability, and algorithm design are also covered. Lecture/ discussion.
Prerequisite: ECE 212 and ECE 331
Offered: Spring semester
Yu, Jouny

ECE 424 Analog Integrated Circuit Design
This course covers the design of electronic integrated circuits and subsystems for use in optical, wireless, and wired communication systems. Topics include analog-to-digital and digital-to-analog conversion, anti-alias, and reconstruction filter design, clock and data recovery using Phase-Locked Loop (PLL) based systems. An IC design project is an integral part of the course.
Prerequisite: ECE 323, ECE 332
Wey

ECE 425 VLSI Circuit Design
Introduces the design of Very Large Scale Integrated circuits, with emphasis on digital CMOS design. Topics include MOS transistor theory, basic IC processing, static and dynamic CMOS, VLSI system organization, and CAD tools for design and simulation. Students design projects to be fabricated and returned the following semester. Lecture/ discussion/laboratory.
Prerequisite: ECE 322
Offered: Fall semester
Nestor

ECE 426 VLSI System Design
Topics include test and design for testability, gate arrays, hardware description and languages, advanced CAD techniques, gallium arsenide, and BiCMOS. Students design, fabricate, and test projects.
Lecture/laboratory.
Prerequisite: ECE 425

Nestor

ECE 427 Sensors and Electronic Systems
Devices and interface electronics used to sense quantities such as light, temperature, and motion are discussed. A general overview of sensor performance characterization is presented and mathematical modeling techniques are developed, leading to interface electronics topologies and application specific sensor applications.

Prerequisite: ECE 322, ECE 331
Staff

ECE 433 Industrial Electronics and Control Systems

Feedback control systems are studied in both the frequency and time domain. Topics include detailed system modeling, stability and error analysis, design to meet specifications, and discussion of system integration in a manufacturing environment. Lecture/discussion/ laboratory.

Prerequisite: ECE 331
Offered: Fall semester
Yu

ECE 434 Digital Signal Processing

This course covers discrete fourier transforms (DFT and FFT), the sampling theorem and its consequences, Z transforms theory, recursive digital systems, and digital filter design. Lab involves implementation of digital signal processing algorithms in real time using DSP hardware.

Lecture/laboratory.
Prerequisite: ECE 331, 212
Offered: Fall semester
Jouny

ECE 435 Speech and Image Processing

Introduces interactive information systems utilizing sight and sound. Speech processing, recognition, synthesis, and coding, as well as image understanding and compression technologies, are discussed. Acquaints students with speech production, extraction of recognizable phonic features, recognition of speech templates, edge detection, and image understanding.

Lecture.
Prerequisite: ECE 331
Offered: Spring semester
Jouny

ECE 436 Communications Networks

This course introduces computer communications and data networks. The course includes background material in

probability and queuing theory, a description of all seven OSI (Open Systems Interconnections) layers with protocols, applications of data networks, and a brief introduction of ISDN technology. Students will animate and evaluate the performance of hypothetical topologies of communications networks. Lecture. Not open to students having taken Computer Science 403.

Prerequisite: ECE 331
Offered: Spring semester
Jouny

ECE 437 Biomedical System Modeling and Analysis

This course introduces the use of engineering techniques to simulate and analyze biomedical systems and applications in medicine. Major physiologic functions, such as nerve action potentials, skeletal muscle contraction, human vision system, cardiovascular system, respiratory system, endocrine system, kidney, and prosthetic devices, are modeled by electrical circuits or differential equations and simulated using computer software.

Prerequisite: Math 264, Physics 131, ECE 331; or permission of instructor. Not open to students who have taken ME 489.
Yu

ECE 442 Applied Optoelectronics

This course develops a basic understanding of optoelectronic materials, devices, and systems. Topics include light sources and photodetectors, and the propagation of light within various media and optical elements.

Prerequisite: ECE 341
Offered: Fall semester
Staff

ECE 444 Introduction to Fiber Optics

Fundamentals of fiber optic communication and sensor systems are discussed, including a mathematical description of light propagation within dielectric waveguides. Optical fiber fabrication, attenuation, and dispersion mechanisms are considered, and optical sources, detectors, and connectors covered. Advanced topics include specialty fibers, coherent communications, WDM, solitons, optical amplifiers, and fiber optic networks. Lecture.

Prerequisite: ECE 341, 442
Offered: Spring semester
Staff

ECE 445 Physics of Semiconductor Devices

This course presents a quantitative analysis of both bipolar and field effect transistors. The device equations are developed from fundamental physical processes such as carrier densities, transport processes, and generation-recombination mechanisms. Required of senior Electrical and Computer Engineering majors. Lecture.

Prerequisite: ECE 341, 322

Jemison

ECE 446 Microwave Systems

Analysis and design of modern microwave systems such as satellite and cellular communications and radar. Devices, circuits, and subsystems are presented with an emphasis on theory of operation and impact on overall performance. Application of technologies to the current microwave communications industry is covered. Students complete a design project using modern microwave CAD software (Ansoft Serenade or Agilent Advanced Design System and Sonnet) and theory presented in class.

Prerequisite: ECE 341

Jemison

ECE 450 Introduction to Electrical**Machinery**

A study of rotating electrical machinery including synchronous, asynchronous single, and polyphase machines. A basic approach is used in the development of a thorough understanding of the operation of a single component, and of these components as part of a system. The basic principles of energy conversion are considered. Lecture.

Prerequisite: ECE 331

Offered: Fall semester

Yu

ECE 451 Introduction to Electrical Power Systems

This course deals with the elements of the transmission and distribution of electrical power. Starting with transmission lines, the course will develop the general representation of power systems. Load flow studies and the economic operation of power systems are treated. Finally, symmetrical components, transients and system stability are considered.

Lecture/discussion.

Prerequisite: ECE 331

Offered: Spring semester

Jouny

ECE 491 Senior Project

This course uses a data network to introduce students to team project work. Course topics include computer networks from the physical layer to communication protocols. A representative network is designed and realized in the laboratory. Students work in teams; different teams design sub-systems of the network. Lecture/laboratory.

Prerequisite: Senior standing in Electrical and Computer Engineering

Greco, Nestor

ECE 492 Electrical and Computer**Engineering Design Laboratory II**

In this course individual or team design projects are completed. The course includes both laboratory and library work. Initial proposals, progress reports, and final design documents are required. Projects can cover the entire spectrum of activities within electrical engineering. Laboratory. [W]

Prerequisite: ECE 491

Offered: Spring semester

Jemison, Greco

ECE 495, 496 Thesis

This program is designed in accordance with the honors program of the College. Enrollment is limited to seniors. These courses may not be used for electrical and computer engineering or computer science credits.

Staff

ENGINEERING STUDIES

Faculty

Professor Schaffer, (Chemical Engineering) Chair; Professor Jones (Director of the Engineering Division); Associate Professor Veshosky (Civil and Environmental Engineering)

This degree provides a technical yet broad education that spans the physical and social sciences and the humanities; it is a liberal education for a technological age.

Students who choose this major value the analytical skills and technical literacy that the study of engineering provides. They do not intend to practice as design engineers, but want to be able to understand and communicate technical concepts and issues.

The curriculum provides a sound background in mathematics and physical science; basic engineering knowledge and problem-solving skills; concepts and

analytical techniques relevant to specific areas of engineering; sensitivity to societal concerns through courses in history, government, economics, literature, and foreign cultures; and an understanding of human behavior through courses in psychology and sociology.

Engineering Studies Courses

EP 230 Environmental Justice

This interdisciplinary course explores the intersection of social justice and environmental stewardship in an attempt to understand the various dimensions of the environmental justice movement and how it affects modern society. Students will be exposed to humanities, social sciences, and environmental science/engineering aspects relevant to the topic. Cross-listed with AFS 230.

Prerequisite: At least one colleg-level mathematics course and one college-level social science course

Jones

EP 251 Introduction to Engineering and Public Policy

This course introduces students to the governance of science and engineering. Course topics include the overall context for science and engineering policy, the public policy process and institutions involved in that process, and several current science and engineering public policy issues. The course includes a combination of role-playing exercises, debates, field trips, as well as traditional lectures.

Prerequisite: ES 101, or permission of instructor.

Jones

EP 255 Introduction to Geographical Information Systems

This course provides students with an introduction to technologies for collecting, using, and communicating spatial information. This introduction covers the scientific basis for the technologies as well as common applications in sectors as diverse as environmental sciences, urban planning, marketing, public policy, and infrastructure management. The course includes a multidisciplinary array of topics covering cartography (map making), geodesy, data analysis, computer applications, and information literacy. The course includes substantive GIS projects based on real-world applications.

Prerequisite: Sophomore standing

Jones

EP 261 Engineering Economics and Management

This course addresses the concepts and analytical techniques of engineering economics and management. Topics include present and annual worth analysis, rate of return analysis, benefit/cost analysis, capital budgeting, scheduling, optimization, and decision-making under uncertainty.

Prerequisite: ES 225, or permission of instructor

Veshosky

EP 271 Introduction to Architectural Engineering

This course provides an introduction to aspects of engineering and construction that are relevant to the practice of architecture. It addresses the primary systems that must be engineered, fabricated, and installed in a construction project. The course is intended for non-engineering majors.

Staff

EP 325 Sustainable Environmental Management

Sustainable environmental management is currently one of the essential elements in product design and facilities management. At the facility level, environmental management means everything from manifesting hazardous waste to redesigning a product to installing air pollution control equipment. Key considerations include economics, long-term liability, and public perception, both in the USA and globally. Emphasis is on management, policy, and technological solutions that can promote sustainability with a focus on manufacturing facilities.[W]

Prerequisite: Sophomore standing

Jones

EP 352 Energy Technology and the Modern World

This course examines the role of energy and energy technologies in the United States and the world. Energy from fossil fuels, nuclear power, and renewable resources is covered. Topics include world resources and recovery of fossil fuels, energy conversion technologies and impacts, nuclear energy and waste disposal, role of energy in global climate change, and emerging renewable energy technologies. Economic and policy issues are integrated with a technical introduction to the energy field.

Prerequisite: EP 251, or permission of instructor
Staff

EP 370-371 Special Topics

This course sequence addresses subjects of current interest to faculty and students. The special topic for a given semester is announced prior to registration.

Prerequisite: Junior standing.
Staff

EP 390, 391 Independent Study

Individual investigation of a particular topic in engineering and policy under the supervision of a faculty adviser.

Prerequisite: Junior or senior standing and permission of A.B. Engineering Program chair
Staff

EP 450 Engineering Management

This course addresses management concepts and techniques as applied to engineering organizations and operations. Topics include organizational design, human resource management, technology management, financial management, strategic management, project management, and operations management.

Prerequisite: EP 261, or permission of instructor
Veshosky

EP 451 Seminar on Engineering and Society

This seminar focuses on how engineering impacts society as well as how society impacts the practice of engineering. Students apply the knowledge they have gained from both engineering and non-engineering courses to evaluate these impacts. Students play an active role in leading sessions, presenting results, organizing class participation, and discussing project results. This is the capstone seminar for the Bachelor of Arts in Engineering.

Prerequisite: EP 251 and EP 261
Jones

EP 452 Applied Systems Analysis for Engineering Policy and Management

This course provides an introduction to quantitative systems analysis methods used for engineering and economic management and public policy decision making. Applied systems analysis is used to optimize engineering system and policy designs and evaluate decision alternatives. Techniques include constrained optimization, linear

programming, sensitivity analysis, multi-objective optimization, decision analysis, and system dynamics modeling.

Prerequisite: EP 251, or permission of instructor
Staff

EP 462 Management of Technology and Innovation

This course addresses the concepts and analytical techniques used in managing technology and innovation. Topics include management of research and development (R&D) functions, technological forecasting, dynamics of organizational change, cost justification of technological innovations, replacement analysis, diffusion of technology and innovation, and governmental policies related to technology and innovation.[W]

Prerequisite: EP 261, or permission of instructor
Staff

EP 480 Sustainable Solutions: Water and Sanitation Systems in Developing Countries

Sustainable solutions developed for a complex, real-world project by small groups of multidisciplinary students directed by a faculty advisor, or team of faculty advisors. All projects include significant technical and non technical challenges, and do not have a well-defined solution procedure.

Prerequisite: Permission of instructor
Staff

EP 482 Engineering and Policy Internship

A course that emphasizes the practical application of engineering and public policy or engineering management principles. A limited number of students are placed in governmental agencies or business organizations. Under the supervision of a faculty member, each student completes a practical work project.

Prerequisite: EP 450 or EP 452, or permission of instructor
Staff

EP 495, 496 Thesis

This program is designed in accordance with the honors program of the College. Enrollment is limited to A.B. Engineering seniors.

Staff

MECHANICAL ENGINEERING

Faculty

Associate Professor Hummel, Head; Professor Van Gulick; Associate Professors Merz, Nesbit, Seeler, Ulucakli; Assistant Professor Helm, Rossmann, Smith

Like all engineers, mechanical engineers are problem solvers. They design, develop, and construct internal combustion engines, machinery, power plants, transportation vehicles, and biomedical devices. They work in manufacturing, marketing, management, research, education, and system design and development.

The department offers a comprehensive program that prepares students for professional work or further study. The curriculum includes a solid grounding in mathematics, science, and technology, along with electives in the humanities and social sciences. Design, a central component of mechanical engineering, is integrated throughout the curriculum. Students use contemporary engineering computer software and apply modern manufacturing processes in creating and constructing their design projects. Facilities include laboratories for modern manufacturing designs, internal combustion engines, thermo-fluids, controls, instrumentation, precision measurement, and materials. All majors do a year-long senior design project. Seniors may elect to do independent study or honors thesis research.

Requirements

Majors are required to take the following 38 courses: Mathematics 161, 162, 263, and 264; Physics 131 and 132 or 133; Chemistry 121 and 122 or Engineering Science 231; Engineering Science 101, 225, 226, 230; Mechanical Engineering 210, 240, 331, 350, 352, 353, 360, 362, 371, 470, 475, 478, 479, 497, 498; a mathematics/science elective; two technical electives; four approved Social Science/Humanities electives; a First-Year Seminar; English 110; and two free electives.

Technical Electives— Technical electives are a diverse set of courses in design, thermal systems, dynamic systems, and other relevant areas of engineering, mathematics and science. These courses give students the opportunity to study

advanced topics in their areas of interest. Technical electives emphasize the application of fundamental concepts and provide a sound basis for graduate study and professional practice in Mechanical Engineering.

Mechanical Engineering Courses

ME 210 Manufacturing and Design

This course introduces techniques in computer-aided design (CAD) and manufacturing as applied to mechanical components and systems. Manufacturing processes, their underlying physical phenomena, and their relevance to mechanical design are studied. Laboratory work includes the drawing and construction of a pre-designed mechanical system using CAD, conventional fabrication techniques, and computer-aided manufacturing (CAM). All course topics are applied to the design, construction, and competition of a major group project. Lecture/laboratory.
Corequisite: ME 240; Math 264
Offered: Spring semester
Staff

ME 240 Dynamics

Particle and rigid body kinematics and kinetics. Work, energy, and power. Linear impulse and momentum, angular impulse and momentum, impact.
Prerequisite: ES 226; Math 263;
Offered: Spring semester
Staff

ME 331 Instrumentation and Data Acquisition

Engineering instrumentation is introduced and further examined in the laboratory. The fundamental concepts of measurement error, calibration, statistical and uncertainty analysis, signal conditioning, and computer-based data acquisition are covered. Emphasis is on measurement techniques used for quantities of particular importance to the mechanical engineer, which include temperature, pressure, flow rate, displacement, speed, force, strain, torque, and power. The fundamentals of DC circuits and electrical instrumentation are also covered.
Prerequisite: ES 230
Offered: Fall semester
Staff

ME 336 Engineering Materials and Manufacturing Processes

Processes used to manufacture/fabricate products from metals and alloys, ceramics and glasses to polymers and composites. Different types and uses of materials from each group are discussed. Also included are properties and behavior of these materials as they affect manufacturing methods, and effects of different processes on properties and performance of manufactured products.
Prerequisite: ES 231 or permission of instructor.
Staff

ME 350 Thermodynamics I

The study of the basic concepts and laws of thermodynamics applicable to all types of thermodynamic systems.
Prerequisite: Chemistry 121, Physics 131, Math 264
Offered: Fall semester
Staff

ME 351 Introduction to Thermodynamics and Heat Transfer

A study of the basic laws of thermodynamics and heat transfer with selected applications to engineering systems or devices. For non-mechanical engineering majors.
Prerequisite: Chemistry 121, Physics 131, Math 263
Offered: Fall semester
Staff

ME 352 Dynamics of Physical Systems and Electrical Circuits

Dynamic physical systems are modeled as networks of interacting energetic elements. Analogies are drawn between mechanical, fluid, electrical, and hybrid systems. Systems are represented using single ordinary differential equations, state-space, and transfer functions. AC and DC circuits and electromechanical systems are analyzed.
Prerequisite: Mathematics 264; ME 331
Offered: Spring semester
Staff

ME 353 Engineering Design I

This course introduces students to the design/selection of mechanical components such as shafts, bearings, gears, fasteners, springs, clutches, brakes, and joints. Students apply closed form and finite element methods of stress and deflection analysis to the determination of component geometry and the selection of materials.

Students are introduced to fatigue analysis and statistics as design methods.
Prerequisite: ES 230; Math 264
Offered: Fall semester
Staff

ME 360 Thermodynamics II

The application of thermodynamic principles to the study of gas and steam power cycles, refrigeration cycles, mixtures, compressible flow, and combustion and chemical reactions. Introduction to advanced thermodynamic theory.
Prerequisite: ME 350
Offered: Spring semester
Staff

ME 361 Dynamics of Machines

A combination of analytical and computer methods in the kinematic and kinetic analysis of mechanisms and machines. The analysis and design of cams and gear trains is included. CAE applications and open-ended design projects give students the opportunity to link course topics with real-world machines.
Prerequisite: ME 240, 353
Offered: Spring semester
Staff

ME 362 Fluid Mechanics

The basic laws of physics and thermodynamics are applied to the study of fluid phenomena. Topics include conservation of mass, momentum, and energy. Basic laws are applied to hydrostatics, external and internal incompressible flow, and fluid machinery.
Prerequisite: ME 350
Offered: Spring semester
Staff

ME 371 Engineering Design II

Design and analysis of mechanical systems considering theories of static failure, material selection, fatigue, finite element analysis, impact loading, and statistics/reliability.
Prerequisite: ME 353
Offered: Spring semester
Staff

ME 380 Bioengineering Design Clinic

This course provides an introduction to Bioengineering Design. Engineering designs are developed through processes that have a number of stages, beginning with conceptual design and culminating in detailed design. At the heart of this course is the completion of a major conceptual and

embodiment design project for a specific client from clinical medicine or the bioengineering industry. Student teams will produce a prototype of their design and document their process with a written report and presentation.

Rossmann

ME 390, 391 Independent Study/Research
An opportunity for selected students to undertake independent study/research projects during the junior and/or senior year. Projects are selected based on the background and interests of the student, and the availability of staff. A proposal is submitted to a faculty member who serves as the adviser, and to the department head for approval. Each student is required to submit a final paper embodying the results of the study/research.

This is a Technical Elective.

Staff

ME 395-397 Special Topics
This course considers recent advances and/or subjects of current interest to students and members of the staff. Topic(s) for a given semester are announced prior to registration.

This is a Technical Elective.

Staff

ME 470 Heat Transfer
A study of the basic phenomena of heat transfer which includes treatment of steady and non-steady state conduction in one and two dimensions, natural and forced convection, and thermal radiation.

Prerequisite: ME , 362

Offered: Fall semester

Staff

ME 472 Advanced Dynamics
A study of vibrations of mechanical systems that includes the treatment of the free and forced vibrations of lumped mass and continuous systems. The physical behavior of these systems under steady state and transient vibration is investigated. Matrix methods are utilized in the treatment of multi degree-of-freedom systems.

Prerequisite: ME 240, 352, 353

Offered: Spring semester

This is a Technical Elective.

Staff

ME 475 Thermal/Fluids Systems
A capstone course in which students conduct experiments to reinforce the concepts of thermodynamics, fluid

mechanics, and heat transfer using modern instrumentation and data acquisition systems. Typical experiments include steam power generation, refrigeration, fluid viscosity, wind tunnel measurements, flow meter performance, piping losses, boundary layer measurements, heat transfer by conduction and convection, heat exchanger performance, and internal combustion engine performance.

Prerequisite: ME 331, 470

Offered: Spring semester

Staff

ME 476 Heating, Ventilating, and Air Conditioning

The application of thermodynamics, fluid mechanics, heat transfer, and other engineering principles, to the design of interior environmental control systems. Consideration is given to the total energy concept of environmental control in light of present energy concerns.

Prerequisite: ME 350, 362. Pre- or corequisite: ME 470

This is a Technical Elective.

Staff

ME 477 Internal Combustion Engines

The application of thermodynamics, fluid mechanics, heat transfer, and other engineering principles to the design, performance, and economy of internal combustion engines and gas turbines. This course also includes the effect and control of automotive emissions.

Prerequisite: ME 350, 362

This is a Technical Elective.

Staff

ME 478 Control Systems and Mechatronics

Classical feedback control theory is applied to dynamic systems. The effect of closed-loop control on the transient response, error, stability, and frequency response of systems is investigated. Control systems are designed using computer simulation. Boolean logic and its implementation in ladder logic are applied to the control of mechanical systems. Modern control theory and digital control theory are introduced.

Prerequisite: ME 352

Corequisite: ME 479

Offered: Fall semester

Staff

ME 479 Control Systems and Mechatronics Design and Analysis

Analog controllers are designed and built to implement velocity and position control of a rotational servomechanism. The performance of controllers is evaluated and compared to design predictions. Programmable logic controllers are used to implement ladder logic. Op-amp circuits and power electronics are investigated. DC, AC, and stepping motors are explored.

Prerequisite: ME 352

Corequisite: ME 478

Offered: Fall semester

Staff

ME 483 Power Plants

The application of thermodynamics, fluid mechanics, heat transfer, and other engineering principles to the design and operation of power plants.

Prerequisite: ME 470

This is a Technical Elective.

Staff

ME 484 Applied Finite Element Method Analysis

Advanced finite element analysis of components and systems in support of mechanical design. Topics may include complex three-dimensional solid modeling, meshing and error analysis, results verification, optimal design, nonlinear analysis, and design project applications. Effective written and oral presentation results are emphasized.

Prerequisite: ES 230

Van Gulick

ME 486 Compressible Flow

A study of the behavior of compressible fluids including isentropic flow, Fanno and Rayleigh processes, normal and two-dimensional shock waves, and application to selected problems in modern high-speed flows.

Prerequisite: ME 350, 362

This is a Technical Elective.

Staff

ME 487 Principles of Thermal Design

The study of thermal design and application through synthesis of thermodynamic, fluid mechanic, and heat transfer principles. The course emphasizes design methodologies including modeling and simulation of thermal equipment and systems, optimization, search methods, and dynamic programming.

Prerequisite: ME 362, 470

This is a Technical Elective.

Staff

ME 488 Robotics

Introduction to fundamentals of robotics and related automation technologies. Emphasis is placed on robot mechanics, work cell design, manufacturing applications, and programming and control.

Prerequisite: ME 361

This is a Technical Elective.

Staff

ME 489 Introduction to Biomedical Engineering

Introduces fundamentals and applications of the transport processes—thermodynamics, fluid mechanics, heat transfer, and mass transfer—in the human body and in other biomedical systems. Students study the modeling of normal and abnormal human physiology and the devices for medical therapy. Students develop the tools necessary to obtain quantitative information on biomedical problems involving transport processes.

Prerequisite: ME 362, or permission of instructor

Ulucakli

ME 490 Fundamentals of Finite Element Theory

This course explores the underlying theory and computational implementation of the finite element method. Students will gain an understanding of finite element formulations, understand how the formulations can be adapted to solve problems in a variety of engineering areas, develop computational tools needed to apply the finite element method, and apply these tools to engineering problems. Student-generated, instructor-supplied, and some commercial software will be employed throughout course.

Prerequisite: Math 264, ES 230

Staff

ME 492 Biomechanics

A one-semester course involving the application of solid and fluid mechanics to biological systems. Students will learn the fundamental cell biology and physiology necessary to understand these systems; understand how researchers in biomechanics address biological problems using engineering principles; advance their knowledge of mechanics; and develop the necessary skills to apply the concepts of engineering mechanics to biological

systems. Likely topics include musculoskeletal (bone and muscle) mechanics, neuromuscular mechanics and control, and the physics of blood and air flow in the circulatory and respiratory systems.

Prerequisite: Physics 131 or 151 and junior/senior standing or instructor approval
Staff

ME 493 Numerical Applications in Mechanical Analysis and Design

In this course, various solution techniques to numerically solve mechanical engineering problems are studied. Problem topics are generated from mechanical design, mechanism and thermal analysis, and special subjects such as dynamics of satellites and interplanetary spacecraft. Both user generated codes and standard software libraries are employed.

Prerequisite: Math 264

This is a Technical Elective.

Staff

ME 495, 496 Thesis

This program is designed in accordance with the honors program of the College.

Enrollment is limited to selected seniors in Mechanical Engineering. Students who take the honors sequence in place of the senior design sequence (ME 497/498) must fully participate in the lecture portion of ME 497 and 498.

This is a Technical Elective.

Staff

ME 497, 498 Senior Design Project I, II

Project of the student's choice is carried through from problem formulation to completion. This sequence represents the students' major design experience and is based on knowledge and skills acquired in earlier courses. Design criteria and objectives are formulated, and realistic constraints including economic, environmental, sustainability, manufacturability, ethical, health and safety, social, and political are considered. Engineering analysis and synthesis techniques are applied and iterated to obtain an optimal design solution. Students design and conduct experiments to verify design performance. Students document their achievements through oral and written presentations.

Prerequisite: For ME 497: ME 210, 350, 353

Corequisite: ME 470, 478

Staff

ENGLISH

Faculty

Professor Westfall, Head; Professors Donahue, Johnson, Upton, Van Dyke, Woolley; Associate Professors Byrd, Cefalu, Falbo, O'Neill, I. Smith (Associate Head), Washington; Assistant Professors Belletto, DeTora, Ohlin, Phillips, Rohman, A. Smith.

With its focus on reading and writing, inquiry and insight, English is an ideal major for anyone seeking the skills essential for success in diverse fields. For the student who loves literature, is there a more rewarding major?

The curriculum reflects a strong commitment to the major periods, authors, and forms, from ancient myth to interactive fiction. In addition, students explore various critical methods, theories, and cultural traditions. All of the department's courses emphasize communication, especially writing; several courses focus on writing.

English Major

The English major consists of at least nine English courses beyond English 110, including English 205; one course in literary history, preferably English 207 (206, 207, 210, 211, or 212); five courses numbered 300 or above, not including independent study or thesis; two additional courses, which may include one semester of independent study or thesis, but not internship

In consultation with a department adviser, a student should select courses that emphasize various genres, literary and cultural traditions, and theoretical approaches. The selections should demonstrate a balance between British and American literature and between literature before and after 1800.

English Major with a Drama/Theater Concentration

In consultation with a department adviser, a student chooses a program of study composed of at least nine English and Theater courses beyond English 110, including English 205; one course in literary history (English 206, 207, 210, 211, or 212); two introductory courses in drama and theater (chosen from English 123, 227, 240, 251, and Theater 215, 216, and 221);

three advanced courses in drama and theater (chosen from English 301, *303, 304, *334, 335, 345, 346, *369, *370, *371, *390, 495, 496, and Theater 314, 370, 371 and 372 or 373); and one additional advanced (300-or 400-level) English or Theater course

The adviser will authorize courses marked with an asterisk (*) when they are offered with a drama/theater emphasis. No more than one semester of internship may be included.

English Major with a Writing Concentration

In consultation with a department adviser, a student chooses at least nine literature and writing-or language-focused courses beyond English 110, including English 205; one course in literary history (206, 207, 210, 211, or 212); any two of English 231, 250*, 251, 255, 272/273 (internship); any two of English 320, 350*, 360, 365, 395; any two 300-or 400-level English courses except 320, 360, and 365. No more than one semester of independent study or thesis may be included.

Courses marked with an asterisk (*) may be repeated for credit when they address different topics. The adviser will authorize counting special topics courses toward the concentration when they are offered with a writing focus.

English Major with a Film Concentration

In consultation with a department adviser, a student chooses a program of study composed of at least nine courses including English 205; a course in literary history (English 206, 207, 210, 211, or 212); English 140, 240, 251, 340; and three department approved electives with at least one course from outside the English department. No more than one semester of independent study or thesis may be included.

Minor in English

In consultation with a department adviser, a student selects a minimum of five English courses beyond English 110, including 205 and at least three courses numbered 300 or above. One semester of internship may count toward the five.

Minor in Drama/Theater

In consultation with a department adviser, a student selects a minimum of five drama/theater courses beyond English 110, including English 227 and four others chosen from the following: English 123, *135, 240, 260, 280, 302, *303, *304, *322, 345, 346, *369, *370, *371, *390, *391, *495, *496; any Theater course except 201; Art 341; *Comparative Literature 225; French 318; and German 325.

The adviser will authorize courses marked with an asterisk (*) when they are offered with a drama/theater emphasis. The drama/theater minor is not open to English majors. No more than one semester of internship may be included.

Minor in Writing

In consultation with a department adviser, a student chooses a minimum of five English courses beyond English 110, including English 205 or 206; any two of English 231, 250*, 251, 255, 272/273 (internship); any two of English 320, 350*, 360, 365

Courses marked with an asterisk (*) may be repeated for credit when they address different topics. The adviser will authorize counting special topics courses toward the minor when they are offered with a writing focus. The writing minor is not open to English majors.

Minor in Film

In consultation with a department adviser, a student selects a minimum of five film courses, including English 140, 240, and 340; two others chosen from the following, one of which must be taken from a department other than English: English 116, 123, 251; Art 150, 239; A&S 255; CL 142; Fren 424; Germ 431, 424; Hist 255; Mus 274; Phil 235; WGS 256

The film minor is not open to English majors. The adviser will authorize counting special topics courses toward the minor when they are offered with a film focus. No more than one semester of internship may be included.

English and Theater Courses

ENG 110 College Writing

Writing as an intellectual act and a recursive process; ways of reading complex texts. The English Department will distribute descriptions of individual topics for each section of College Writing before the registration period each semester. The

course is normally taken in the second or third semester; it complements and extends the writing experience of the First-Year Seminar. Required of all students except those exempted by the English Department for reasons such as success in an advanced placement program.

Prerequisite: First- Year Seminar
Staff

ENG 116 Film and Literature

Through a comparative study of films based on highly regarded plays and novels, as well as a number of autonomous films, the course seeks to define both the affinities and the distinctive capacities of the two art forms.

Staff

ENG 119 Literary Women

This course examines writings and films by women. Topics vary and have included courses on women poets, women science fiction writers, coming of age narratives, novels by contemporary Middle Eastern and Asian women, and texts that explore the connections between race, class and gender.

Byrd

ENG 120 Satire and the Comic Absurd

An exploration of comic and satiric traditions from the earliest times to the present, with some emphasis on modern and contemporary texts and on authors influenced by the Theater of the Absurd.

Woolley

ENG 123 Plays in Performance: Stage and Film

This course compares stage and screen productions of selected plays. Students read scripts and, through in- and out-of-class screenings and live performances, examine different realizations of each script. This performance approach addresses questions of interpretation and adaptation in the context of historical circumstances and the artistic demands of literature, stage, and screen.

O'Neill

ENG 128 American-Jewish Literature

A course exploring American-Jewish literature's roots in Eastern European and Sephardic traditions, its place in the American literary canon, and its relation to international Jewish writings.

Staff

ENG 135 Literature and Human Experience

An examination of a significant social or cultural problem as reflected in literary texts. Topics vary from semester to semester and will be announced during the registration period. May be taken more than once with different content.

Staff

ENG 140 Introduction to Film

An introductory course designed to help students develop useful analytical skills for the study of film. Our goals are to gain familiarity with cinematic techniques and to acquire an understanding of the historical evolution of film. We will learn to employ the technical vocabulary of film studies and will view films representing a variety of styles, genres, periods, and filmmakers.

A. Smith

ENG 146 Black Writers

An introduction to black American writers, the course exposes students to a variety of genres, to diverse reading strategies, to the social and historical roots of African-American experience, and to the interplay between classic texts and popular media.

Washington

ENG 205 Literary Questions

This course provides students with an introduction to the theory and methodology of literary study by focusing on three questions: What is a literary text? How do we read a literary text? How do we write about a literary text? By considering the rhetorical, aesthetic, and ideological issues that determine literary value, students examine their assumptions about literature.

Required of all English majors and minors.

Staff

ENG 206 Literary History

How is literary history constructed? What is the canon of "great works," and how is it formed? This course inquires into the specific cultural practices that construct "literature," engaging students in an exploration of canon formation, marginalization, intertextuality, and influence. Readings are chosen from British, American, and Anglophone literatures and from various genres; texts from at least three literary periods are studied in depth.

Falbo, I. Smith

ENG 207 Theatre History

Theatre is perhaps our most ancient art, beginning with religious rituals like the

Abydos Passion Play in ancient Egypt, through the Dionysian festival in Ancient Greece, the liturgical plays of Medieval Europe, to today's secular forms. The course will focus on how theatrical forms changed from time to time and culture to culture, considering historical context, periodicity, genre, conventions, style, theatrical spaces, acting styles, and technical effects.
Westfall, O'Neill

ENG 210 English Literature I
A survey of literature from Beowulf to Milton; major writers, movements, and forms are viewed in their historical contexts. Normally closed to seniors.
Staff

ENG 211 English Literature II
A survey of literature, chiefly poetry, from the Restoration through the nineteenth century; major writers, movements, and forms are viewed in their historical contexts. Normally closed to seniors.
Staff

ENG 212 American Literature I: Origins to Civil War
A study of American prose and poetry from the colonial period to 1870. Normally closed to seniors.
Phillips

ENG 213 American Literature II: The Gilded Age to the Present
This course introduces students to poetry and prose by representative writers of the late 19th and early 20th century. Normally closed to seniors.
Staff

ENG 217 Psychoanalysis and Literature
This course focuses on the relationship between literature and psychoanalysis and on different ways of understanding that relationship. Readings include psychoanalytic texts and works of fiction.
Prerequisite: ENG 110
Cefalu, Donahue

ENG 218 Literature for Children
This course looks at how children's texts "socialize" their readers by confirming, or in some cases, resisting and undermining cultural norms and values. Course texts include a range of "classic" and "popular" printed books for children as well as selected films and TV shows. As part of the course, students write and illustrate their own children's books.

Prerequisite: ENG 110
Falbo

ENG 225 Contemporary Literature
An encounter with fiction of the last decade and with social, philosophical, and literary questions raised both by the texts themselves and by the activity of reading.
Prerequisite: ENG 110
Belletto, I. Smith

ENG 227 Introduction to Theater
Using analytical and hands-on approaches, this course introduces students to significant dramatic texts and to the principal craft areas in theater. Readings include plays from different eras of theater history; projects involve acting, directing, and design. There are lectures, discussions, visits from outside theater professionals, and writing assignments.
Staff

ENG 231 Journalistic Writing
An introduction to the practice of writing news and feature stories for magazines and the daily press. Attention is paid to writing, revising, evaluating, and publishing work. The course also examines audience, style, and the role of the journalist in society. [W]
Prerequisite: English 110 or equivalent
Staff

ENG 232 The Short Story
This course explores the short story across a broad variety of writers, cultures, and modes from the nineteenth century to the present, examining genres such as detective and science fiction as well as artistic movements from realism to postmodernism.
Prerequisite: English 110
Ohlin

ENG 240 Film Theory and Practice
This is an intermediate course in film studies, designed to give students understanding of the complex art of international cinema. We will screen, analyze, discuss and write about film, as well as read primary source documents in the theory of film. We will extend our knowledge of various concepts such as cinematography, sound, editing, and mise-en-scene by combining critical study with creative practice. Students will learn the basics of digital film editing and produce short films.
Prerequisite: English 140
A. Smith

ENG 245 International Literature

This course looks beyond the traditional British and American texts that have populated English studies to challenge the once elite dominance of English as the authorized language of "first-world" mastery. The concept of "literatures in English" speaks, therefore, to an evolving international dialogue that is sensitive to the formation of personal and political identities in a new global economy. Texts represent diverse national regions such as the Caribbean, Africa, India, Canada and Australia.

Prerequisite: ENG 110

I. Smith

ENG 250 Writing Genres

Writing Genres introduces students to the expectations and purposes of a particular written genre and offers them intensive practice composing texts that function within the conventions and boundaries of this genre. Students will compose multiple texts in drafts, participate in workshops and discussions, and produce critical analyses and reviews. Sample genres include: the essay, autobiography, hypertext and electronic media, travel writing, and science writing. The English Department will distribute a description of the specific genre(s) under consideration before the registration period each semester. [W]

Prerequisite: Eng 110

Staff

ENG 251 Screenwriting

This course introduces students to the basic elements of screenwriting: developing characters, writing dialogue, plotting scenes, and structuring narrative. Writing assignments build from initial treatments to individual scenes and story outlines with emphasis on drafting and revision. By viewing films, reading screenplays, and critiquing the work of peers, students learn about the role of the screenwriter in the collaborative process of filmmaking, and work towards a final portfolio that will include a polished script of their own. [W]

Permission of Instructor required.

Prerequisite: ENG 110

Ohlin

ENG 255 Creative Writing

Intensive workshops in the writing of poetry and fiction. Writing exercises and allied readings. Permission of instructor

Prerequisite: ENG 110

Ohlin, Upton

ENG 272, 273 Internship

Practical experience in fields such as journalism, broadcasting, publishing, public relations, and advertising, in which writing is a central activity. Written reports are required of the student, as is an evaluation of the student by the supervising agency. Advance approval of the departmental internships coordinator required.

Prerequisite: English 205, and a course in Literary History

Byrd

ENG 300 Chaucer

A study of *The Canterbury Tales* and *Troilus and Criseyde* and an introduction to the language and culture of medieval England.

Prerequisite: English 205, and a course in Literary History or permission of the instructor.

Van Dyke

ENG 301 Shakespeare

An introduction to Shakespeare--a study of representative plays and nondramatic works in the light of knowledge of Elizabethan life and thought. [W]

Prerequisite: English 205, and a course in Literary History or permission of the instructor

I. Smith, Westfall

ENG 303 British Writers

A study of one, two, or three British or Irish writers in some depth (for instance, Yeats/Joyce, Keats/Shelley, Dickens/Woolf). [W]

Prerequisite: English 205, and a course in Literary History or permission of the instructor.

Staff

ENG 304 American Writers

A study of one, two, or three American writers in some depth (for instance, Hemingway/Faulkner, Twain/James). [W]

Prerequisite: English 205, and a course in Literary History or permission of the instructor

Staff

ENG 313 The Irish Literary Renaissance

This course examines poems, essays, plays, fiction, and folklore produced by Irish writers in the years 1880-1925. Particular attention is given to the ways in which the writings of Joyce, Yeats, O'Casey, Synge, and Lady Gregory are informed by such events as the Gaelic revival, the founding of

the Abbey Theatre, Ireland's struggle for political independence from England, and the Irish Civil War.

Prerequisite: English 205, and a course in Literary History or permission of the instructor.

Byrd, O'Neill

ENG 320 The English Language

An introduction to linguistics, with a focus on English and its development from the beginning to the present. [W]

Prerequisite: English 205, and a course in Literary History or permission of the instructor.

Van Dyke

ENG 323 The Age of Satire

Wit, irony, satire, burlesque, and farce from Dryden to Byron, seen against their contexts in eighteenth-century social, political, and literary controversy. Readings such as *Gulliver's Travels* and "A Modest Proposal" by Swift, Pope's "The Rape of the Lock," Gay's *Beggar's Opera*, various burlesques and farces, Hogarth's satiric engravings, and portions of Byron's *Don Juan*.

Prerequisite: English 205, and a course in Literary History or permission of the instructor.

Woolley

ENG 324 Eighteenth-Century Fiction

Comic, sentimental, and gothic novels from an age whose pursuit of happiness is marked by growing psychological awareness and by changing views on sex, passion, and marriage. Within such social contexts, the course assesses the tensions between the early novel's richly comic realism, its serious indulgence in the cult of feeling, and its romantic flirtation with the supernatural thriller. [W]

Prerequisite: English 205, and a course in Literary History or permission of the instructor.

Woolley

ENG 325 London High and Low Life: The Age of Exuberance

Eighteenth-century London was the undisputed center of England's literature, drama, art, architecture, music, politics, and wealth. Yet alongside London's opulence flourished astonishing crime and corruption. This rich urban diversity—occasionally contrasted with life in other places—is reflected in the course readings: major works by major authors from the

Restoration to the Regency, with some emphasis on drama. [W]

Prerequisite: English 205, and a course in Literary History or permission of the instructor.

Woolley

ENG 326 The Romantics

A study of British writers, especially poets, of the period 1780-1830. The course examines how writings of the era reflect and helped to shape discourse on poverty, slavery, women's rights, urbanization, and the cultural role of art and artists.

Prerequisite: English 205, and a course in Literary History or permission of the instructor

Byrd

ENG 327 The Victorians

A study of British writers, especially poets, of the period 1830-1900. The course examines how writers of the era responded to the industrial revolution, British imperialism, theories of human evolution, debates about gender and sexuality, and aesthetic movements like those of the Pre-Raphaelites, the Symbolists, and the Decadents.

Prerequisite: English 205, and a course in Literary History or permission of the instructor

Byrd, Falbo

ENG 328 The American Renaissance

An intensive study of American literature, 1840-1860. The course examines a range of forms of American writing dealing with issues such as nationalism, romanticism, slavery, expansion, gender relations, and the place of literature in the young nation.

Prerequisite: English 205, and a course in Literary History or permission of the instructor.

Staff

ENG 329, 330 American Decades

An intensive investigation of a single decade in American life, exploring the relationships between and within the several areas of the American experience as expressed in its literature and history.

Prerequisite: English 205, and a course in Literary History or permission of the instructor

Staff

ENG 332 Inventing America

A study of selected works in American literature before 1820. Specific texts depend on the thematic focus, which varies from year to year.

Prerequisite: English 205, and a course in Literary History or permission of the instructor

Phillips

ENG 334 Studies in Medieval Literature

A study of selected works written between 700 and 1500, with an emphasis on those written in England (exclusive of Chaucer). Specific texts depend on the thematic focus, which varies from year to year. [W]

Prerequisite: English 205, and a course in Literary History or permission of the instructor.

Westfall, Van Dyke

ENG 335 Studies in Renaissance Literature

The Renaissance is commonly regarded as the height of Western aesthetic achievement. This course looks at—and problematizes—the “rebirth” of knowledge by examining early modern English literature and culture, with attention to the effects of humanism, discovery, class, race, the Reformation, a female monarch, and civil war. Topics vary and are announced during registration. [W]

Prerequisite: English 205, and a course in Literary History or permission of the instructor.

Donahue, I. Smith, Westfall

ENG 336 Studies in Seventeenth-Century Literature

The seventeenth century saw unprecedented growth and change in England: the decline of absolute government and the rise of liberalism and capitalism, the scientific revolution, colonial expansion, and the rise of modern consciousness and subjectivity. This course explores the ways in which the literature of the period reflects English culture in transition and the ways in which formal literary genres change as the century unfolds. Topics vary. [W]

Prerequisite: English 205, and a course in Literary History or permission of the instructor.

Staff

ENG 337 Milton

Course covers *Paradise Lost* and selections from Milton's prose and other poetry, focusing on literary themes, style, and genre, and the place of his writings in the

history of religious and political thought.

Considerable attention given to Milton's radicalism, including both his theological "heresies" and left-leaning political sympathies. The course considers Milton's unique conception of the creation narrative and the "characters" of Adam, Eve, Christ, God, and his arguably most magnificent creation, Satan.

Prerequisite: English 205 and a course in Literary History or permission of the instructor.

Cefalu

ENG 338 Metaphysical Poetry

Metaphysical poems are witty, cerebral poems that use elaborate metaphors or "conceits" to comment on a range of elusive "big topics" including the nature of love, death, evil, and God. Form, style, and imagery are considered as well as the historical contexts in which this poetry emerged in England. Students are introduced to a range of 17th-century poets including John Donne, George Herbert, and Richard Crashaw, as well as the work of later poets influenced by 17th-century poetry.

Prerequisite: English 205 and a course in Literary History or permission of instructor Cefalu, Donahue

ENG 339 Revenge and Restoration Drama
Seventeenth-century drama reflects one of the more tumultuous eras in British history-- a king beheaded, public theaters closed, a bloody civil war, and the restoration of the monarchy. During this period, symmetrical forms replaced mixed genres, women supplanted boys on stage, and comedy trumped tragedy. Students read Jacobean revenge tragedies and some Restoration comedies to explore how issues of class, gender, and politics played themselves out during this era.

Prerequisite: English 205 and a course in Literary History or permission of instructor Westfall

ENG 340 Topics in Film

A focused investigation of film topics. This course allows students to shape and articulate critical interpretations of the form, history, style, ideology, rhetorical power, and artistry of cinema. Topics may include: documentary film, independent film, film theory, national cinemas, Hollywood genres, and race, class, and gender on film.

Prerequisite: English 205, 240, and a course in Literary History or permission of instructor.

A. Smith

ENG 341 The Nineteenth-Century English Novel

A study of the main tendencies of major examples in English fiction from Shelley to Hardy. [W]

Prerequisite: English 205, and a course in Literary History or permission of instructor
Staff

ENG 342 Modern British Literature

This course investigates various literary and cultural crises during the British modernist period. The fragmentation of traditional narrative and poetic style, a shift toward psychic interiority, and the alienation of the artist are all considered hallmarks of modernist literature. We will contextualize such changes by asking how they are connected to the social and political crises of the age. Among our considerations will be how science and technology, evolutionary theory, the New Woman, and colonialism challenge traditional notions of what it means to be human at the turn of the twentieth century. We will investigate these changes in texts by writers such as Joseph Conrad, E.M. Forster, James Joyce, D.H. Lawrence, and Virginia Woolf.

Prerequisite: English 205, and a course in Literary History or permission of instructor
Rohman

ENG 343 The American Novel to 1900

A study of the American novel through the romantic and realistic periods, including Cooper, Poe, Hawthorne, Melville, Howells, James, Twain, and Norris. The relationship of the popular novel to major American themes is examined to provide a historical context for the genre. [W]

Prerequisite: English 205, and a course in Literary History or permission of instructor
Staff

ENG 344 The Modern American Novel

The modern novel from Dreiser to the present including Anderson, Dos Passos, Fitzgerald, Hemingway, Faulkner, Bellow, Barth, and others. [W]

Prerequisite: English 205, and a course in Literary History or permission of instructor
Belletto, Johnson

ENG 345 Foundations of Modern Drama

An introduction to the critical analysis of drama, using chiefly European plays 1880-1920, by Ibsen, Chekhov, Strindberg, Shaw, O'Neill, and others. [W]

Prerequisite: English 205, and a course in Literary History or permission of instructor
Staff

ENG 346 Modern and Contemporary Drama

A study of British, American, European, and other plays from approximately 1920 to the present, with attention to both text and performance. [W]

Prerequisite: English 205, and a course in Literary History or permission of instructor
Staff

ENG 347 Modern and Contemporary Poetry

A study of the aesthetics and ideologies of some of the most significant modern and contemporary poets writing in English, with special focus on theories and practices related to experimental poetics. [W]

Prerequisite: English 205, and a course in Literary History or permission of instructor
Upton

ENG 349 Postcolonial Literature

An introduction to selected writers from Africa, India, the Caribbean, and Australia and to the political and cultural issues that affect writing and reading across cultures and political inequalities. [W]

Prerequisite: English 205, and a course in Literary History or permission of instructor
I. Smith

ENG 350 Studies in Writing and Rhetoric

Exploration of topics in writing, literacy, language use, and argument from a range of theoretical and practical perspectives. The course examines how humans use written language to communicate ideas, to argue points, to create identities, to educate each other, and to maintain social structures. Students learn to think about such uses in sophisticated ways and gain a better understanding of their own experiences with written language. [W]

Prerequisite: ENG 205 and a course in Literary History or permission of instructor
Donahue, Falbo

ENG 351 Environmental Writing

This course is designed to engage students in advanced writing about nature and the environment. A central focus of the course

will be an examination of the language and rhetoric used to describe these crucial issues in various popular, government, and scholarly contexts.

Prerequisite: Eng 205, a 200-level writing course, or permission of instructor
DeTora, Ohlin

ENG 352 Special Topics in Black Literature
A study of a special area of literature by black writers. Among the topics considered are autobiography, theater, contemporary writing, modern African novels, and such major writers as Baldwin and Wright. The choice of topics varies from year to year.
[W]

Prerequisite: English 205, and a course in Literary History, or permission of instructor
I. Smith, Washington

ENG 355 Race Theory

This course provides an introduction to theories and representations of race and racism as applied to the analysis of literature and culture. The aim of the course is to trace the protean uses of race in history and to place contemporary debates on race into historical context. Readings focus on a broad range of literary and cultural texts in order to trace the emergence and/or transformation of race in intellectual and social contestation.

Prerequisite: ENG 205 and a course in Literary History or permission of the instructor
Washington

ENG 360 Advanced Creative Writing

The course extends upon the writing skills that students developed in introductory courses in imaginative writing. Students engage in regular intensive workshops in which their creative writing is critiqued. The course requires completion of advanced exercises in structure and style and the composition of a final portfolio of imaginative writing.

Prerequisite: ENG 205, 250, 251, or 255, Permission of instructor required
Ohlin, Upton

ENG 365 Seminar in Literary Criticism

An advanced introduction to the history of literary criticism and its dominant theoretical practices. Students read representative texts from various schools of criticism—formalism, structuralism, deconstruction, Marxism, psychoanalysis, gender studies, cultural studies—and apply

them to several literary works.

Recommended for students seeking honors in English or considering graduate study in literature. [W]

Prerequisite: English 205, and a course in Literary History or permission of instructor
Donahue

ENG 369 Writers in Focus

The study of one, two, or three writers in depth. Topics vary from semester to semester and will be announced during registration period. May be taken more than once with different content.

Prerequisite: English 205, and a course in Literary History or permission of instructor
Staff

ENG 370, 371, 374-379 Special Topics

A seminar on a topic selected by an instructor.

Prerequisite: English 205, and a course in Literary History or permission of instructor
Staff

ENG 387 Nineteenth Century American Poetry

Intensive study of poems, poets, and poetic forms in the United States from the War of 1812 to the turn of the twentieth century. Particular focus on Whitman, Dickinson, Longfellow, and Melville.

Prerequisite: ENG 205 and a course in Literary History or permission of the instructor.
Phillips

ENG 390, 391 Independent Study

A program of tutorial study, initiated by the student and pursued independently under the guidance of an instructor from whom the student has gained approval and acceptance.
[W]

Prerequisite: English 205, and a course in Literary History. Permission of the Associate Department Head required.
Staff

ENG 395 Problems and Possibilities

Literary research, like all research, entails both discovering answers and, more interestingly perhaps, discovering questions—finding uses for already-available evidence. We will do research in both these senses of the word. This course is an opportunity to find out what researches exist, what they are good for, and how to incorporate research into readable and lively papers. Seminar members will provide an interested and inquisitive audience for each others'

projects. These projects, culminating in a substantial research-based essay, will be on topics chosen from a wide range of possible inquiries into literature and language. The course is designed for anyone interested in research and should be of particular value to present or prospective independent study and honors students and to those contemplating graduate or professional study.

Prerequisite: ENG 205 and a course in Literary History or permission of the instructor
Woolley

ENG 495, 496 Thesis

Tutorial sessions related to the student's investigation of the area chosen for his or her honors essay. Open only to candidates for departmental honors. [W]

Prerequisite: English 205, and a course in Literary History. Permission of the Associate Department Head required
Staff

THTR 120 Theater Practicum

Available to designated cast and crew members of a faculty-directed College Theater production. May be repeated up to four times for credit.

Prerequisite: Permission of the Director of Theater, 0.25 credit.
Staff

THTR 123 Plays in Performance: Stage and Film

This course compares stage and screen productions of selected plays. Students read scripts and, through in- and out-of-class screenings and live performances, examine different realizations of each script. This performance approach addresses questions of interpretation and adaptation in the context of historical circumstances and the artistic demands of literature, stage, and screen.

O'Neill

THTR 201 Public Speaking

A survey of the fundamentals of speech with regular drill in platform speaking.
Staff

THTR 215 Acting I: Acting and Improvisation

This workshop style course will introduce students to various fundamental techniques of acting and improvisation, with special emphasis on sensory awareness, observation, concentration, body movement

and vocal development. †Students will develop their imaginations and creative processes through performance situations involving improvisation, scene study and monologue work. †††Second semester seniors must have permission of the instructor to take the course.

Lodge

THTR 216 Acting II: Scene Study

This workshop style course offers an intermediate level†Students will study the work of master teachers of acting like Constantine Stanislavski and Sanford Meisner, then apply their methodologies to a range of performance projects with material drawn from Early Modernism through the present.

Prerequisite: Theater 215 or instructor permission.

Lodge

THTR 221 Basic Stagecraft: Introduction to Technical Theater

An introduction to the history, theory, and practice of technical theater, focusing upon construction, painting, rigging, and electrical practices. Laboratory sessions in the theater shop and backstage assignments ensure hands-on exposure to topics discussed in class. Normally closed to seniors.

Staff

THTR 227 Introduction to Theater

Using analytical and hands-on approaches, this course introduces students to significant dramatic texts and to the principal craft areas in theater. Readings include plays from different eras of theater history; projects involve acting, directing, and design. Includes lectures, discussions, visits from outside theater professionals, and writing assignments.

Staff

THTR 290, 291 Topics in Theater

A detailed study in either a workshop or classroom setting of a particular aspect of theatrical endeavor. Usually offered in conjunction with visiting artists or theater residencies.

Prerequisite: Theater 227 or permission of instructor.

Staff

THTR 314 Stage Direction

A basic course in the director's art and responsibility in theatrical production including casting, rehearsal, and

organizational procedures from script analysis to performance. Discussion and practice in the principles of composition, picturization, movement, dramatic tempo, and ensemble, with attention to the special problems in proscenium and central staging. Students may stage scenes in laboratory or plays for public performance.

Prerequisite: a 200-level THTR course or permission of the instructor
O'Neill

THTR 330 Theatrical Styles

This workshop style course offers advanced study of acting, with special emphasis on exploring and enacting the theatrical styles and performance conventions from a wide range of time periods, genres and cultures.† Students will perform in projects drawn from diverse pieces that may include the plays of the Ancient Greeks, Shakespeare and Moliere. Topics change and will be announced during registration; may be repeated for credit when offered on different topics.

Prerequisite: THTR 215 or instructor permission.

Staff

THTR 370, 371 Advanced Topics in Theater

Advanced study in either a workshop or classroom setting of a particular aspect of theatrical endeavor. May be repeated for credit when offered on different topics.

Prerequisite: a 200-level course in THTR or permission of the instructor.

Staff

THTR 372, 373 Internship

Practical experience in a professional theater or theater organization. Written reports are required of the student, as is an evaluation of the student by the supervising agency. Although a student may take two theater internships, normally in the junior and senior years, only one may be counted toward the drama/ theater concentration within the English major. Advance approval of the Director of Theater required.

O'Neill

THTR 390, 391 Independent Study

Tutorial study in theater practice, initiated by the student and pursued independently under the guidance of an instructor from whom the student has gained approval and acceptance.

Prerequisite: English 227 or Theater 221, and permission of instructor

Staff

FOREIGN LANGUAGES AND LITERATURES

Faculty

Associate Professor Lamb-Faffelberger, Head; Professors Duhl, Lalande, McDonald, Pribic, Rosa; Associate Professors Donnell, Dubischar, Geoffrion-Vinci (Assistant Head); Assistant Professors Galarza-Sepulveda, Rojo

As technology and business internationalize many aspects of our lives, mastering a second language becomes a necessity.

Lafayette offers majors and minors in French, German, and Spanish, as well as a minor in Russian. It also offers interdisciplinary minors: Classical Civilizations (Greek and Latin); Russian and East European Studies; Chinese and Japanese support the Asian Studies minor, and Hebrew supports the Jewish Studies minor. All courses in Comparative Literature are taught in English.

The FLL curriculum is designed so that you not only develop communicative skills but also learn about the people who speak the language and their culture. The state-of-the-art resource center offers audio and video materials, computer work stations, international television programs via satellite, and foreign films. Advanced language and/or native speakers are there to help if needed.

Majors are encouraged to study abroad for at least one semester or to participate in a foreign language internship designed to give students the opportunity to use linguistic skills in a professional or business setting.

Requirements for Bachelor of Arts

Completion of a series of courses as specified by each section and listed under each section heading. Through these courses, students acquire an appropriate level of linguistic proficiency and knowledge and an appreciation of the cultures, civilizations, and literatures.

The department encourages all majors to take at least one course in Comparative Literature and to participate in an approved study-abroad program, either for a semester,

an entire academic year, or during a summer program (i.e., LVAIC summer programs).

French Requirements

Requirements for Bachelor of Arts

Comprised of eight courses (or fewer, if students demonstrate greater proficiency) beyond Elementary French (101-102). Students are required to complete the language sequence up to and including Advanced French (101-102, 111-112, and 211) or demonstrate equivalent proficiency that would allow for advanced placement. Following completion of the language sequence, majors are required to take two 300-level courses and three 400-level courses, one of which must be taken during the senior year. The department recommends that students who plan to undertake graduate work in French complete all the courses in the 421, 422, 423, 424 sequence and, in the senior year, pursue honors work. All majors are urged to take one or more courses in Comparative Literature (101, 102, 225). In some cases, courses taken at other institutions may be used to satisfy the requirements for the major.

Requirements for the Minor

Comprised of five courses (or fewer, if students demonstrate greater proficiency) beyond Elementary French 101-102. Students are required to complete the language sequence (101-102, 111-112, and 211) or demonstrate equivalent proficiency that would allow for advanced placement. Following completion of the language sequence, minors are required to take two 300-level courses.

In exceptional cases, approved courses other than those listed above may be used to satisfy the requirements.

Language Courses

The department strongly recommends that all first-year students who have studied two or more years of French prior to entering college take the placement examination that is administered by the department to determine their level of achievement.

Language courses are primarily designed to help students acquire the linguistic competence necessary to pursue literary and cultural studies in French through work with

the language as well as selected texts and multimedia resources.

Business French (225) is required of majors in International Economics and Commerce.

French Literature, Culture and Civilization Courses

Prerequisite for courses in this group: French 211 or the equivalent proficiency level. Students who perform exceptionally well in French 112 may be admitted with approval of the French advisor.

German Requirements

Language Courses

The department strongly recommends that all first-year students who have studied two or more years of German prior to entering college take the placement test online (or the examination administered by the department) in order to determine proper placement in a course based on the appropriate level of achievement.

Language courses are primarily designed to help students acquire the linguistic competence necessary to pursue literary and cultural studies in German through work with the language as well as selected texts and multimedia resources.

Business German (225) is required of majors in International Economics and Commerce.

German Literature, Culture and Civilization Courses

Prerequisite for courses in this group: German 211, German 225, or the equivalent proficiency level. Students who perform exceptionally well in German 112 may be admitted with approval of the instructor

German Literature and Culture Survey

German Seminars

Prerequisite for courses in this group: Successful completion of at least one 300-level course.

Requirements for Bachelor of Arts

Comprised of eight courses (or fewer, if students demonstrate greater proficiency) beyond Elementary German 101-102, students are required to complete the language sequence up to and including Advanced German (101-102, 11-112, and 211 or 225) or demonstrate equivalent proficiency that would allow for advanced placement. Following completion of the language sequence, majors are required to take five courses on the 300- and/or 400-level, one of which must be taken in residence during senior year. The department recommends that students who plan to undertake graduate work in German pursue honors work in their senior year. All majors are urged to take one or more courses in Comparative Literature. In some cases, courses taken at other institutions may be used to satisfy the requirements for the major.

Requirements for the Minor

Comprised of five courses (or fewer, if students demonstrate greater proficiency) beyond Elementary German 101-102, students are required to complete the language sequence (101-102, 111-112, and either 211 or 225) or demonstrate equivalent proficiency that would allow for advanced placement. Following completion of the language sequence, minors are required to take at least one 300- or 400-level course.

In exceptional cases, approved courses other than those listed above may be used to satisfy the requirements for the minor.

Spanish Requirements Requirements for Bachelor of Arts (Major)

Comprised of eight courses beyond Spanish 111-112 (or fewer, if students demonstrate greater proficiency), students are required to complete the language sequence up to and including Advanced Spanish 211 or demonstrate equivalent proficiency that would allow for advanced placement. Following completion of the language sequence, majors are required to take one survey of civilization (Spanish 303, 304, 313 or 314), two surveys of literature (Spanish 310, 311, 317, or 318), three seminars (Spanish 425, 435, and either 421,

423, 427 or 428), and one course in Hispanic studies in consultation with a faculty advisor in Spanish.

Designed to meet the specific needs of majors interested in studying abroad or teaching, the Hispanic studies requirement may be fulfilled by choosing from FLL 380 or 381 (the teaching internship in Spanish), or by taking any 300- or 400-level course in Spanish. By senior year, all candidates for the major are required to take Spanish 425 and 435.

In lieu of 435 and a course in Hispanic studies (described above), students in their junior year may propose a research topic for an honors thesis (Spanish 495, 496) to be completed during their senior year.

Requirements for the Minor

Comprised of four courses beyond Spanish 111-112 (or fewer, if students demonstrate greater proficiency), students are required to complete the language sequence (101-102, or 103, 111-112, and 211) or demonstrate equivalent proficiency that would allow for advanced placement. Following completion of the language sequence, minors are required to take three courses at the 300- or 400-level with at least one focusing on literature.

Language Courses

Students with two or more years of high school Spanish are required to submit their AP or SAT II score to the FLL Department Head or take the placement test online (or the examination administered by the Department). First-year students take the placement test during summer registration of First-Year Orientation. Others have to make an appointment with the Department Head to take the exam at any time in their college career.

Language courses at the 100- or 200-level are primarily designed to help students acquire the linguistic competence necessary to pursue literary and cultural studies in Spanish through work with the language as well as selected texts and multimedia resources.

Business Spanish (225) is required of majors in International Economics and Commerce.

Heritage speakers: Students who speak Spanish at home may wish to enroll in Spanish 215 that is specifically designed for heritage speakers. They should also work closely with their Spanish advisor to address specific academic needs not met in the classroom. Those who have already had formal schooling in Spanish prior to starting college are encouraged to begin at the 300- or 400-level.

Hispanic Literature and Civilization Surveys

Prerequisite for courses in this group: Spanish 211 or the equivalent proficiency level. Students who perform exceptionally well in Spanish 112 may be admitted with approval of the Spanish advisor.

Foreign Languages and Literature Courses

CHN 101 Elementary Chinese

The course aims to develop fundamental listening, speaking, reading and writing abilities in Mandarin Chinese. Students examine approximately 250 new words and more than 30 grammar patterns. Mastery of Pinyin pronunciation is an essential part and students are trained with computer-based exercises, especially character typing. Class activities may also include practicing calligraphy, singing songs in Chinese, making dumplings, and film shows to enhance students' understanding of Chinese language and culture.
Staff

CHN 102 Elementary Chinese

This course will help students continue to develop fundamental skills in listening, speaking, reading and writing of Mandarin Chinese, based on 101 class training or equivalents. Students will learn 200 new words and more than 30 new grammar patterns. Mastery of Pinyin pronunciation is still an essential part and students are to be trained with more frequent computer-based exercises. Class activities also include calligraphy competition and Chinese movie show to enhance students understanding of Chinese culture.

Prerequisite: Chinese 101 or equivalent
Staff

CHN 111, 112 Intermediate Chinese

Review and expansion of basic grammar and vocabulary and continued development

of familiarity with Chinese characters. Attention to developing reading and conversational skills and a deeper understanding of the diverse cultures of the Chinese people.

Prerequisite: Chinese 101, 102 or equivalent proficiency
Staff

CHN 226 China and Christianity

This course presents a survey of the introduction and evolution of Christianity in China from the 7th century to the present day. The survey will be viewed through a many-sided prism of intellectual, institutional, ethical, spiritual, and political life of Christianity and its integration into Chinese culture. The course will put Christianity in both global and regional contexts, so that students will learn from a wide spectrum of inter-cultural exchanges in history.
Staff

CHN 231 Chinese Civilization

This course presents the fundamental features and highlights of Chinese civilization from the Neolithic age down to the twentieth century. It explores the origin, transformation, and continuity of this long-standing culture, discussing varied aspects in philosophy, religion, political institutions, and literature and arts. Students also explore certain areas of Chinese culture that are becoming transnational interests, such as Buddhist practice, geomancy, and medical tradition. No prior knowledge of China or Chinese language is required. All works are read in English translations.
Staff

CL 101, 102 Survey of European Literature

Study of the most significant figures and their works in European literary history, exclusive of English. The course aims to acquaint students with the classics in the literatures of Greece, Rome, Italy, Spain, France, Germany, and Russia in English translation. No knowledge of foreign languages required. Open to all students.
Lecture. [W]

Pribic

CL 103 Classical Mythology

Definitions, sources, and interpretations of myth as a cognitive system in ancient and modern culture. Survey of major divinities, mortals, myths, hero-legends, and cycles of saga, chiefly Greek. Their function in Greco-Roman civilization, their enduring

power in Western culture, and their influence upon Western intellectual and artistic achievement. Open to all students.
Staff

CL 121 Greek Literature in English
A study of the Greek perfection of diverse genres of literature through close reading (usually of entire works) in Epic, Lyric, Tragedy, Old Comedy, History, Philosophical Dialogue. Relationship of literature to historical and cultural forces, particularly in the fifth-century polis of Athens. The notion of a “classic” in literature. Open to all students.
Staff

CL 142 Masterworks of German Literature and Film
In this course, important themes, styles, and cultural issues are examined within the context of German literature and film. Selected readings cover the major periods of literary history, and the film versions of these texts represent all stages of film history, with works from the 1920s and 1930s to the present. Since all readings are available in translation and all films have English sub-titles, knowledge of German is not required.
McDonald

CL 161, 162 Russian Literature in English
A study—through the best available translations—of the whole course of Russian literature, with principal emphasis on the nineteenth-century writers: Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, and Tolstoy. Open to all students. [W]
Pribic

CL 225 Special Topics in Comparative Literature
This course introduces the methodology of comparative literature and the problems of translation to advanced literature students. Students should have completed at least two courses in literature given by Foreign Languages and Literatures or the English department. A reading knowledge of one foreign language is strongly recommended.
Offered: As needed
Staff

CL 351 Special Topics in Literature in Translation
Study of a genre or special topic in foreign literatures in translation. Seminar content is broad in scope and may span several centuries. In addition to the literature,

theoretical readings are discussed, and a final research paper is required.
Prerequisite: At least two literature courses in English or a foreign language
Offered: As needed
Staff

CL 460 Reading and Research in Comparative Literature
This course is designed to give advanced students the opportunity to investigate intensively an area of special interest. Students are required to meet with the instructor periodically throughout the semester and to submit a scholarly paper, as well as to take an oral examination at the conclusion of the course.
Prerequisite: Two literature courses in Foreign Languages and Literatures or English
Staff

FLL 380, 381 Foreign Language Teaching Internship
This internship gives well-qualified students the opportunity to gain foreign language teaching experience under faculty supervision in local elementary, middle, and high schools. Internships in French, German, Korean, Russian, and Spanish are available. Students meet on a weekly basis to discuss teaching methodology, language pedagogy, and second language acquisition theory.
Prerequisite: 211 or higher, or permission of instructor
Qualtere

FREN 101, 102 Elementary French I and II
Provides students with the four basic language skills of reading, writing, listening, and speaking. Emphasis is on learning the fundamentals of grammar and on the development of verbal skills through their active use. Students having had two or more years of high school French are ineligible to take French 101 unless they obtain the instructor’s permission. Class/laboratory.
Staff

FREN 111, 112 Intermediate French I and II
Review and expansion of the basic grammar and vocabulary of the language. Attention to developing reading and conversational skills and a deeper understanding of the culture of France and other francophone countries. Class/laboratory.
Staff

FREN 211 Advanced French

Grammar review with emphasis on areas of greatest difficulty. Enrichment of written expression with emphasis on style and vocabulary building. Examination of cultural and contemporary issues through use of the language laboratory (films, television broadcasts, newspaper articles, computerized programs) and discussion of cultural and literary texts. Class/laboratory. Staff

FREN 212 Bridging the Gap: Language to Literature

This course is designed to help students make the difficult transition between advanced language study and the study of French literature. French 211 (Advanced Composition) focuses on developing writing skills necessary for written essays, while this course is designed to prepare students more adequately for reading, interpreting, and discussing literary texts. Activities will focus on close reading of short literary texts or excerpts, class discussion of the material read, and the writing of short literary analyses

Prerequisite: French 211 or equivalent
Lalande

FREN 225 Business French

Designed for the advanced student wishing to acquire specialized knowledge of the French language for use in business. The course examines a variety of topics such as agriculture, industry, postal services, telecommunications, international trade, customs regulations, banking activities, the stock market, major enterprises, advertising, the insurance industry, the real estate market, job offers and applications, résumé writing, and business correspondence.

Prerequisite: French 211 or equivalent
Lalande

FREN 321 High and Popular Culture in Medieval and Renaissance France

Introduction to the study of medieval and Renaissance French literature and civilization. Readings from such works as *La Chanson de Roland*, *Yvain ou le chevalier au lion*, *Tristan et Iseult*, *Aucassin et Nicolette*, Rabelais's *Gargantua and Pantagruel*, the poetry of the *Pléiade*, and Montgaigne's *Essais*.

Duhl, Lalande

FREN 322 Reason, Wit, and Wild

Imaginations: Seventeenth- and Eighteenth-Century French Literature and Civilization
Readings from such works as Corneille's *Le Cid*, Racine's *Phèdre*, Molière's *Le Tartuffe*, Mme de La Fayette's *La Princesse de Clèves*, Prévost's *Manon Lescaut*, Marivaux's *Le Jeu de l'amour et du hasard*, Voltaire's *Candide*, and Montesquieu's *Lettres persanes*.

Lalande

FREN 323 Iconoclasts: Nineteenth- and Twentieth-Century French Literature

Introduction to the study of such modern literary movements as romanticism, realism, naturalism, symbolism, surrealism, existentialism, and the absurd. Emphasis on poetry, fiction, drama, and criticism in the works of such authors as Mme de Staël, Chateaubriand, Lamartine, Hugo, Stendhal, Balzac, Flaubert, Zola, Maupassant, Baudelaire, Verlaine, Rimbaud, Mallarmé, Jarry, Valéry, Apollinaire, Gide, Proust, Breton, Malraux, Sartre, Camus, Beckett, and Ionesco.

Reyns-Chikuma, Rosa

FREN 324 Turning the World Upside

Down: French Civilization since 1789
French history, civilization, and culture from the Revolution of 1789 through modern times. Emphasis on major historical figures and events, the evolution of political and social institutions, economic trends, the development of religious, philosophical, and political beliefs, and changes in the modes of artistic expression.

Rosa

FREN 421 The Sword, the Rose, and the Pen: Constructing Identity in French Medieval and Renaissance Literature and Culture

This course examines themes and techniques of imitation and/or subversion of classical and Biblical sources as strategies for defining the self and the creative process in the vernacular. Readings include such genres as the epic, courtly romance, popular theater, allegorical and lyric poetry, short story, and the essay (*La Chanson de Roland*, *Chrétien de Troyes*, *Le Roman de la Rose*, *La Farce de Maître Pathelin*, *François Villon*, *François Rabelais*, *Joachim du Bellay*, *Pierre de Ronsard*, *Louise Labé*, *Marguerite de Navarre*, *Michel de Montaigne*). [W]

Duhl

FREN 422 The Age of Absolutism

A study of representative classical authors of the seventeenth century and their works, with emphasis on the works of Corneille, Molière, Mme de La Fayette, Pascal, Descartes, La Fontaine, La Rochefoucauld, Malherbe, Théophile, and Racine. [W]
Lalande

FREN 423 The Artist as Outsider: French Literature of the Nineteenth Century

Study of the development of romanticism, realism, naturalism, and symbolism, with emphasis on such writers as Chateaubriand, Constant, Musset, Sand, Nerval, Hugo, Stendhal, Balzac, Flaubert, Zola, Baudelaire, Rimbaud, Mallarmé, and Villiers de l'Isle-Adam. Attention also may be given to the Parnassian school. [W]
Rosa

FREN 424 Literature, Ideas, and Film:

Twentieth-Century French Culture
The major movements following symbolism are studied in historical context and in the works of such authors as Gide, Proust, Apollinaire, Breton, Mauriac, Colette, Malraux, Sartre, Camus, Ionesco, Robbe-Grillet, Queneau, Perec, Barthes, Kristeva, Ernaux, and Derrida. Topics such as surrealism, Orientalism, ludics, feminism, memory of World War II, the Algerian War, multiculturalism, and Francophonie. [W]
Reyns-Chikuma

FREN 431 Contemporary France: Political, Economic, and Social Institutions

A study of French civilization since World War II; institutional changes under the IVth and Vth Republics; the educational system, the economy, the media, cultural life. France in the contemporary world and francophone countries.
Staff

FREN 441 Junior/Senior Seminar

Study of a genre or major theme in French literature. Course content is broad in scope. [W]
Staff

FREN 460 Reading and Research in French

This course gives students the opportunity to investigate intensively an area of special interest. Students work on their projects independently under the guidance of an instructor. At the end of the semester, students submit a research paper and/or make a substantial oral presentation. Hours arranged.

Prerequisite: Permission of research instructor

Staff

FREN 495, 496 Thesis in French

Tutorial sessions related to the student's investigation of the area chosen for the honors essay. Open to majors in French who are candidates for departmental honors.

Prerequisite: Permission of research instructor

Staff

GERM 101, 102 Elementary German

Fundamentals of spoken and written language. Development of reading, writing, speaking, and listening skills. An introduction to the culture of Germany and German-speaking countries.

Class/laboratory.

Staff

GERM 101SP-102S Self-Paced German Language Courses

Designed for students who have a scheduling conflict. (Important: Not open to first-year fall-semester students. Other students wishing to enroll must receive authorization from Professor Lamb-Faffelberger.)

Students work independently in the language laboratory with multimedia programs and follow a syllabus with guidelines that indicate when lessons should be completed and tests taken. Students are required to attend one conversation hour per week and may consult the instructor as needed.

Staff

GERM 111, 112 Intermediate German

Review of fundamental principles of grammar and syntax and expansion of vocabulary with short literary and cultural readings. Attention to improving reading, sharpening conversational skills, and developing a deeper understanding of the culture of Germany and other German-speaking countries. Class/laboratory.

Staff

GERM 211 Advanced German

This course is designed for students who already have a firm grasp of German language skills (e.g., based on at least four years of high school instruction). The course, with its comprehensive review of basic principles of grammar and syntax, is highly recommended for students planning to study abroad. Increasing emphasis on

idioms and correct conversational usage. Readings of literary and cultural texts, and oral presentations.

Lamb-Faffelberger, McDonald

GERM 225 Business German

This course is designed for students who already have a firm grasp of German language skills (e.g., based on at least four years of high school instruction. Focus on business culture, terminology, and vocabulary, and information about Germany today and other German-speaking countries and their place in both the European and the world markets. Readings of business-related texts and oral presentations.

Lamb-Faffelberger, McDonald

GERM 311 Contemporary Society in German-Speaking Countries as Reflected in the Media

This course studies texts from newspapers, magazines, and the Internet, and critically views newsreels and video documentaries. Focus on contemporary issues and sociopolitical developments in Germany and German-speaking countries. Emphasis on everyday conversational and idiomatic German.

Lamb-Faffelberger, McDonald

GERM 312 German Texts and Contexts: Bridging the Gap from Language to Literature

This course critically examines diverse readings in German poetry, prose, and drama of the previous two centuries with a focus on critical analysis of contextual meaning and the structure of literary texts. Introduction to literary terminology and techniques of interpretation. Literature as a reflection of *Zeitgeist* (social taste or the characteristic spirit of the times) that gave form to the cultural outlook of an epoch or generation).

Lamb-Faffelberger, McDonald

GERM 321 A Journey through German Cultural History: Texts and Contexts before 1750

This course chronologically traces the development of forms of artistic expression in German literature, respectively within each new historical, cultural, and sociopolitical framework. Representative readings from the beginnings of German literary writings in the seventh century through the Middle Ages, the Renaissance, the Baroque, to the Age of Enlightenment.

Discussion of intellectual and philosophical movements.

Lamb-Faffelberger, McDonald

GERM 322 Age of Isms: Literature and Culture in the German-Speaking World after 1750

This course chronologically traces the development of forms of artistic expression in German literature, respectively within each new historical, cultural, and sociopolitical framework. Representative readings from the Classical Era of the late eighteenth century to the present. Emphasis on characteristics and trends of major literary movements. Introduction to notable modes of artistic expression such as Classicism, Romanticism, Realism, Naturalism, Impressionism, Expressionism, and Modernism.

Lamb-Faffelberger, McDonald

GERM 423 Liberalism's Struggle against Repression and Resignation: German Literature and Culture of the Eighteenth and Nineteenth Century

Highlights characteristics of social perceptions as reflected in literary movements. Analysis and interpretation of literature as a medium for critiquing historical and social developments. Literary responses to political absolutism through the growth of liberalism and nationalism. Social forces reflected in literature from the Age of Enlightenment through Storm and Stress, Classicism, Romanticism, Realism, and Naturalism. [W]

Prerequisite: Completion of at least one 300-level course

Lamb-Faffelberger, McDonald

GERM 424 From Modernism to Postmodernism and Beyond: Literature and Film of the German-Speaking World in the Twentieth Century

This course provides a comprehensive overview of poetry, prose, and drama of the twentieth century. Focus is on matters of literary style, as well as major social, political, and cultural movements that influenced and shaped literary and artistic expression from the turn of the century to the present. [W]

Prerequisite: Completion of at least one 300-level course

Lamb-Faffelberger, McDonald

GERM 431 Literature and Film as a Mirror of Socio-Historical Issues in the Contemporary German-Speaking World
 This course analyzes literature after 1945, first and foremost the short story as a reflection of the forces of social change in Germany and other German-speaking countries. Emphasis is on the relationship of artistic expression and history, social issues, political conviction, and personal experience. Focus is on techniques for interpretation of literature. [W]
 Prerequisite: Completion of at least one 300-level course
 Lamb-Faffelberger, McDonald

GERM 441 Junior/Senior Seminar
 Investigation of a movement, a prominent author, intellectual topic, study of a genre, literary masterpiece, or significant theme in German literature. [W]
 Prerequisite: Successful completion of at least one 300-level course
 Lamb-Faffelberger, McDonald

GERM 460 Reading and Research in German
 This course provides qualified students with the opportunity to investigate an area of special interest. Students work on their projects independently under the guidance of their mentor. Submit a research paper and/or a substantial oral presentation. Hours arranged.
 Prerequisite: Permission of research instructor
 Lamb-Faffelberger, McDonald

GERM 495, 496 Thesis in German
 Tutorial sessions related to an investigation of the specific area chosen by the student for an honors essay. Hours arranged.
 Prerequisite: Open to majors who are candidates for departmental honors.
 Permission of research instructor.
 Lamb-Faffelberger, McDonald

GRK 101, 102 Elementary Greek
 Emphasis on achieving skills necessary for sustained reading of Attic Greek texts. Inductive system of continuous reading complemented by deductive study and exercises in grammar, syntax, vocabulary, and composition. Recitation.
 Staff

GRK 111, 112 Intermediate Greek
 Fall: A close reading of at least one major dialogue of Plato with attention to the intellectual, moral, and cultural climate of

classical Greece. Spring: A close reading of at least one tragedy of Sophocles or of Euripides with attention to its dramatic art and intellectual and moral content.
 Recitation.
 Staff

HEBR 101, 102 Elementary Hebrew
 Fundamentals of the spoken and written modern language. Development of listening and speaking skills and of facility in reading and writing standard, unvowelled texts. Introduction to the culture of Israel. Class/laboratory.
 Staff

HEBR 111, 112 Intermediate Hebrew
 Review and expansion of the basic grammar, vocabulary, and idioms. Development of skills of self-expression and conversation. Readings in short stories and in newspaper and magazine articles, and monitoring of television broadcasts in the language laboratory to gain a deeper understanding of Israeli culture.
 Staff

HEBR 290, 291 Independent Study in Hebrew
 These courses are intended to expand the student's basic capabilities in the four linguistic skills-listening, speaking, reading, and writing. Enrichment of written grammar review with emphasis on the expansion of vocabulary and stylistics. Examination of cultural and contemporary issues through use of texts, films, television, music, and the internet.
 Prerequisite: Hebrew 111, 112 or proficiency
 Staff

JAPN 101, 102 Elementary Japanese
 Fundamentals of spoken and written Japanese. Development of reading, writing, speaking, and listening skills. An introduction to the culture of Japan.
 Class/laboratory.
 Staff

JAPN 111, 112 Intermediate Japanese
 Review and expansion of basic grammar and vo-cabulary. Short literary and cultural readings. Attention to developing reading and conversational skills and a deeper understanding of the culture of Japan. Class/laboratory.
 Prerequisite: Japanese 101, 102 or equivalent proficiency
 Staff

JAPN 211, 212 Japanese Civilization and Culture

Major aspects of civilization and culture from antiquity to the present, with attention to the role of geography, systems of thought and belief, social, economic, and political organization, and the arts, including literature. Taught in English.

Staff

JAPN 290, 291 Independent Study-Japanese

These courses are intended to expand the student's basic capability in the four linguistic skills—listening, speaking, reading, and writing. Students learn new sentence structures, vocabulary, and Chinese characters in addition to what they have learned in the intermediate course, using a basic language textbook, audio/visual media, and other supplementary materials.

Prerequisite: 111, 112 or equivalent

Staff

LAT 101, 102 Elementary Latin

Emphasis on achieving skills necessary for sustained reading of classical Latin texts. Fundamentals and exercises in grammar, syntax, and development of vocabulary. Some work on Latin roots for vocabulary-building in English and enhancement of knowledge of European languages.

Recitation.

Staff

LAT 111, 112 Intermediate Latin

Fall: Reading of short selections in prose and in the poetry of Catullus with attention to the political, moral, and cultural climate of the late Roman Republic. Spring:

Reading of at least one book of Tusculan Disputations of Cicero and of selections from the Satyricon of Petronius against the background of the early Roman Empire.

Recitation.

Staff

LAT 211 Advanced Latin

Courses such as: Latin Lyric Poetry, Latin Elegy, Latin Prose of the Early Empire, Latin Satire, Medieval Latin, Latin Philosophy, Lucretius, and Cicero.

Staff

RUSS 101, 102 Elementary Russian

Fundamentals of the spoken and written language. Development of reading, writing, speaking, and listening skills. An introduction to the culture of Russia.

Class/laboratory.

Staff

RUSS 111, 112 Intermediate Russian

Review and expansion of basic grammar and vocabulary. Short literary and cultural readings. Attention to developing reading, writing, and conversational skills and a deeper understanding of Russian culture.

Class/laboratory.

Staff

RUSS 209, 210 Survey of Russian

Literature

A chronological study of the major literary movements and styles from the seventeenth century to the present in prose, poetry, and drama. Special attention is given to the ideological and historical background.

Prerequisite: Russian 112 or equivalent

Staff

RUSS 211 Advanced Russian

A course in advanced grammar and syntax designed to develop a high degree of aural comprehension and conversational fluency.

Perceptive reading and clear writing are stressed. Discussion of the major social, ideological, and artistic trends and movements of Russia.

Staff

RUSS 311 Russian Short Story

A study of the Russian novella and short story with emphasis on nineteenth- and twentieth-century fiction. Reading and interpretation of works by writers such as Pushkin, Gogol, Turgenev, Tolstoy, Dostoevsky, Chekhov, Gorky, Babel, Olesha, Solzhenitsyn, and others.

Prerequisite: Russian 112 or equivalent

Staff

RUSS 316 Soviet Russian Literature

A study of developments from 1917 to the present for their literary, social and political significance. Reading and interpretation of works by writers such as Mayakovsky, Gladkov, Fadeyev, Katayev, Simonov, Panova, Evtushenko, Trifonov, and others.

Prerequisite: Russian 112 or equivalent

Staff

RUSS 460 Reading and Research in Russian

This course gives the advanced student the opportunity to investigate intensively an area of special interest. The student is required to meet with the instructor periodically throughout the semester and at the end submit a scholarly paper and to take an oral examination. Hours arranged.

Offered: As needed

Staff

SPAN 101, 102 Elementary Spanish

This sequence is for beginners, covering the fundamentals of spoken and written language through the development of reading, writing, speaking, and listening skills. Class/laboratory.

Prerequisite: Novices only. Students having had two or more years of high-school Spanish are ineligible to take Spanish 101. These students are encouraged to enroll either in Spanish 111 (fall semester) or, if they find the intermediate sequence too challenging, in Spanish 103 (spring semester only).

Staff

SPAN 103 Accelerated Elementary Spanish
An intensive program for high beginners.

The course takes a communicative approach toward the development of reading, writing, listening and speaking skills. Ideal for students in need of review, and those with professional, family or travel interests. Class/Laboratory. Not open to students with credit for Spanish 101-102.

Prerequisite: Students having two or more years of high school Spanish are required to take a placement examination (WebCAPE, AP or SAT II) before enrolling in their first course in Spanish. First-year students may take a placement exam during summer orientation, or, at any point in their college careers, students may make an appointment with the department to take the test.

Staff

SPAN 111, 112 Intermediate Spanish

Review and expansion of basic grammar and vocabulary. Short literary and cultural readings. Development of reading, writing, listening, and conversational skills as well as a deeper understanding of Hispanic cultures. Class/laboratory.

Prerequisite: Students having two or more years of high school Spanish are required to take a placement examination (AP or SAT II) before enrolling in their first course in Spanish. First-year students may take the SAT II placement test during summer orientation, or, at any point in their college careers, students may make an appointment with the department to take the test.

Spanish 101-102, 103, or equivalent.

Staff

SPAN 211 Advanced Spanish

Advanced Spanish is an intensive composition course that emphasizes the development of critical and analytical skills in Spanish through the study of Spanish and Latin American literature and film.

Designed as a bridge between language development and upper-level civilization, literature and culture courses, this class focuses on process writing and is generally taken after a student has completed the Intermediate sequence of language study.

Prerequisites: Spanish 111-112 or equivalent

Staff

SPAN 225 Business Spanish

This course is designed to teach advanced students how to use their language skills within the context of the Spanish-speaking professional world. Students acquire specialized vocabulary and knowledge related to topics such as banking and finance, telecommunications, import/export operations, advertising, and marketing.

Course activities include composition of business letters and résumés, summaries and translation of official documents and business correspondence, exploration and analysis of commerce-related Internet sites, and completion and presentation of a country-specific team project.

Class/laboratory.

Prerequisite: Students having two or more years of high school Spanish are required to take a placement examination (AP or SAT II) before enrolling in their first course in Spanish. First-year students may take the SAT II placement test during summer orientation, or, at any point in their college careers, students may make an appointment with the department to take the test.

Spanish 211 or equivalent.

Geoffrion-Vinci

SPAN 303 Spanish Civilization and Culture

An interdisciplinary exploration of the Iberian Peninsula's civilizations and cultures as reflected in its history, literature, peoples, politics, and arts. Topics range from Spanish Unification in 1492 through the rise and fall of Spain as an imperial power. Class/ laboratory.

Prerequisite: Spanish 211, equivalent, or permission of instructor

Donnell

SPAN 304 Spanish American Civilization and Culture, 1492-1900

An interdisciplinary exploration of civilizations and cultures from the colonial period through the early 20th-century as reflected in its history, literature, peoples, politics, and arts. Class/laboratory.

Prerequisite: Spanish 211, equivalent, or permission of instructor
Galarza Sepulveda

SPAN 310 Survey of Spanish Literature I

An introduction to the literature of Spain from the Middle Ages through the seventeenth century, from the story of the Cid through the myth of Don Juan. Class/laboratory.

Prerequisite: Spanish 211, equivalent, or permission of instructor
Donnell

SPAN 311 Survey of Spanish Literature II

An introduction to the literature of Spain from the eighteenth century to the present, from the Enlightenment through the post-civil war era. The course examines how authors such as Larra, Castro, Pardo Bazán, Galdós, and Machado responded to the challenges posed by the shifting realities of their times. Class/laboratory.

Prerequisite: Spanish 211, equivalent, or permission of instructor
Geoffrion-Vinci

SPAN 313 Contemporary Spain

An interdisciplinary study that examines the evolution of Spanish society from the nineteenth to the twentieth century. Topics include Spain's problematic transition from feudalism to modernity, the rise of regionalism and its impact on national identity, and literary creativity and censorship in a nation vaulting between reactionary and democratic political forces.

Prerequisite: Spanish 211, equivalent, or permission of instructor
Geoffrion-Vinci

SPAN 314 Contemporary Spanish America and Hispanics in the U.S.

An interdisciplinary study of current cultural and political trends in Spanish America with emphasis on national and continental identities, political responses to development, the vitality of popular culture and the arts, and the growing importance of Hispanics in the United States. Laboratory assignments.

Prerequisite: Spanish 211, equivalent, or permission of instructor

Jordan

SPAN 317 Survey of Spanish American Literature I

An introduction to the literature of Spanish America, from the 16th to the early 20th century, emphasizing the literary response to the peoples and places of the New World, the transformation of Spain's literary legacy, the rise of national traditions after independence, and the modernistas' answer to regionalism. Class/laboratory.

Prerequisite: Spanish 211, equivalent, or permission of instructor
Galarza Sepulveda

SPAN 318 Survey of Spanish American Literature II

An introduction to the literature of Spanish America, from the early twentieth century to the present day. Among the issues addressed are the literature of social protest and reform, artistic experimentation in contemporary poetry and narrative fiction, and the rise of the novel in the second half of the twentieth century. Class/laboratory.

Prerequisite: Spanish 211, equivalent, or permission of instructor

Jordan

SPAN 421 Seminar in the Literature and Culture of the New World

An in-depth study of the influence of colonial literature in both the formation of a Latin American identity and the development of contemporary writing. Texts by the explorers, missionaries, and conquistadores in the New World (including Columbus, Friar Bartolomé de las Casas, Hernán Cortés), and the subsequent generations of "American-born" writers (such as "The Inca" Garcilaso de la Vega).

May be repeated for credit when topics vary. Class/laboratory. [W]

Prerequisite: Spanish 304 or 317, equivalent, or permission of instructor
Galarza Sepulveda

SPAN 423 Seminar in Early Modern Spanish Literature and Culture

An in-depth study of a literary theme, author, or genre related to Spain during the Renaissance and Baroque periods. Emphasizing the cultural contexts, examples of topics include transvestite comedy, the short prose of Cervantes, the Spanish Inquisition, or Neo-Baroque themes and imagery in contemporary film and literature. May be repeated for credit when topics vary. Class/laboratory. [W]

Prerequisite: Spanish 303 or 310, equivalent, or permission of instructor
Donnell

SPAN 425 Don Quixote
Cervantes' masterpiece as it relates to today's reader, its impact on contemporary culture, and the stylistic innovations that make this novel a modern classic. Required of all majors in Spanish. Class/laboratory.
Prerequisite: One survey course in Hispanic literature, equivalent, or permission of instructor
Donnell

SPAN 427 Seminar in Contemporary Spanish Literature and Culture
An in-depth study of a literary theme, genre, author, or cultural movement in Spain from the late nineteenth century to the present. Examples include postwar novel, film studies, and Spanish surrealism. May be repeated for credit when topics vary.
Class/laboratory. [W]
Prerequisite: Spanish 303, 311 or 313, equivalent, or permission of instructor
Geoffrion-Vinci

SPAN 428 Seminar in Modern Spanish American Literature and Culture
An in-depth study of a literary theme, genre, author, or movement in the cultural context of Spanish America during the late nineteenth century through the present day. Topics include Short Story and the Fantastic, Fictions of History in Contemporary Novel, and From Popular Culture to Narrative Fiction. May be repeated for credit when topics vary.
Class/laboratory. [W]
Prerequisite: Spanish 304, 314 or 318, equivalent, or permission of instructor
Jordan

SPAN 435 Research Seminar in Hispanic Literature and Civilization
Development of research skills and methodologies as applied to a specific topic in Hispanic studies: a literary theme, genre, author, or movement, and/or a cultural, historical, or political trend in Spain or Spanish America. Required of all majors in Spanish during their senior year. Only open to nonmajors with permission of instructor. May be repeated for credit when topics vary. Class/multimedia research. [W]
Staff

SPAN 460 Reading and Research in Spanish
Individual research under the guidance of a faculty mentor. Open only to qualified juniors and seniors. Hours arranged.
Prerequisite: Two 300-level literature or culture courses, and permission of faculty mentor
Staff

SPAN 495, 496 Thesis in Spanish
Open only to majors in Spanish who are candidates for departmental honors. Tutorial sessions related to the student's research and essay project. Hours arranged.
Prerequisite: Permission of research instructor
Staff

GEOLOGY AND ENVIRONMENTAL GEOSCIENCES

Faculty

Professor Germanoski, Head; Professor Hovis, Associate Professor Malinconico, Assistant Professors Lawrence and Sunderlin, Laboratory Coordinator/Lecturer Wilson

Geology is the study of the earth and its history. The department offers both the Bachelor of Science and the Bachelor of Arts degree. The B.S. degree is designed to meet the needs of students who wish to become practicing geologists or environmental geoscientists, or who wish to pursue graduate degrees in the geosciences. One may pursue either a geology or an environmental geosciences track in the B.S. program. The B.A., in the tradition of liberal arts education, is designed for students who wish to study geology, yet pursue other professional objectives after graduation. The B.A. also is an ideal degree for students pursuing a double major; recent graduates have combined geology with areas such as Government and Law (environmental law), International Affairs, Economics and Business (environmental management), and Chemistry.

The curriculum and the interests of the faculty span a wide range of topics from sedimentology, marine geology, and geomorphology to geophysics, geochemistry, and earth materials. Field and laboratory work are integral parts of the

curriculum and many opportunities exist for cooperative student-faculty research.

Students have traveled as far as Alaska, Nevada, Mexico, Illinois and Cambridge, England, to perform cooperative research with Lafayette faculty, and many excellent projects also are available locally.

The James L. Dyson Scholarship Prize is given to a junior major for a summer field experience in geology, usually a summer field camp.

Requirements

Students in the B.S. Degree–Environmental Geosciences track are required to take 11 courses including two 100-level geology courses, one each from Physical Geology and Earth History; Geology 200, 205 or 315, 210, 215, 300, 307, 317, 322, and one environmental elective approved by the department.

Students in the B.S. Degree–Geology track are required to take 11 courses including two 100-level geology courses, one each from Physical Geology (115, 130, 160) and Earth History(100, 110, 120, 160); Geology 200, 205 or 315, 215, 300, 307, 317 and three technical electives approved by the department; with at least one geology course at 200-level or above.

Both B.S. tracks also require mathematics (two courses) 125 & 186, or 161 & 162, or 161 & 186, Chemistry 121 & 122 (or Chemistry 121 and Geology 321), Physics 111 or 131 or 151, and the Common Course of Study.

Students in the A.B. Degree program, in addition to fulfilling requirements in the Common Course of Study, are required to take nine courses including two 100-level geology courses, one course each from Physical Geology (100, 110, 120, 160) and Earth History(115, 130, 160); Geology 200; and six additional Geology courses at least five of which are 200-level or above.

Requirements for the Minor

A minor in geology requires five geology courses, at least three of which must be 200-level or above.

Additional geology courses may be found under Interim Session.

Geology majors must have specific permission of the instructor to take 100-level geology courses during the senior year.

Geology and Environmental Geosciences Courses

GEOL 100 From Fire to Ice: An Introduction to Geology

A broad introduction to the geological processes acting within the earth and on its surface that produce volcanoes, earthquakes, mountain belts, mineral deposits, and ocean basins. The course considers the dramatic effects of plate tectonics, as well as the enormous periods of time over which geologic processes take place, also familiar features of the landscape formed by landslides, rivers, groundwater, and glaciers. Practical aspects are learned through discovery-oriented laboratory exercises, which include several field excursions. Lecture/laboratory. Preference to first- and second-year students, geology majors, and environmental science minors.

Hovis

GEOL 110 Environmental Geology

From human perspective on the earth's surface, the planet appears almost infinite. From an Apollo spacecraft, however, earth is simply a larger spaceship with more resources, but nonetheless finite. The course examines the interplay between land-use activity and geologic processes such as flooding, shoreline erosion, and soil erosion. Students explore groundwater resources, geological constraints on waste disposal, and impacts of resource utilization, such as acid rain and the greenhouse effect. Lecture/laboratory/ field excursions. Preference to first- and second-year students, geology majors, and environmental science minors.

Germanoski

GEOL 115 Earth's Climate: Past, Present, and Future

Earth's climate has changed dramatically over its history, moving between completely ice-free intervals to periods of global glaciations. How and why did these major climatic changes occur? What can history teach about the future of the climate? This course identifies the major components of the climate system and explores factors and processes that influence the system over a variety of timescales. Using major lessons learned from Earth's history, this course considers the climatological impact of human activity in this century and examines current ideas about the climatic future.

Lawrence

GEOL 120 Geological Disasters: Agents of Chaos

Earthquakes, volcanic eruptions, landslides, hurricanes, floods, tsunamis, and asteroid impacts are all part of the geologic evolution of the earth. For many different reasons, humans are exposed to the often severe consequences of living in areas vulnerable to the violence of nature. This course examines these processes from both scientific and personal perspectives to understand why and where they occur and how human activity has interfered with natural processes, perhaps making the planet more prone to disaster. Lecture/laboratory. Preference to first- and second-year students, geology majors, and environmental science minors. Not open to students who have taken Geology 150. Malinconico

GEOL 130 Dinosaurs, Darwin, and Deep Time

Human occupation of this planet has been confined to the amazingly brief, last sliver of geologic time. This course is an introduction to the immensity of deep time before our existence. The class explores how the history of gradual processes, exceptional events, and biotic evolution has shaped our world and, ultimately, us. Course topics include the fundamentals of earth materials, plate tectonics, and paleobiology. Sunderlin

GEOL 140 Coral Reefs and Caves: Geology of the Bahamas

This course presents an opportunity to study physical, chemical, and biological processes that operate to produce carbonate platforms (e.g., tides, waves, and growth of corals), geomorphic processes that operate to further shape carbonate platforms (e.g., groundwater flow, cave and soil development), and the environmental impacts of human activities on carbonate platforms. Field studies are based on San Salvador Island with side trips to Eleuthera and Andros Islands. Sunderlin, Lawrence

GEOL 150 Geologic Evolution of the Hawaiian Islands

This course provides students with an understanding of how volcanic, geomorphic, and coastal processes have shaped, and continue to shape, the Hawaiian Islands. The course focuses on volcanism, landform

development, and coastal processes. The Hawaiian Islands provide a unique opportunity to study active volcanic processes building the islands in conjunction with geomorphic processes that alter the volcanic landscape. The Hawaiian landscape ranges in age from 25 million years to minutes old. Students see volcanic processes creating the islands and how the soils, landscapes, and coasts have evolved through time.

Germanoski, Malinconico

GEOL 160 Geology from A (Arches) to Z (Zion): The Geology of National Parks in the Western United States

Students develop an understanding of basic geological processes and how they shape the Earth by visiting different national parks in Colorado, Arizona, New Mexico, California, and Utah. Topics covered in an introductory geology course are learned in an experiential field experience instead of typical lecture-lab. For example, in the canyon lands (Grand, Bryce, and Zion) students examine the fossil record preserved in the rocks; in California, they study geological hazards (earthquakes, landslides, and volcanism) by field studies of the San Andreas Fault, mass-wasting in Pt Reyes National Seashore, and volcanism at Lassen volcano.

Malinconico, Sunderlin

GEOL 200 Earth and Planetary Materials

Introduction to the crystallographic, structural, and chemical characteristics of rock-forming minerals. Consideration of the processes and variables that control mineral formation. Igneous, metamorphic, hydrothermal, and sedimentary environments in which common minerals form. X-ray powder diffraction techniques used to identify earth materials and to determine unit-cell dimensions. Laboratory includes discovery-oriented exercises in X-ray diffraction, mineral identification, and crystallography, as well as high-temperature experiments in phase equilibria. Lecture/laboratory.

Prerequisite: Any 100-level geology course and elementary chemistry, or permission of instructor
Hovis

GEOL 205 Oceanography

Exploration of the physical, chemical, and biological systems of the oceans and human impacts on these systems. Topics include marine geology, seawater composition,

waves, tides, coastal and open ocean processes, marine ecosystems, and ocean pollution. Weekend field trips explore barrier island environments and erosion along the New Jersey coast; oceanographic sampling techniques on Seneca Lake; and pollution of the New England coast. Priority given to geology majors and first- and second-year students.

Prerequisite: Any 100-level geology course or permission of instructor
Lawrence

GEOL 210 Hydrogeology

The study of groundwater occurrence, flow, quality, and utilization. The characteristics of the geologic environment which determine the hydrogeologic system are discussed. Principles of groundwater flow, surface water and groundwater interaction, aquifer response to pumping, and regional groundwater flow are examined. The course also focuses on groundwater contamination and remediation (“clean-up”). Field projects use a well-field at Metzgar Fields and local remediation sites. Lecture/laboratory.

Prerequisite: Any 100-level geology course
Germanoski

GEOL 215 Modern and Ancient

Depositional Environments

Sedimentary deposits provide the majority of the water, energy, and mineral resources used by humans. This course explores the processes whereby sediments are formed and accumulate in modern environments, as well as the pathways that convert loose sediments to solid rocks. Emphasis placed on determining environmental conditions recorded in ancient sedimentary rocks.

Lecture/laboratory/ required weekend field trips.

Prerequisite: Any 100-level geology course or permission of instructor
Sunderlin

GEOL 229 Geographic Information Systems and Remote Sensing in the Geosciences

A broad introduction to the use of Geographic Information Systems (GIS) within the geosciences. The relationships between geography, geology, and society will be pursued. Students will be exposed to both pertinent computer and analytical skills common to GIS, including both field and computer based projects that explore spatial data (regions, rocks), and their associated attributes (feature data).

Prerequisite: Geology 100 level course or permission of the instructor
Wilson

GEOL 300 Earth Surface Processes

Comprehensive analysis of geological processes that produce, maintain, and change the earth’s surface. Topics include tectonics and landforms, rock weathering, soil development, hillslope processes, and river and glacial erosion and deposition.

Explore where earth surface processes and landforms are viewed as interacting components of a complex system. The operation of geomorphic systems is examined from a process-response perspective. Laboratory includes map and aerial photo analysis as well as field work and a project. Lecture/laboratory. [W]

Prerequisite: Any 100-level geology course. Geology 200 and 317 are recommended
Germanoski

GEOL 307 Igneous and Metamorphic Petrology

An examination of igneous and metamorphic rocks as records of the crustal evolution of the earth. The origins and existence of these rocks are examined in view of chemical phase equilibria and igneous and metamorphic processes.

Laboratory work emphasizes the identification and classification of igneous and metamorphic rocks using hand samples, thin section identification, X-ray powder diffraction, analytical techniques, and field relationships.

Prerequisite: Geology 200
Hovis

GEOL 310 Environmental Geomorphology

This course explores the interactions between humans and the earth’s surface and surficial processes. The course describes techniques for assessing geomorphic hazards such as surface instability (slope failures and sinkholes) flooding, and debris flows. Surface mine reclamation, drainage basin analysis, soil erosion problems and channel change relating to land use activity, and river restoration are also examined. This course explores potential impacts of global climate change on regional hydrology and rivers.

Prerequisite: Geology 300
Germanoski

GEOL 311 River Form and Function

Examination of rivers and their effects on the landscape. The course explores such topics as drainage network development, sediment yield, sediment transport, river morphology, landscape elements produced by fluvial activity, and the interaction between humans and fluvial systems. The relationships between rivers and landscape evolution over the long term is central, capped by a discussion of the geomorphic evolution of the Appalachians and the concept of peneplanation.

Prerequisite: Geology 300 or permission of instructor
Germanoski

GEOL 315 Paleoclimatology and

Paleoceanography

Understanding Earth's climate system and predicting future climatic change requires both the study of the climate processes that operate within the Earth system as well as detailed studies of climate changes in the past. Direct human observations of climate have captured only a very small fraction of the potential range of Earth's climatic variability. In contrast, the geologic record provides a rich archive of past variations in climate. In this course, we will explore the processes that control Earth's climate, investigate and interpret the geologic record of past climatic changes, and examine methods used to reconstruct past climates.

Prerequisite: Geology 115, 130, or 205 or permission of the instructor
Lawrence

GEOL 317 Structure and Tectonics of the Earth

An examination of global tectonics and the response of rocks to stress at all scales, with an emphasis on an understanding of the relationship of structural geology to tectonic theory. This includes a systematic study of folds, faults, joints, foliations, and lineations from which the geometric relationships and deformational history of the earth's crust can be deduced. Lecture/laboratory/required weekend field trips. [W]

Prerequisite: Any 100-level geology course. Geology 215 (or concurrent) recommended
Malinconico

GEOL 320 Paleobiology

An organismal and systems approach to the study of the marine and terrestrial fossil record. The course focuses on diversification and extinction of biotas in

the context of the environmental history of Earth. Lecture, weekly laboratory, and one weekend field trip.

Prerequisite: Any Geology or any Biology course
Sunderlin

GEOL 321 Geochemistry

An introduction to the chemical and thermodynamic principles and processes that control geological phenomena both at the earth's surface and deep within the earth. Consideration of solid-earth equilibria (igneous, metamorphic, sedimentary, and weathering reactions), isotope geochemistry oxidation-reduction, natural aqueous solutions, and solid-aqueous equilibria. Lecture/problem-solving.

Prerequisite: Geology 200 and elementary calculus, or permission of instructor
Hovis

GEOL 322 Environmental Geophysics

Introduction to the geophysical techniques used to study large- and small-scale features and processes of the Earth. Emphasis placed on the fundamental principles of gravity, magnetism, seismology, heat transfer, and electrical methods as they apply to environmental problems through classroom lectures and laboratory and field exercises. Lecture/laboratory.

Prerequisite: Any 100-level geology course. Geology 317 and introductory physics recommended
Malinconico

GEOL 351-360 Geological Problems

Original research problems in the geosciences: environmental studies, mineralogy-geochemistry, sedimentology-oceanography, geomorphology-groundwater, structural geology-tectonics, geophysics, petrology-petrogenesis, paleontology-stratigraphy, and additional subjects of specialized interest. For advanced geology and geoscience students.

Prerequisite: Requires departmental permission
Staff

GEOL 495, 496 Thesis

Individual field and laboratory problems involving the preparation of a thesis. Open to qualified students only. [W]
Staff

GOVERNMENT & LAW AND FOREIGN LANGUAGE

Government & Law and Foreign Language is a coordinate major between the departments of government and law, and foreign languages and literatures. This major is good preparation for students who are interested in pursuing careers or in focusing on intellectual issues that relate strongly to both political science and international studies and to foreign language.

The major provides the background needed for careers in diplomatic service, for work in international organizations or foundations, and for pursuing higher degrees in fields such as Area Studies and International Affairs.

Students may choose from three tracks: A coordinate major in (1) Government and Law and French, (2) Government and Law and German, or (3) Government and Law and Spanish.

Requirements

13 courses for the French track including Government and Law 102, 103, 401-409 (one senior seminar) or 495, 496 (thesis) or 390, 391 (independent study), four electives from the following: 221, 227, 230, 234, 244, 322, 329, 332, 335, 336 French 111, 112, 211, three electives from 225, 323, 324, 424, 431, 495, 496.

13 courses for the German track including Government and Law 102, 103, 401-409 (one senior seminar) or 495, 496 (thesis) or 390, 391 (independent study), four electives from the following: 221, 234, 237, 329, 332, 335, 336, 341; German 111, 112, 211, three electives from the following: 225, 311, 322, 424, 441, 495, 496.

13 courses for the Spanish track including Government and Law 102, 103, 401-409 (one senior seminar) or 495, 496 (thesis) or 390, 391 (independent study), four electives from the following: 221, 227, 234, 322, 329, 332, 335, 336; Spanish 111, 112, 211, four electives from the following: 225, 311, 313, 314, 318, 427, 428, 495, 496.

Government & Law and Foreign Language Course

NOTE:

For courses see Government & Law and Foreign Languages & Literatures

GOVERNMENT AND LAW

Faculty

Professor Silverstein, Head; Professors Kincaid, J. Miller, McCartney, Murphy, Peleg; Associate Professor Lennertz; Assistant Professor Fabian

Politics, leadership, individual rights, government, public policy—issues that dominate the daily lives of citizens around the world—are the focus of the Government and Law major. Students in this major address such questions as: What are the most critical political issues facing the United States and the world? What public policies make most sense in economics, education, urban revitalization, and protection of the environment?

The well-balanced curriculum offers an unusually broad selection of offerings in domestic and comparative law, foreign political systems, international issues, federalism, state and local politics, and civil liberties. Faculty work with students to include special interests in their course of study and many students participate, for academic credit, in the department's internship program.

Requirements for the Major

Ten courses within the department. The major must schedule at least three of the introductory courses (101, 102, 103, 104), be exposed to all four subfields (American Politics, International Politics, Comparative Politics, Political Theory), and take course(s) beyond the introductory level in at least three of the subfields. A senior seminar or honors thesis is required.

Coordinate majors: Government and Law with Religion, and Foreign Languages and Literatures.

Requirements for the Minor

Six courses within the department which may be selected to form a general minor (three introductory courses and three mid-level courses in the respective subfields), a subfield (concentration) minor (one introductory course and five other courses in the same subfield), or a thematic minor. A student who wants to pursue a thematic minor must submit a statement explaining the rationale and the plan behind his/her idea to the department head.

Introductory Courses/Subfields

Introductory Courses: 101, 102, 103, 104

United States Government and Politics:
204, 207, 211, 213, 215, 217, 250 310, 311,
313, 314, 315, 316, 320, 321, 337, 370

Comparative Government and Politics:
221, 223, 224, 225, 227, 229, 322, 329

International Politics: 230, 234, 239, 331,
332, 335, 336, 377

Political Theory: (Prerequisite for courses
in this group: G&L 104, or permission of
instructor.) 241, 243, 244, 245, 246, 341

General Courses: 121, 309, 366, 367, 380,
390, 391, 401-412, 495, 496

Government and Law Courses

GOVT 101 Introduction to United States
Politics

An examination of the American political
system, its institutions and processes.
Topics studied include political behavior,
the Constitution, the Congress, the
Presidency, the courts, and current foreign
and domestic issues. Recommended to
students who have not had an adequate
secondary school preparation in American
government.

Kincaid, Lennertz, Murphy

GOVT 102 Introduction to International
Politics

This course reviews the main issues and
problems confronted by the international
system and the literature devoted to them.
The course deals with phenomena such as
peace and war, integration and
disintegration, economic and military
assistance, formulation and execution of
foreign policy. Special emphasis is placed
on stability and change in the global system.
Fabian, Peleg

GOVT 103 Introduction to Comparative
Politics

A survey of governments and politics in the
industrialized and Third World countries.
The course examines the question of what it
means to compare political systems and
explores the historical setting, nature of
political participation, political values,
governmental structures, and political
performance of selected countries in
Western Europe, Asia, the Middle East,
Africa, Latin America.

McCartney

GOVT 104 Introduction to Political Theory

This course introduces students to several of
the most important thinkers and themes in

the tradition of political theory. The topics
and texts of the course vary, but students
can expect to confront such issues as justice,
equality, and power, and to read both classic
and contemporary authors.

Miller, Silverstein

GOVT 121 Political Persuasion and Debate

This course helps students develop the skills
of research, analysis, case construction, and
refutation as well as the knowledge of
techniques and strategies of argumentation
for success in debate. Students debate topics
of political, social, and philosophical
interest. Training in the use of evidence,
analysis of public topics, and presentation of
reasoned discourse in defense of one's
position fosters growth in the art of
persuasion.

Staff

GOVT 204 Race and Gender in the
American Legal System

This course addresses the roles of race and
gender in the American legal system. The
syllabus covers the impact of the
Constitution and legislation on various race
and gender-based issues relating to
employment, discrimination (including
reverse discrimination and affirmative
action), equal pay, workplace harassment,
educational opportunity, reproductive rights,
parental leave rights, and parental custody
rights.

Muhlfelder

GOVT 207 Black Politics in the United
States

A study of the changing situation of Blacks
in U.S. politics since the 1950s. Some ways
in which Congress, the Presidency, the
Supreme Court, the bureaucracy, and local
governments have affected Blacks and other
minorities. Analysis of Black experiences in
American politics in light of constitutional
theory and the everyday operation of
political institutions and processes. Specific
problems related to racism and
socioeconomic status.

McCartney

GOVT 211 State and Local Government
and Politics

Examines what state and local governments
do and why. Topics include state
constitutions; state legislative, executive,
and judicial processes and policymaking;
state and local budgets, taxes, and spending;
county, municipal, special-district, and
school-district governments and services;

state and local parties, elections, interest groups, and media; intergovernmental relations; Native American tribes, homeowner associations, and associated states; and selected policy issues such as civil rights, crime, business and economics, health care, and environmental protection.

[W]

Kincaid

GOVT 213 Law and Society

Investigation of the dynamics of the legal process in the regulation of social conflict, change, and control. Topics include philosophical sources; the administration of criminal and civil justice; and litigation as politics. [W]

Lennertz, Silverstein

GOVT 215 Political Parties and the Electoral Process

The role of parties and elections in a democratic society. Topics include suffrage, turnout, partisanship, public opinion, the role of minor parties, the presidential nominating process including conventions, platforms, and campaigns. A discussion of the future of the American political party system and the possibility of realignment or de-alignment.

Staff

GOVT 217 Public Administration

Examination of competing theories of public administration and their practical implications in a federal system. Topics include basic institutions of American public administration, policymaking and implementation roles of administrators, and weaknesses, failures and reforms of existing institutions as illustrated in case studies.

Staff

GOVT 221 Government and Politics in Western Europe

Study and analysis of the political culture and government systems of contemporary Western nations, with major emphasis on British parliamentary democracy and the continental democracies of France and Germany.

McCartney

GOVT 223 Politics of Africa

Analysis of selected sub-Saharan states with particular attention to common institutional features such as ethnic pluralism, weak political parties, dominant public bureaucracies, dependence on external forces, and the problems associated with

them, especially limited capacity to innovate, rural stagnation, ethnic competition, corruption, and military intervention. The South African situation is likewise examined.

McCartney

GOVT 224 Government and Politics of East Asia

This course examines the domestic politics and international relations of China, Japan, and North and South Korea. Topics include the Chinese Revolution; the structure of the Chinese government and post-Mao reforms; the Nationalist government in Taiwan; Japanese imperialism and postwar recovery, Japanese relations with the United States and the rest of Asia; the Korean War, postwar relations between the north and south, and the continuing United States presence in South Korea.

Staff

GOVT 225 Politics of Russia, the Other Post-Soviet States, and Eastern Europe

After a brief examination of the politics of the former Soviet Union and Eastern Europe before World War II, the bulk of the course looks more in depth at developments in this region during and after the cold war. The final section of the course examines the post-1989/90 transition process toward democracy and a market economy in Russia, the other post-Soviet states, the Czech Republic, Poland, and Hungary and touches on the issue of NATO expansion to Poland, Hungary, and the Czech Republic.

Fabian

GOVT 227 Politics in Latin America and the Caribbean

A study of the basic political structures of Latin American nations, with emphasis on the questions of mass political participation and forms of elite governance. Topics covered include peasants in politics, political parties, military and authoritarian regimes, and economic/ political relationships.

McCartney

GOVT 230 International Politics of the Middle East and Persian Gulf

The course examines topics such as the Arab-Israeli conflict, the struggle for domination in the Arab World, the role of the superpowers in the region, and the politics of oil. An analysis of international political processes in some of the Middle Eastern countries is used to examine

explanations for the foreign policies of these countries. The course assesses different solutions to problems confronted by the nations of the Middle East.

Peleg

GOVT 234 American Security Policy

A study of the formulation, implementation, and effects of U.S. foreign policy. The course will examine and analyze U.S. defense and foreign policy vis-à-vis Europe, Asia, Latin America, and Africa; the decision-making community, and such concepts as globalism, imperialism, nuclear and limited war, insurgency, threat perception, confrontation and coexistence, and foreign policy ethics.

Peleg

GOVT 239 International Politics of Asia

Major developments in the modern relations of east and southeast Asian nations with each other and with other world regions. Analysis of selected issues in contemporary international politics of such countries as China, Japan, Korea, The Philippines, Indonesia, and Vietnam.

Staff

GOVT 241 The Politics of Fashion

Examining the fashion system, a multibillion dollar worldwide industry, this course raises issues of appearance, beauty, gender, and sexuality; power, liberation, and oppression; class distinctions and equality. To develop a political theory of fashion, the course studies the practice and production of clothes and style, and analyzes texts from literature, sociology, history, and cultural studies. [W]

Prerequisite: Govt 104, or permission of instructor

Miller

GOVT 243 Ancient and Medieval Political Theory

This course concentrates on Greek political thought in the forms of tragedy, history, and philosophy. The nature of democracy, equality, power, limits, gender, and justice are explored in texts by Aeschylus or Sophocles, Thucydides, Plato, Aristotle, and selections from the Old and New Testaments. [W]

Prerequisite: Govt 104, or permission of instructor

Miller

GOVT 244 Modern Political Theory

An examination of selected theoretical texts from the Renaissance to the French Revolution. The separation of political theory from religious discourse, the rise of the state, and the development of liberal and democratic thought are examined.

Machiavelli, Hobbes, Locke, Montesquieu, and Rousseau are usually treated. [W]

Prerequisite: Govt 104, or permission of instructor

Miller, Silverstein

GOVT 245 Early American Political Thought

This course studies the theoretical and political struggle to define American politics that took place among Puritans, radical democrats, liberal individualists, and liberal nationalists. Early nineteenth-century reactions to the liberal founding are also explored. Authors studied often include Winthrop, Franklin, Jefferson, Paine, the Federalists, Emerson, and Douglass. [W]

Prerequisite: Govt 104, or permission of instructor

Miller

GOVT 246 Recent American Political Thought

The themes of racial conflict, equality, the rise of the state, social darwinism, education, and the changing role of women are explored. The course does not emphasize the historical contexts of ideas, but seeks to discover what is true and relevant for the present in texts written from the Civil War to the present. [W]

Prerequisite: Govt 104, or permission of instructor

Miller

GOVT 250 Environmental Law and Policy

This course introduces students to major environmental laws and regulations, the forces that influence both domestic and foreign environmental policy, the process of developing environmental regulations and policy, and environmental ethics. Through case law and other reading, writing, film, debating, and role playing students consider current laws, how they have evolved, and the difficulty in developing policies and laws that safeguard the economy, the ecology, and our health.

Staff

GOVT 309 Scope and Methods of Political Science

Acquaints students with social science inquiry—the process by which political scientists develop research questions and attempt to find answers. The course explores various approaches to political inquiry, ways to structure and critique arguments, methods to conceptualize a research question and develop causal models, means to create a testable hypothesis, and how to evaluate various methods of data collection. The final section focuses on data processing, analysis, and introductory statistics. Helps evaluate political science material and to enables them to undertake a social science research project.

Prerequisite: One introductory-level course or permission of instructor
Staff

GOVT 310 Politics, Policy, and Law in American Federalism

Explores American federalism as a system of democratic self-rule and share rule, and examines how federal-state-local government relations shape law, politics, and policy in the United States. Topics include: covenantal origins and constitutional theory of American federalism; historical transformations; legal, political, administrative, and fiscal dynamics of intergovernmental relations; and the impacts of federalism on such policy issues as civil rights, business and the economy, taxation, environmental protection, and foreign affairs. [W]
Kincaid

GOVT 311 Constitutional Law and Politics in the United States

Constitutional adjudication as a political process which generated and manages social conflicts regarding the basic allocation of governmental authority in the American system. Topics include judicial review, limits on executive and legislative power, federalism, and the court and social change. [W]

Prerequisite: Govt 101 or permission of instructor
Lennertz, Murphy

GOVT 313 First Amendment in the United States: Law and Politics

This course examines the development of constitutional doctrine as it relates to the First Amendment of the Bill of Rights. Topics include freedom of expression,

church-state relations, and freedom of the press.

Prerequisite: One of the following: Govt 101, 213, 311, 314, 315, or permission of instructor
Murphy, Lennertz, Silverstein

GOVT 314 Liberty in the United States: Law and Politics

Many of the social conflicts that the law considers relate to claims of right grounded upon conceptions of liberty as a fundamental value of the constitutional system of the United States. This course explores the concept of liberty, its place in United States law and politics, and its application to questions of constitutional and political rights. Topics include privacy, and criminal justice. [W]

Prerequisite: One of the following: Govt 101, 213, 311, 313, 315, or permission of instructor
Lennertz, Murphy

GOVT 315 Equality in the United States: Law and Politics

Many of the social conflicts that the law considers relate to claims of right grounded upon conceptions of equality as a fundamental value of the constitutional system of the United States. This course explores the concept of equality, its place in U.S. law and politics, and its application to questions of constitutional and political rights. Topics include discrimination on grounds of race, gender, etc., and remedial programs such as busing and affirmative action. [W]

Prerequisite: One of the following: Govt 101, 213, 311, 313, 314, or permission of instructor
Murphy, Silverstein, Lennertz

GOVT 316 American Public Policy

A study of governmental policy and process at the federal level. The course undertakes an examination of the stages of policy development. It explores the problems of policy-making in the modern bureaucratic state, and thereafter investigates some specific policy areas including economic regulation, labor, welfare, and agriculture. Each student undertakes an intensive individual study of a specific federal policy.

Prerequisite: Govt 101
Staff

GOVT 320 The Presidency and Executive Politics

This course explores the dynamics of executive politics, with primary emphasis upon the structure and operation of the United States Presidency. Topics include the organization of the Presidency and the Executive Branch, models of presidential power and leadership, the process of presidential selection, relationships with other parts of the political system, and executive politics and public policy. [W]
Prerequisite: One of the following: Govt 101, 211, 217, 311, 316, 321, or permission of instructor
Lennertz

GOVT 321 Congress and the Legislative Process

This course analyzes the process of lawmaking in the United States Congress within the context of the legislative process generally. Topics include the structural and functional development of the institution, the rules and norms which govern interaction, congressional elections, leadership and party organization, relationships with other parts of the political system, and public policy.
Prerequisite: One of the following: Govt 101, 211, 217, 311, 316, 320, or permission of instructor
Staff

GOVT 322 Political Change in the Third World

Analysis of Third World political systems with particular emphasis on the concept and dilemmas of political development including political change, political participation and stability, patron-client relations, military governments, and mobilization systems. Opportunity for individual work on topics or countries of personal interest.
Prerequisite: One course from Govt 221-239 or permission of instructor
McCartney

GOVT 329 The Politics of Social Movements

A historical and theoretical examination of social movements and their political ramifications. An examination of both nonviolent participatory movements and the politics of violence and revolution. Several different movements are examined in detail. [W]
Prerequisite: One course from Govt 221-239 or permission of instructor

Fabian

GOVT 331 Politics of the European Union
Major changes are taking place in governance, decision making, and relations between the people, institutions and states that form the European Union. These changes are the main topics covered in this course: the origin and history of European integration, common agricultural policy, monetary integration and relations with other parts of the world. Each year, with a select focus on one EU member and one specific policy, the class will participate in the Mid-Atlantic European Union simulation, held in Washington, DC.
Prerequisite: Govt 102 or 103
Fabian

GOVT 332 International Political Economy
Introduces students to the basic concepts and ideas of international political economy and uses them as a framework to explore some of the most important issues of our times. The role of the nation-state in the rise and functioning of modern industrial economies is examined from different ideological perspectives. The course covers trade, finance, and the globalization of world economies.
Prerequisite: One course from Govt 221-239 or permission of instructor
Staff

GOVT 335 International Law and Organizations

A study of the rules of public international law, especially as they are related to the development of international organizations. Attention is paid to the emergence of global organizations, the United Nations in particular, as well as regional ones (OAS, OAU, NATO, Warsaw Pact, and EEC). Efforts to regulate and limit international conflict, within and outside of international organization, are discussed.
Prerequisite: One course from Govt 221-239 or permission of instructor
Staff

GOVT 336 International Conflict

An examination of different forms of international conflict: nuclear war, conventional war, guerrilla war, limited reprisals, etc. Explanations for international conflicts are suggested in interdisciplinary terms. Some better-known historical and contemporary conflicts are analyzed. The course also deals with the effectiveness of various solutions for the elimination or the

minimization of conflict on the international level.

Prerequisite: Govt 102 and one course from Govt 221-239 or permission of instructor
Fabian, Peleg

GOVT 337 Politics of the Media
Evaluates the role of mass media in American politics. Legal/constitutional issues, the news-making process, sources of potential bias, the development and impact of investigative journalism, the role of the press during elections, the impact of mass media on individual behavior and opinion formation, and the politics of entertainment are just a few of the topics explored. In the end, the class contemplates how mass media has become a tool—indeed a powerful weapon—in American politics.

Prerequisite: Govt 101 or permission of instructor
Staff

GOVT 341 Contemporary Political Thought
This course studies those nineteenth- and twentieth-century thinkers most discussed by political theorists today. We will attempt to chart both the institutional forms of, and theoretical responses to, modern power. Hegel, Marx, Freud, Nietzsche, Weber, and Foucault are often studied in this course.

[W]
Prerequisite: Govt 104, or permission of instructor
Miller

GOVT 366, 367 Special Topics
An offering on a subject selected by the instructor to meet student and departmental needs as conditions permit. Announcement of the subject is made in advance.

Prerequisite: Permission of instructor
Staff

GOVT 370 Political Speech in America
The notion that political speech deserves special protection in a democracy is rooted in classic democratic theory. This course explores classic texts to evaluate the role of political speech in American democracy. Various forms of speech are evaluated: those emanating from ordinary citizens, political candidates, and public officials. Mediated political speech is also considered. Topics include: protest speech, symbolic speech, Internet communication, stump speeches, keynote addresses, political advertising, political debates, and state of the union addresses.

Staff

GOVT 377 Transnational Peace Movements in an International Perspective
Internationalization, globalization, and civil society are explored as possible influences on transnational peace movements.

Historical peace movements considered include movements during World War II, the Vietnam War, the Cold War, the first Persian Gulf War, and the military interventions in Afghanistan and Iraq. Attention is also be given to the related civil rights movements, new social movements, antinuclear movements, and anti-globalization movements. A case study of American peace movements will be presented.

Staff

GOVT 380 Internship

A combination of independent activities including selected reading, satisfactory completion of an internship or working assignment in a public agency, and a written report covering both reading and work assignments. Limited in enrollment by the availability of acceptable projects.

Lennertz

GOVT 390, 391 Independent Study

Subjects are chosen and arrangements are made to suit the needs of each student in consultation with the instructor.

Staff

GOVT 401-412 Senior Seminar

A seminar on a topic selected by the instructor. Required of all majors. [W]

Staff

GOVT 495, 496 Thesis

An independent research project on a topic to be selected by the student and approved by the department. A student must undertake such a program for two semesters to graduate with honors.

Staff

HISTORY

Faculty

Professor Rosen, Head; Professors Fix, Jackson, Miller, Offner, Weiner; Associate Professors Barclay, Sanborn; Assistant Professor Pite

The study of history is an essential feature of a liberal arts education. Historians

examine how people living in different times and places understood their world and acted within it. Students taking history courses at Lafayette acquire knowledge about past events around the globe, develop analytical skills, and are taught to think both about historical specificities and about connections across time and space. The curriculum also teaches apprentice historians how to ask important questions about the past, how to research answers to those questions, and then how to communicate findings in compelling prose and clear oral presentations. These research, analytical, and expository skills are essential for the proper understanding of history, but they are also valuable in a wide range of other endeavors that students pursue both during their college careers and afterwards. History majors graduate with a complex understanding of the past and with the skills necessary to both understand and help transform the social and cultural contexts they inherited.

Requirements for the History Major: Classes of 2009, 2010, and 2011*

The History major consists of nine History courses that must include the following: History 106; two 300-level seminars (or one seminar plus an honors thesis); two courses focusing on a region other than the United States or Western Europe (i.e., two courses on African, Asian, Latin American, or Russian and Eastern European history); a Focus Cluster comprised of five courses at the 200-, 300-, or 400-level that focus on a particular region, time period, or theme.

*Members of the Class of 2011 may choose to fulfill the new requirements for the History major rather than the old requirements. See the new requirements described below for the Class of 2012.

Requirements for the History Major: Class of 2012 and beyond

The History major consists of ten History courses that must include the following: History 105, History 106, History 206, A research seminar (course numbers 350-399), An additional course at the 300 or 400 level, at least one course focused on the history of the United States, at least one course focused on the history of Europe (including Eastern Europe and Russia), at least one course focused on the history of Latin America, Asia, or Africa.

Requirements for the History Minor: Classes of 2009, 2010, and 2011

The History minor consists of five courses. There are three options to choose from:
Option A - Concentration in United States History (Advisors: Professors Jackson, Miller, Offner and Rosen)
Option B - Concentration in European History (Advisors: Professors Fix, Sanborn, and Weiner)
Option C - Concentration in Third World History (Advisors: Professors Barclay and Pite)

Requirements for the History Minor: Class of 2012 and beyond

The History minor consists of five History courses, including History 105, History 206, and research seminar (course numbers 350-399).

History Courses

HIST 105 History of the Modern World
This course surveys modern world history from 1450 to the present. It focuses on global processes and regional particularities throughout the world (including the United States). Each instructor will choose several themes for students to engage with through targeted readings and class discussion in small sections. In addition, there is a weekly "lab" in which all students enrolled in the class will engage in large group activities like attending outside lectures or watching selected films.

Offered: Fall semester
Staff

HIST 106 Introduction to History
This seminar introduces students to the ways in which scholars study and interpret history. Students learn how professional historians analyze primary sources and then develop their own analytical skills through intensive writing assignments. Each section of the course focuses on a discrete historical topic. Current topics include: The Holocaust; Food Histories; Jacksonian Democracy; The Atomic Bomb; Slavery and the Civil War; Witchcraft. [W]
Offered: Spring semester (usually one or two sections in fall semester as well)
Staff

HIST 206 The Politics and Practice of History

This course trains students in the skills, methods, philosophies, and practices of the discipline of history. Students learn how the practice of history has changed over time, the problems and potential of historical evidence, and the role history plays in forming structures of individual and collective awareness. Strong emphasis is placed on learning key research and analytical skills. Potential history majors should take this course in their sophomore year. Open to majors and non-majors.
Staff

HIST 210 Ancient Israel

This course explores Israel from its remotest beginnings among desert tribes of the ancient Near East and the fulfillment of its national destiny as a religious commonwealth in Canaan, to its transfiguration into an exile people under the Romans. Emphasis is placed on cultural and religious factors that differentiated Israel from other Near Eastern kingdoms, especially the Temple at Jerusalem, the national religious cult, and the role of the prophets. The legacy of its religious and moral experience to Western civilization is also discussed.
Staff

HIST 213 African Civilizations

This course provides an introduction to major developments and themes in ancient and medieval African history. Focusing on different parts of the continent, it examines issues related to migration, technological innovation, environment, political formation, gender, religion, and other systems of thought, economy, and Africans' interactions with peoples of other regions of the world. Coverage ranges from grand empires such as the 10th-century Ghana kingdom and the 12th- to 15th-century state located at the Great Zimbabwe complex to smaller scale societies such as the hunter-gatherer San in southern Africa and the BeTwa of central Africa.
Staff

HIST 214 Africa Since 1800

Over the last two centuries, the societies of modern Africa have encountered the forces of state-building, environmental change, slavery, colonialism and transition to self-rule, disease, religious transformation, and capitalism. This course explores three major themes, among others, in experiences on the

continent and in global encounters. Our focus is on African perspectives in primary sources that include conventional documentary sources as well as personal writings, novels, material culture, films, and oral traditions.
Staff

HIST 215 History of Technology

A study of technology from the irrigation cities of the ancient world through militarily financed systems of the late twentieth century. The course stresses the important role played by cultural influences in determining the nature, extent, and direction of technological development. Attention focuses on processes of invention and innovation and their impact on the growth of modern Western civilization. Open to B.A. and B.S. engineering majors without prerequisites.
Jackson

HIST 221 The Medieval World

A study of European history from the fall of the Roman Empire to the fifteenth century. The course focuses upon the interplay of political, economic, and ideological forces in the development and decline of medieval civilization, and attempts to assess the relationship of the Middle Ages to the Italian Renaissance.
Fix

HIST 222 Emergence of Western Europe
Europe from the Renaissance to the early Enlightenment. The first half of the course concentrates on the Renaissance, the second half on the foundations of modern Europe. The emphasis in the second half is on the interrelationship of socioeconomic change, the new European political order, and the intellectual revolution of the sixteenth and seventeenth centuries.
Fix

HIST 225 The Age of Revolution

The course centers on the French Revolution, beginning with an examination of its 18th-century social, economic, and intellectual roots, continuing with the Revolution itself, and ending with an assessment of its aftermath up to 1848. An underlying theme of the course is the connection between the Industrial Revolution and the political revolutions of 1789, 1830, and 1848.
Fix

HIST 227 Europe: 1850-1917

This course examines the operation of the European state system, the impact of the industrial revolution, nationalism, and imperialism on European politics and culture, and the tensions and crises that culminated in the breakdown of the European state system during World War I. [W]
Weiner

HIST 228 Europe: World War I to the Present

This course examines the development of European politics and culture since World War I, with particular emphasis on the impact of the Great War and the Russian Revolution, the age of the dictators, the origins and impact of World War II, and the rebuilding of European society since 1945 under the shadow of Soviet-American hegemony. {W}
Weiner

HIST 230 Early American History, 1600-1840

This course is an introduction to American political, economic, and social history in the colonial revolutionary, and early national periods. The course examines the place of the American colonies in the Atlantic World; European-Indian relations; slavery and the origins of racism; the causes and impact of the American Revolution; the rise of political parties; industrialization and commercial development; reform movements; and changes in social structure, religion, ethnicity, and gender roles.
Rosen

HIST 231 A Nation in Flux: U.S. History, 1840-1940

In the wake of the Jacksonian Era, the United States experienced dramatic transformations in size, socio-political fabric, and economic structure. This course illuminates how social, cultural, political, and economic changes initiated in the 19th century fostered the "modern" America of the 20th century. Topics include: Western expansion, slavery and the Civil War, immigration and industrialization, the Progressive Movement, World War I, civil rights and the Ku Klux Klan; the Great Depression; and the New Deal.
Jackson

HIST 232 The American Revolution

This course examines American political history from 1760 to 1789. The first part

focuses on political debates of the late colonial period, leading up to the Declaration of Independence. Some time is then devoted to studying the military engagements of the Revolutionary War and assessing the wartime experiences of soldiers, women, African Americans, Indians, and Loyalists. The final part analyzes the problems of the Confederation period and the drafting and ratification of the Constitution.
Rosen

HIST 233 Creating a Nation: U.S. History, 1789-1826

This course examines the creation of an American political system and the development of American identity during the first few decades of the nation's history, including how power was allocated among the President, Congress, the federal courts, and the states, as well as how the national economy and a system for raising revenue were established. Other topics include how that generation defended the country against foreign threats and dealt with the challenges of sectional and racial divisions.
Rosen

HIST 234 Slavery, Civil War, and Reconstruction

This course examines American slavery, the Civil War, and the Reconstruction era.
Staff

HIST 236 Recent America: The Great Depression through the 1980s

American politics from the Age of Roosevelt to the Age of Reagan. Topics include the New Deal; World War II and the home front; Truman and the Fair Deal; McCarthyism; corporate culture of the 1950s; the Civil Rights movement; the Great Society; the politics of protest; the quest for equality; the rise and decline of Reaganism.

Prerequisite: Sophomore standing or higher
Offner

HIST 237 The Story of World War II

World War II was perhaps the greatest story, as well as the greatest catastrophe, in human history. This course tells the epic story of the war through the words of American soldiers, sailors, and airmen, as well as nurses, war correspondents, and innocent civilians caught in the ruin and agony of the world's first total war, a war fought without mercy or letup. Primary

sources include letters and diaries from the front lines, war reportage, and novels and films made during and after the war. [W] Miller

HIST 242 Balkan Politics

This course addresses the ways that political ideologies have helped to shape the social and cultural landscape of Eastern Europe and focuses on the Balkans as the case study of this interaction. We will examine the imperial ideologies of the Habsburg and Ottoman empires, nationalism in the 19th and 20th centuries and post-WWII communism. The course concludes with a discussion of the ways that these ideologies affected the most recent period of turbulence in Yugoslavia. Throughout the course, we will be concerned with the relationship between ideas and behaviors and the way that ideology mediates that relationship. We will survey the basic ideologies of rule in the Balkans in the modern period and see how they have shaped (and in some cases failed to shape) politics, society, and culture in the region. (W)

Sanborn

HIST 243 Imperial Russia

This course surveys 1,000 years of Russian history, from the founding of the first state in Kiev in the 9th century to the end of the Great Reforms in the 19th century. Students read primary documents, recent scholarship, and Russian literature in an effort to understand Russia's old regime. Topics addressed include Russia's position in Asia and Europe, the nature of the autocracy, the impact of serfdom, and attempts to create a public sphere. Lecture/discussion.

Sanborn

HIST 244 20th-Century Russia

This course surveys the massive cultural and political transformation in 20th-century Russia. The first unit addresses the major changes in the Russian economy and society that occurred between 1891-1914 before moving to the years of war, revolution, and retreat from 1914-28. The second unit covers the Stalinist era from 1928-53, while the third deals with the decay of the Soviet Union, the Gorbachev Revolution, and the Boris Yeltsin era of the 1990s. Lecture/discussion

Lecture/discussion

Sanborn

HIST 245 Latin America: The Colonial Period

This course examines the colonial era of a region now called Latin America. It will begin with the period preceding the arrival of Christopher Columbus and end with the early nineteenth-century wars of independence. Focusing on the interactions between Native Americans, Africans, and Europeans, we will explore the evolution of a number of multiethnic societies. We will consider how colonialism survived for three hundred years, why the system collapsed, and what legacies it left behind.

Pite

HIST 246 Latin America: The National Period

This course examines the history of Latin America from the early nineteenth century until the present by exploring the social, political, cultural, ideological, and economic issues that surrounded the development of modern nation states. We will not attempt the impossible task of "covering" all of modern Latin American history. Instead, we will focus on revealing case studies that help us to better understand the historical trends, power dynamics, and regional diversity of the Americas.

Pite

HIST 247 East Asia from Neolithic to Feudal Times

Survey of Japanese and Chinese prehistory and respective myths of origin. Introduction to canonical texts of each tradition. Course members analyze persistence, diffusion and change in the domains of East-Asian statecraft, economic life, social organization and culture.

Barclay

HIST 248 East Asia's Last Dynasties: Japan and China, 1600-1900

A comparative study of institution-building, economic life, and social history in China and Japan from 1600 to 1900. Themes include: impact of economic growth and urbanization on agrarian societies; the transition from empire to nation-state; and the interactions of China, Japan, and the Western powers on the eve of dynastic collapse.

Barclay

HISTORY

HIST 249 20th Century East Asia: Imperialism and Anti-Imperialism in China, Japan

Comparisons and connections between Japan and China from the Meiji Restoration and Double-Ten Revolution to the present. Of special concern will be the often catastrophic interplay between Japan's imperial and China's anti-imperial aspirations since the late 19th century. Emphasis on political, diplomatic and intellectual history.

Barclay

HIST 250 East Asian Social History: Work, Family and School in Japan, China
Memoirs, diaries, fiction and documentary are utilized to probe the history of everyday life in modern East Asia. Persistence and change in so-called traditional patterns of economic, family and educational behavior in comparative perspective. The problem of "culture" as an explanatory device for behavior in each country will frame our approach to the materials.

Barclay

HIST 251 The American City

A study of the growth of the city in the United States and its impact upon American history with emphasis on social and ethnic developments, politics, city planning, and urban decay.

Miller

HIST 252 Transformation of the American Environment

This course examines the relationship of environment (and environmental change) to American history. Topics include the growth of urban industrial areas and the transformation of rural hinterlands, the effect of transportation technologies (e.g. railroads and automobiles) on land use, the conflict between "environmental protection" and "conservation" as exemplified in the progressive era battle over construction of Hetch Hetchy Dam in Yosemite National Park, and the environmental movement of the 1960-70s.

Jackson

HIST 253, 254 European Thought, Society, and Culture

European culture and society from the High Middle Ages to the present. The courses offer a variety of texts from literature, philosophy, political theory, and economics, through a perspective provided by works on social history.

Offered: 253/Fall, 254/Spring
Fix

HIST 258 U.S. Constitutional History

This course analyzes the history of the U.S. Constitution. Sample topics of study are: property rights and economic regulation, civil rights and presidential powers and civil liberties in wartime.

Rosen

HIST 261 History of American Foreign Policy (1776-1941)

Study of American foreign policy from the Age of Revolution to World War II. Major topics include Enlightenment origins of American policy; the Monroe Doctrine; imperial expansion; the Spanish-American War; progressivism and power; world war and world revolution; quest for stability in Europe and Asia; the good neighbor in Latin America; appeasement, aggression, and the war against the Axis Alliance.

Prerequisite: Sophomore standing or higher
Offner

HIST 262 History of American Foreign Policy (1941-1991)

Study of American foreign policy from World War II to the present. Major topics include the Grand Alliance and global politics; the Cold War and containment; China, Korea and anti-communism; European and Asian reconstruction; Cuban and Berlin crises; the Vietnam quagmire; nuclear arms races; the rise of a multi-polar world; the end of the ColdWar.

Prerequisite: Sophomore standing or higher
Offner

HIST 265 Modern Jewish History

A survey of the Jewish experience in modern times which focuses primary attention on developments in Europe, the United States, and the Middle East, and analyzes such issues as the process of Jewish emancipation, the rise of political anti-Semitism and the Holocaust, the Zionist movement and the emergence of the state of Israel. Readings include documents, memoirs, short stories, and secondary sources.

Weiner

HIST 280, 281 Internship in History

The department will arrange internships each semester for qualified juniors and seniors with such agencies as Historic

Easton, the Canal Museum, Main Street Program - Easton, PA, Historic Bethlehem, etc. Written reports and conferences required. Enrollment limited by availability of acceptable projects.
Miller

HIST 290, 291 Independent Study
Qualified students may develop, in consultation with an instructor in the department, a single-semester course directed to a particular theme or topic of historical inquiry, providing practice in historical research and writing.
Staff

HIST 305 History Colloquium
Discussion of consequential historical issues and major new monographs. The topic varies according to the scholarly interests of the instructor. This is NOT a history research seminar.
Prerequisite: History 206 or permission of instructor
Offered: As needed
Staff

HIST 310 Colloquium: Human Rights and Modern War
This is an intensive course focused on the ways that the language and practice of human rights have intersected with the practices and justifications of "modern war". Increasing transnational ties by both states and non-state actors have allowed for the globalization both of rights talk and of the tools and techniques of organized violence. The course will focus both on 20th century genocides and on "wars on terror" in the US and Russia.
Prerequisite: Permission of instructor required in all cases
Sanborn

HIST 315 Colloquium: Nation-Building in Iraq, Japan and Vietnam
National-building efforts in Japan, Vietnam and Iraq will be treated as interrelated case studies. Course members will analyze and discuss scholarly works and primary sources directly concerning U.S. interventions in Iraq, Japan or Vietnam, as well as theoretical works that illuminate connections and points of comparison. Writing will emphasize synthesis and criticism of secondary works.
Prerequisite: One of the following courses: History 105 or History 262 or Government 102 or Government 103, or permission of instructor

Barclay

HIST 345 Colloquium: History of Argentina
This class explores the history of Argentina during the past two centuries. We will analyze specific topics including: Independence, Immigration, Peronism, Consumption, and Political Violence. In so doing, we will encounter several intriguing historical figures, including Juan and Evita Peron. In considering their stories alongside others, we will focus on the ways in which Argentines have sought to create a sense of national community deeply inflected with gender, class, race, and ethnic markers.
Prerequisite: History 245 or History 246 or permission of instructor
Pite

HIST 352 The Enlightenment
This seminar is centered around reading and working with primary sources from the European Enlightenment. It culminates in the writing of a lengthy research paper.
Prerequisite: History 206 and 225, or permission of instructor [W]
Fix

HIST 353 Seminar: Gender and Sexuality in Modern Europe
This seminar allows students with training either in modern European history or in gender studies to engage in a semester-long research project on topics related to European gender history. We begin with an overview of core theoretical texts before developing individual projects based on the intensive study of primary sources. Students will not only write an original research paper but will also make several oral presentations over the course of the semester.
Prerequisite: History 206 and one of the following: History 225, 227, 228, 243, 244, 254, WGS 101 or permissions of instructor [W]
Sanborn

HIST 354 Seminar in Russian History
Each year, this course addresses a major theme in the history of modern Russia. Students work with the latest scholarship in the field of Russian history and explore primary sources before writing a substantive research paper. The topic of the course in 2000 was Stalinism, but future topics may include: imperialism in tsarist Russia, the Soviet experience in World War II, or Tolstoy's Russia. [W]

HISTORY

Prerequisite: History 206 and either History 243 or History 244 or permission of instructor [W]
Sanborn

HIST 358 America in the 1920's and 1930's
This seminar focuses on American social and cultural history in the tumultuous years between World War I and II. Topics include the new American Automobile culture, the rise of advertising, the evolution of radio, Prohibition and organized Crime, Architecture and Urban Planning, Visions of Cities of the Future, immigration restriction, the Klu Klux Klan, the controversy over teaching Darwin in public schools, major fiction and films of the period, racial tension and violence, and radicalism and reform during the Great Depression. Students will be introduced to these topics through primary sources, including newspaper, magazines, novels, and films. This is a seminar. Heavy emphasis is placed on written assignments and in-class discussion.
[W]

Prerequisite: History 206 or permission of instructor
Miller

HIST 359 Seminar in Early American History
Each year this course addresses a major topic in early American history. The course may examine a particular time period in depth or it may focus on a theme in early American history. In this seminar, students will read and discuss historical literature on the chosen topic, and they will write a research paper based on extensive use of primary sources.
Prerequisites: History 206 and one of the following: History 230, 232, 233 or permission of instructor [W]
Rosen

HIST 362 Terrorism and Self-Defense: The Boxer Rebellion
Course participants will examine the various causes of the Boxer Rebellion in China ca. 1897-1901. Were Boxer atrocities an outbreak of irrational violence (terror), or acts of local self-defense against overbearing imperialists? This seminar emphasizes historical analysis of the Boxers and current debates about the nature of documentation and historical memory.
Prerequisite: History 206 and one of the following: History 231, 243, 246, 248, 249 or permission of instructor [W]
Barclay

HIST 363 Victor's Justice and War Crimes: Japan in WWII

Course participants will assess the violence unleashed by Japanese forces in wars against China (1931-45) and the United States (1941-45). Global imperialism, Japanese domestic political history, US-Japanese diplomacy, and Sino-Japanese relations will be considered as causal forces and explanatory devices.

Prerequisite: History 206 and one of the following: History 237, 248, 249, 250 or permission of instructor [W]
Barclay

HIST 365 American Technological Development

The growth of American technology is examined from the early years of the Republic through the twentieth century. Topics include interchangeable parts and the implementation of mass production; the factory as system and community, the transportation revolution, regional electric power systems, communication technologies, the process of corporate invention, and the role of the military in developing "modern" technologies. Extensive readings from recent important books and articles in the history of technology are the basis for class discussion. [W]

Prerequisite: History 206 and either History 215 or History 252 or permission of instructor
Jackson

HIST 366 The Rise of the American West (1800-1980)

An examination of the development of the trans-Mississippi American West from the time of the earliest Anglo explorations through the flourishing of major urban centers in the late twentieth century. A range of readings and films focus discussion on social, economic, and technological factors shaping the West's culture. [W]

Prerequisite: History 206 or permission of instructor
Jackson

HIST 368 Seminar in Latin American History

This seminar provides advanced students with an opportunity to conduct research on a subject of their choosing related to the specific theme of the course. In addition to reading and discussing secondary scholarship, students will routinely report the results for their research to the seminar

and write a substantial seminar paper based primarily on their analysis of primary sources. Students with appropriate language skills are particularly encouraged to work with sources in their original languages. [W]
Prerequisite: History 206 and either History 245 or History 246 or permission of instructor
 Pite

HIST 370 Diplomacy and Imperialism
 Selected studies in European diplomatic history since the late nineteenth century. Readings include documents, memoirs, literary works, and secondary sources. Knowledge of a European language is desirable, but not required.
Prerequisite: History 206 or permission of instructor [W]
 Weiner

HIST 371 Seminar on American Foreign Policy
 Readings and research on American foreign policy in the twentieth century. Discussions and analyses of major historical literature; research paper based on extensive use of primary as well as secondary sources. [W]
Prerequisite: History 206 or permission of instructor; open to juniors and seniors only
 Offner

HIST 373 Seminar in Middle East and North African History
 An analysis of the major developments in the region from the late eighteenth century to the present, with emphasis on the impact of European imperialism, the development of nationalism and independence movements, the conflict between traditional Islamic society and modernization, the Arab-Israeli conflict, and the changed place of the region in world affairs. [W]
Prerequisite: History 206 or permission of instructor
 Staff

HIST 374 Politics and the Arts: France, 1919-1945
 An analysis of major historical and artistic developments during the late Third Republic and World War II, with particular emphasis on the interconnection of history, literature, and the other arts. The course is value-oriented, focusing on the individual's capacity to resist totalitarianism, the role of artists and intellectuals in society, and modern alienation. [W]
Prerequisite: Hist 206 or permission of instructor

Weiner

HIST 375 Seminar in African History
 Each year this course addresses a major topic in African History. The course may examine a particular time period in depth or it may focus on a theme in African history. In this seminar, students will read and discuss historical literature on the chosen topic, and they will write a research paper based on extensive use of primary sources.
Prerequisites: History 206 and either History 213 or History 214 or permission of instructor [W]
 Staff

HIST 495, 496 Thesis
 Guided by a member of the staff, the student writes a thesis in a specialized field. If at the end of the first semester the student's project appears to have honors potential, the student may apply to pursue graduation with honors. Upon satisfactory completion of the essay, the student takes an oral examination on the thesis and its historical field.
Prerequisite: Hist 206 [W]
 Staff

HISTORY AND GOVERNMENT & LAW

Program closed to new students. History and Government & Law is a coordinate major between the departments of history and government and law. Teaching and scholarly study in these two disciplines often overlap. For example, a study of the political, economic, and social history of a nation; constitutional history and the study of law or society; or the study of conflict resolution.

Historians tend to focus on analysis of past events, while political scientists usually emphasize the present with a view to predicting the future. Historians are less concerned with theory than with objective analysis of particular developments, while political scientists tend to use theory as the basis for interpreting events. Still, most historians write with a theoretical eye on the present as a means of understanding the past, and political scientists depend on an extensive knowledge of history to develop theory.

Students have often taken a double major in these two areas, especially those interested in graduate study in law, international affairs, or teaching. Study in these two

disciplines helps students to develop critical thinking, analysis, and writing skills—the qualities most sought after by employers—and opens the way to a broad range of careers in the public and private sectors or for advanced graduate/professional training in virtually every area.

History and Government & Law Course

NOTE:

For courses see History and Government & Law

HISTORY AND RELIGIOUS STUDIES

Program closed to new students. One of the most important aspects of the study of the history of societies and cultures is the study of the religions of people past and present. Throughout world history religious experience has been a central motivating and formative force in the growth of societies and states and the formation of cultural identities. The study of religion in history is one of the keys for understanding the belief structures that underlie the evolution of human civilizations. Likewise, the study of religions is deepened by a historical perspective. The study of the formation and growth of religious ideas, practices, and institutions is critical for understanding religions as they exist today. Putting world religions in their proper social, political, and cultural historical perspective creates a better understanding of the wide influence of religious traditions and how they have functioned in societies past and present.

History and Religious Studies Course

NOTE:

For courses see History and Religious Studies

INTERNATIONAL AFFAIRS

Faculty

Professor Pribic, Chair (Foreign Languages and Literatures); Professor Peleg (Government and Law); Professor Andy Fix (History); Professor John McCartney (Government & Law);

Associate Professor David Veshosky (AB Eng./Civil & Environmental);

In this major, you gain a multifaceted perspective on world issues and foreign policy from several fields of study while preparing for a career in foreign service, international banking, insurance, law, government, information and social agencies, multinational businesses, the military, journalism, and teaching.

Because the major requires the scholarly insights and analytical tools of several disciplines, students are exposed to a variety of viewpoints in the social sciences and humanities. A required concentration in four major disciplines—government, history, economics, and foreign languages—provides a diversified and balanced view of international relations.

Majors are strongly encouraged to study abroad. You may also consider a semester studying international relations in Washington, D.C. A variety of other activities are available such as a three-day European Union simulation at the State Department and various embassies in Washington, D.C.

Requirements

A total of 16 courses are required.

Foreign Language requirement: Advanced level language proficiency (e.g. French 211, German 211, Spanish 211; or an equivalent Japanese or Russian language course).

Economics and Business requirement (three courses): 101, 210, and one international economics course chosen from an approved list.

Government and Law requirement (three courses): 102 (or 103) and two courses at or above the 200-level chosen from an approved list.

History requirement (three courses): 105 and two courses at or above the 200-level chosen from an approved list.

Two additional courses must be taken from the list of approved IA-related courses in Economics and Business, Foreign Languages and Literatures, Government and Law, or History. International Affairs thesis courses or Independent Study courses may also be used to satisfy this requirement. All majors are required to complete IA 261:

Research Methods and IA 362: Seminar. Students earning advanced placement course credit must still complete a total of 16 courses and so must select from a list of approved courses:

Foreign Languages: Any foreign language course (minimum 211 or above)

Economics and Business: Normally completing 101, 210, and one international economics course chosen from the following: 346, 351, 352, 353, 354, 355, 356

Government and Law: Normally completing 102 (or 103) and two courses chosen from the following: 221, 222, 223, 224, 225, 227, 228, 229, 230, 232, 234, 235, 236, 237, 238, 239, 249, 402, 405

History: Normally completing 105 and two courses chosen from the following: 222, 225, 227, 228, 243, 244, 245, 246, 247, 248, 249, 253, 254, 255, 256, 261, 262, 265, 270, 354, 368, 370, 371, 372, 373, 374

International Affairs: 261, 362 (seminars); 495, 496 (Honors Thesis); 301, 302 (Independent Study) International Experience: All international majors are strongly encouraged to complete a significant foreign study program, defined as a semester or year abroad, summer school study, language training abroad, or an interim session. Students intending to study abroad consult first with the chair for approval of their programs, then submit their applications to the Academic Progress Committee.

International Affairs Courses

IA 261 Research Methods in International Affairs

The course introduces students to the research methods utilized in the study of international relations. Emphasis is on the interdisciplinary nature of the discipline. Quantitative and qualitative methods are examined. The goal is to provide students with the ability to critically read the sophisticated literature of the discipline and understand its methodology. Required of all International Affairs majors; others with permission of instructor. [W] Staff

IA 301, 302 Independent Study
Junior and senior International Affairs majors are encouraged to focus on a topic of particular interest to them, under the supervision of a selected faculty member. Generally, this course involves intensive reading and written reports, though other arrangements can be made between the student and faculty member. Students must obtain the approval of the International Affairs chair and the selected faculty member.
Offered: As needed
Staff

IA 362 Seminar

Designed as a capstone seminar to provide an opportunity for the major to bring together, through research and the completion of several papers, his or her various experiences in the discipline. Normally the seminar explores a topic or topics of current international interest through an interdisciplinary approach. Required of all International Affairs majors; others with permission of instructor. [W] Prereq

IA 495, 496 Thesis

Students interested in completing a thesis for program honors are advised to consult with the chair toward the end of their junior year. Following selection of a topic and a thesis director, a research design must be provided at the opening of the fall semester. The student then completes 495. If the thesis director and chair conclude that sufficient progress has been made, the student takes 496 and completes a thesis for submission for honors.
Staff

INTERNATIONAL ECONOMICS AND COMMERCE

International Economics and Commerce is a coordinate major between the departments of economics and business and foreign languages and literatures. It gives students who are interested in the language, culture, and economics of a specific country a way to pursue that interest. They may choose from three tracks: French, German, or Spanish. The major requires the development of advanced language skills. Students are encouraged to spend a semester

MATHEMATICS

abroad in a country where the language of their selected track is spoken.

Requirements

Economics and Business 101, 210, or 211-212, 218; French, German, or Spanish 111, 112, 211, 225; three electives in Economics and Business chosen from 344, 346, 347, 351, 352, 353, 354, 355, 359, and INDS 250; two electives in the language of choice from French 323, 424, 431, 495 and 496; German 311, 322, 424, 431, 495, and 496; Spanish 311, 313, 314, 318, 427, 428, 495 and 496; and the Common Course of Study including the foreign culture requirement.

International Economics and Commerce Course

NOTE:

For courses see Economics & Business and Foreign Languages & Literatures

MATHEMATICS

Faculty

Associate Professor Salwach, Head; Professors Fisher, Gordon, T. Hill, McMahon, Meier, Reiter, Traldi; Associate Professors Berkove, Gorman, Kimber, Lu, Root, D. Smith, Stonesifer, Yuster, Zulli, Assistant Professors Corvino, Teboh-Ewungkem

The mathematics programs provide a rigorous introduction to the central ideas of algebra and analysis, complemented with electives of direct interest to students who intend to pursue careers in actuarial science, data analysis, finance, higher education, management, secondary education, and many other fields in which mathematical techniques are used or taught. Students who have pursued less mathematics-centered careers, like law and medicine, have found that the mathematician's habits of logical thought and careful abstraction are valuable there, too. Small upper-level classes, seminars, and independent study and research projects give mathematics students the opportunity to study particularly interesting topics in depth.

Requirements for the Majors

The mathematics department administers three majors: A.B. in Mathematics, B.S. in Mathematics, and A.B. Joint Major in Mathematics and Economics. Requirements

for these majors, in addition to the Common Course of Study, are listed below.

Bachelor of Arts in Mathematics:

Mathematics 161, 162, 263, 290, 300, 351, 356, and three elective courses in mathematics numbered 300 or higher (Mathematics 264 or 282 may replace one 300-level elective). Recommended courses: Computer Science 102, Mathematics 400

Bachelor of Science in Mathematics:

Mathematics 161, 162, 263, 290, 300, 351, 356, 400 or 496, and five elective courses in mathematics numbered 300 or higher (Mathematics 264 or 282 may replace one 300-level elective; at least one 300-level elective must have Mathematics 351 or 356 as a prerequisite); Physics 131 or 151; Physics 132, 133, or 152; and Computer Science 102 or Computational Methods 151.

Bachelor of Arts in Mathematics and Economics: See Mathematics and Economics

Requirements for the Minor

Mathematics 161, 162, 263 plus three mathematics courses numbered higher than 263, including at least two numbered 300 or higher. Normally independent study courses may not be used toward satisfying the requirements for the minor.

Mathematics Courses

MATH 103 Patterns and Order

Mathematics can be viewed as a search for patterns and order. This course gives an overview of the approaches used in various branches of mathematics to recognize and understand patterns. Through reading, writing, discussion, and problem solving, students explore such topics as number, shape, change, and position, each of which has been central in the development of modern mathematics. Not open to students who have credit for any mathematics course numbered above 120, except by permission of instructor.

Staff

MATH 110 Statistical Concepts

An introduction to the concepts and reasoning underlying the interpretation of data and chance. Emphasis is on understanding how statistical analysis is used to gain insight into a wide variety of areas of human interest. Topics include elements of descriptive statistics, design of experiments, laws of probability, and

inference from a sample to a population (including confidence intervals and hypothesis testing). Not open to students who have credit for any mathematics course numbered above 120, except by permission of instructor.
Staff

MATH 125 Modeling and Differential Calculus

An introduction to mathematical modeling and the use of differential calculus. Topics include: analysis and manipulation of elementary functions, including trigonometric, exponential, and logarithmic functions; the differential calculus of such functions; and optimization. An ongoing emphasis will be the use of elementary functions as well as the differential calculus to model phenomena in the natural, social and life sciences. Not open to students who have credit for Mathematics 141 or 161.
Prerequisite: Two years of high school algebra
Staff

MATH 141 Differential Calculus and Economic Modeling

This course in the differential calculus of one and several variables is intended for students who plan to major in Economics and Business. Mathematical concepts include exponentials and logarithms, limits, ordinary and partial derivatives, techniques of differentiation, contours, and optimization in both one and several variables. Economic concepts and models include supply and demand curves, market equilibrium, present and future value, marginal analysis, total and average cost, elasticity of demand, and optimization subject to a budget constraint. Not open to students who have credit for Mathematics 161.
Prerequisite: Three years of High School mathematics
Staff

MATH 161 Calculus I

The sequence Mathematics 161, 162, 263 provides an introduction to calculus for students of mathematics, engineering, and the sciences. Topics include limits, derivatives, techniques of differentiation, definite integrals, the fundamental theorem of calculus, and applications of derivatives and integrals.
Prerequisite: High school trigonometry
Staff

MATH 162 Calculus II

A continuation of Mathematics 161. Topics include techniques and applications of integration, introduction to differential equations, parametric curves and polar coordinates, infinite series and Taylor approximation.
Prerequisite: A grade of C- or better in Mathematics 161 or 165
Staff

MATH 165 Calculus I+

A course which covers the same topics as Mathematics 161 while using a workshop experience and collaborative learning to give special emphasis to the development of problem-solving skills. Enrollment is by invitation of the Department of Mathematics.
Prerequisite: High school trigonometry
Staff

MATH 166 Calculus II+

A course which covers the same topics as Mathematics 162 while using a workshop experience and collaborative learning to give special emphasis to the development of problem-solving skills. Enrollment is by invitation of the Department of Mathematics.
Prerequisite: A grade of C- or better in Mathematics 161 or 165
Staff

MATH 182 Discrete Structures

An introduction to discrete structures and algorithms and some mathematical tools and methods of reasoning that aid in their development and analysis. Topics include: sets, counting, probability, algorithms, mathematical induction, relations, graphs, and trees.
Prerequisite: Computer Science 102, Mathematics 161
Offered: Spring semester
Staff

MATH 186 Applied Statistics

An introductory course emphasizing standard methods and reasoning used in analyzing data. Topics include exploratory data analysis, design of experiments, least squares analysis, probability, sampling distributions and methods of inferential statistics. Includes an introduction to a statistical computing package. Not open to students who have credit for Mathematics 176 or Psychology 120.
Prerequisite: Mathematics 125, 141 or 161, or permission of instructor

Staff

MATH 263 Calculus III

A continuation of Mathematics 162. Topics include vector algebra, vector calculus, partial derivatives, gradients and directional derivatives, tangent planes, the chain rule, multiple integrals and line integrals.

Prerequisite: A grade of C- or better in Mathematics 162 or 166

Staff

MATH 264 Differential Equations with Linear Algebra

An introductory course in ordinary differential equations including techniques of elementary linear algebra. Emphasis is on first-order equations, and higher-order linear equations and systems of equations. Topics include qualitative analysis of differential equations, analytical and numerical solutions, Laplace transforms, existence and uniqueness of solutions, and elemental models in science and engineering.

Prerequisite: Mathematics 263

Staff

MATH 272 Linear Algebra with Applications

An introductory course in linear algebra emphasizing applications to fields such as economics, natural sciences, computer science, statistics, and engineering. The course covers solutions of systems of equations, matrix algebra, vector spaces, linear transformations, determinants, eigenvalues and eigenvectors. Not open to students who have credit for Mathematics 300.

Corequisite: Mathematics 263 or permission of instructor

Staff

MATH 282 Techniques of Mathematical Modeling

A course that introduces students to the fundamentals of mathematical modeling through the formulation, analysis, and testing of mathematical models in a variety of areas. Modeling techniques covered include proportionality, curve fitting, elementary linear programming, and simulation.

Prerequisite: Mathematics 162 or 166

Offered: Spring semester

Staff

MATH 290 Transition to Theoretical Mathematics

An introduction to the concepts and techniques that permeate advanced mathematics. Topics include set theory, propositional logic, proof techniques, relations, and functions. Special emphasis on developing students' facility for reading and writing mathematical proofs. Examples and additional topics are included from various branches of mathematics, at the discretion of the instructor.

Corequisite: Mathematics 263 or permission of instructor

Staff

MATH 300 Vector Spaces

A first course in theoretical linear algebra, emphasizing the reading and writing of proofs. Topics include systems of linear equations, matrix algebra, vector spaces and linear transformations, eigenvectors and diagonalization, inner product spaces, and the Spectral Theorem. Not open to students with credit for Mathematics 272.

Prerequisite: Mathematics 290 or permission of instructor

Offered: Spring semester

Staff

MATH 301 Case Studies in Mathematical Modeling

A course which engages students in the creation of mathematical models to answer questions about a variety of phenomena. Students work in small teams on a sequence of projects which require the formulation, analysis, and critical evaluation of a mathematical model and conclude with the submission of a written report by each student. [W]

Prerequisite: Mathematics 272 or 300

Offered: Fall semester

Staff

MATH 306 Operations Research

A study of some mathematical methods of decision making. Topics include: linear programming (maximizing linear functions subject to linear constraints), the simplex algorithm for solving linear programming problems, networks, probability, queueing and inventory problems, and applications.

Prerequisite: Mathematics 272 or 300 or permission of instructor

Offered: Spring semester

Staff

MATH 310 Ordinary Differential Equations

A course in the theory and applications of ordinary differential equations which emphasizes qualitative aspects of the subject. Topics include analytic and numerical solution techniques for systems of equations, graphical analysis, stability, existence-uniqueness theorems, and applications.

Prerequisite: Mathematics 263, and 272 or 300

Offered: Spring semester of even-numbered years

Staff

MATH 312 Partial Differential Equations

An introduction to partial differential equations and their applications. Formulation of initial and boundary value problems for these equations and methods for their solution are emphasized.

Separation of variables and Fourier analysis are developed. The course includes interpretation of classical equations and their solutions in terms of applications.

Prerequisite: Mathematics 263

Offered: Spring semester of odd-numbered years

Staff

MATH 323 Geometry

Various geometries are considered including absolute, Euclidean, and the classical non-Euclidean geometries. General properties of axiomatic systems, models, and the role of Euclidean geometry in the development of other branches of mathematics are discussed.

Prerequisite: Mathematics 162 or permission of instructor

Offered: Fall semester of even-numbered years

Staff

MATH 325 Combinatorics

An introduction to the techniques and theory of enumeration of finite sets. Topics include combinations, permutations, generating functions, recurrence relations, the inclusion-exclusion principle, block designs, and graph theory.

Prerequisite: Mathematics 263, or permission of instructor

Offered: Fall semester of odd-numbered years

Staff

MATH 328 Number Theory

An introduction to the theory of the integers and techniques for their study and

application. Topics include primality, modular arithmetic, arithmetic functions, quadratic residues, and diophantine equations.

Prerequisite: Mathematics 263 or permission of instructor

Offered: Spring semester of odd-numbered years

Staff

MATH 335 Probability

A development of basic probability theory including the axioms, random variables, expected value, the law of large numbers and the central limit theorem. Additional topics include distribution functions and generating functions.

Prerequisite: Mathematics 263

Offered: Fall semester

Staff

MATH 336 Mathematical Statistics

A mathematical development of fundamental results and techniques in statistics. Topics include estimation, sampling distributions, hypothesis testing, correlation and regression.

Prerequisite: Mathematics 335

Offered: Spring semester

Staff

MATH 343 Advanced Multivariable

Calculus

A continuation of multivariable calculus from Mathematics 263, using concepts from linear algebra. Topics include the derivative as a linear transformation, the Chain Rule, the Inverse and Implicit Function Theorems, the Change of Variables Theorem, and the integral theorems of Green, Gauss and Stokes; additional topics may include differential forms and series of functions.

Prerequisite: Mathematics 263, and 272 or 300

Offered: Fall semester of odd-numbered years

Staff

MATH 345 Complex Analysis

An introductory course in the calculus of complex functions including the algebra and geometry of complex numbers, elementary mappings, complex derivatives and integrals, Cauchy-Riemann equations, harmonic functions, Cauchy's Integral Theory, Taylor and Laurent series, residues.

Prerequisite: Mathematics 263

Offered: Fall semester of even-numbered years

Staff

MATH 351 Abstract Algebra I

An introduction to some of the fundamental ideas and structures of abstract algebra. Homomorphisms and isomorphisms, substructures and quotient structures are discussed for algebraic objects such as fields, vector spaces, rings, and groups. Other topics may include factorization in rings, and finite group theory.
 Prerequisite: Mathematics 290
 Offered: Fall semester
 Staff

MATH 352 Abstract Algebra II

Topics may include extension fields, geometric constructions, algebraic coding theory, and algebraic number theory.
 Prerequisite: Mathematics 351, and a corequisite of 300 or permission of instructor
 Offered: Spring semester of even-numbered years
 Staff

MATH 356 Introduction to Real Analysis

A rigorous development of the calculus of functions of one real variable including the topology of the real line, limits, continuity, differentiation and integration.
 Prerequisite: Mathematics 290
 Offered: Spring semester
 Staff

MATH 358 Topology

The main topics are set theory, the separation axioms, connectedness, compactness, and the continuity of functions. Classical general topological spaces are studied including regular spaces, normal spaces, first or second countable spaces, and metrizable spaces.
 Prerequisite: Mathematics 356 or permission of instructor
 Offered: Fall semester of even-numbered years.
 Staff

MATH 360 History of Mathematics

Mathematics is a living, changing subject whose truths, once identified, have remarkable staying power. In this course students analyze various episodes in the history of mathematics that illustrate how mathematical knowledge has developed over the years. Topics include: Egyptian and Babylonian mathematics, indigenous mathematics from outside of the Western tradition, the contributions of Euclid and

Ancient Greek mathematics, the birth of calculus, and selected topics from the 19th and 20th centuries.[W]

Prerequisite: Mathematics 162

Offered: Fall semester of odd-numbered years.

Staff

MATH 372 Mathematics Seminar

This course offers a major branch of mathematics not covered by the regular offerings of the department. Course descriptions are available in the department office.

Prerequisite: Depend on subject matter.

Usually, completion of the calculus sequence constitutes a minimal prerequisite.

Offered: As needed

Staff

MATH 375-389 Advanced Special Topics

Chosen from among a wide range of mathematical topics accessible to junior and senior mathematics majors. When offered, the special topic to be studied will be listed in the Semester Course and Hour Schedule, and course descriptions will be available in the department office.

Staff

MATH 391-394 Independent Study

Study by an individual student, under the supervision of a mathematics faculty member, of a mathematical subject not covered by courses offered by the department. The program of study must be drawn up by the student and the faculty supervisor and approved by an ad hoc committee of the department.

Staff

MATH 400 Senior Seminar

A course in which each student undertakes a thorough and independent study of one or more topics in mathematics. Students are required to make oral presentations on their work and to prepare written reports on their topics. [W]

Prerequisite: Senior standing and satisfactory completion of at least two 300-level courses in mathematics

Offered: Spring semester

Staff

MATH 495, 496 Thesis

Students desiring to take Honors in Mathematics should inform their department advisers early in the second semester of the junior year. Honors work involves a guided program of independent study culminating

in a thesis on a topic to be selected by the student in consultation with his or her adviser and approved by the department. [496: W] Staff

MATHEMATICS AND ECONOMICS

This interdisciplinary major gives mathematically talented students with career plans in economics or business a wide range of mathematical skills and significant experience with the fundamental ideas of economics and business. It also distinguishes them from the thousands of students around the country who major in economics and business. A distinctive feature of the program is the senior capstone experience, in which students integrate their study of mathematics and economics.

Requirements for the Major
 Mathematics 161, 162, 263, 272 (or 300), 282, 306, 335, 336; Economics and Business 101, 211, 212, 218, 365, and two electives numbered 300 or higher; a capstone experience in the form of a one-semester course, taken during the senior year, designed to integrate the ideas and techniques students have encountered in their work in mathematics and economics. (The capstone experience may consist of Economics 313, Economics 324, 366, Mathematics 301 or appropriate independent study or honors work. Students interested in graduate study in economics may substitute Mathematics 356 for the capstone course.) Computer Science 102 is recommended as an elective for students in this major. Administration of the Joint Major in Mathematics and Economics and advising of students in the program is done by the Department of Mathematics.

Mathematics and Economics Courses

NOTE:

For courses see Mathematics and Economics & Business

MILITARY SCIENCE

Faculty

Professor of Military Science Lt. Col. Kuchinski; Assistant Professors Maj. Haldeman, Capts. Brede and Weinhofer;

Instructors Master Sgt. Pino, Sgt. First Class Boyer, and Staff Sgt. Acree.

Military Science is part of the United States Army Cadet Command. As such, it sponsors the Reserve Officers' Training Corps (ROTC) Program. Classes are taught under the auspices of the Lehigh Valley Steel Battalion ROTC program, which is the local headquarters for ROTC and military science instruction. Depending upon enrollment, classes are taught either at Lafayette College or at Coxe Laboratory, Lehigh University.

The ROTC Program complements the educational process by adding those additional skills and areas of knowledge critical to success in a position of leadership in either the Army or as a leader in business or industry.

The objectives of the military science program are to develop leadership and management ability in each student; to provide a basic understanding of the Army's history, philosophy, organization, responsibilities, and role in American society; and to develop fundamental professional knowledge and skills associated with officership. These objectives are achieved through classroom instruction, leadership laboratories, field trips, role-playing, leadership simulations, and individual assessment and counseling.

Army ROTC offers both a four-year program and a two-year program. The four-year program consists of the two-year basic course and a two-year advanced course. The two-year program consists of the two-year advanced course offered to students with previous military experience and those who have successfully completed a five-week ROTC Leadership Training Course (LTC). Basic course students incur no obligation for service in the Army as a result of taking these courses.

Basic Course. Normally taken in the first-year and sophomore years, the course provides training and instruction in leadership, public speaking, and basic military subjects, such as the Army's role and organizational structure, history and philosophy of the Army, basic tactics, land navigation, first aid, group dynamics, and leadership traits and characteristics.

Advanced Course. Normally taken in the junior and senior years, advanced instruction includes management, military skills, advanced leadership and tactics,

logistics, administration military law, ethics, and professionalism, and includes attendance at ROTCs National Advanced Leadership Course (LDAC). Students receive \$350-\$400 per month subsistence pay during the junior and senior years. To enroll in the advanced course, an applicant completes either the basic course or the five-week Leadership Training Course; or has received basic course credit for previous military experience.

Professional Military Education. This education is required for a commission and consists of two essential parts: a baccalaureate degree and at least one undergraduate course in military history (History 255, 262, or 370).

Uniforms and Equipment. The department supplies all uniforms and equipment needed by the student for military science courses. Students are charged only for those items that are not returned when they leave the program.

Transfers. Qualified students transferring from another institution may enter the ROTC program at the appropriate level and year provided they have received the necessary credits, the recommendation of their former professor of military science (if applicable), and the approval of the College.

Obligation after Graduation. Upon graduation a student will receive a commission as a Second Lieutenant in either the active Army or the Reserve Forces. If offered active duty, scholarship students serve four years while non-scholarship students serve three. If offered reserve duty, students normally serve six to eight years in a Reserve or National Guard unit.

Graduate Studies. ROTC graduates may request to delay their active service to pursue a full-time course of instruction leading to an advanced degree. Delay does not lengthen the active service obligation unless the degree is obtained at military expense.

Career Opportunities. Individuals are commissioned as officers in the United States Army after completion of the ROTC program, the National Advanced Leadership Course (LDAC), and a bachelor's degree. They then qualify in branches (specialties) such as the Corps of Engineers, Aviation, Armor, Infantry, Field Artillery, Air Defense Artillery, Signal Corps, Military Intelligence, Military Police, Chemical

Corps, Ordnance Corps, Finance, Transportation, Adjutant General, Quartermaster, Medical Service Corps, or Nursing Corps. Officers work as leaders/managers, specialists, or combinations of the two depending on the assignment.

There are many opportunities for advanced military and civilian schooling beginning with nearly three months of training in the branch specialty. A person may later receive additional training in a specialty area such as: information systems engineering, information operations, strategic intelligence, psychological operations, space operations, human resource management, comptroller, public affairs, foreign area specialization, operations research/systems analysis, nuclear operations and research, information systems management, simulations operations, or strategic plans and policy.

Students selected for reserve forces duty become officers in the Army Reserve or Army National Guard in their hometown area and essentially have a part-time military career. Active duty officers are assigned at various locations throughout the world. An officer can earn retirement through both programs after 20 years of service.

ROTC Scholarship Program

This program is designed to offer financial assistance to outstanding men and women entering the ROTC program or those who are currently enrolled. Each scholarship provides \$23,000 annually in tuition and fees, a textbook and supplies allowance of up to \$900, and pay of \$250 per month for the period the scholarship is in effect. Three-year scholarships are available to outstanding cadets who are currently enrolled in ROTC and are completing their first year of college.

This program is also open to all qualified students who are not currently enrolled in Army ROTC but who are willing to join in their sophomore year. A similar two-year scholarship is available to sophomores. Two-year scholarships are also available at the Leadership Training Course.

Four-year scholarships are open to anyone entering ROTC as a first-year student. Application for scholarships must be made to Headquarters, U.S. Army Cadet Command, Fort Monroe, Virginia, by Aug.

15 before the senior year of high school for early selection, but no later than Dec. 1 for normal application. Application booklets are available from most high school guidance offices, or may be obtained from Cadet Command at the address above or from the Army ROTC web site.

Leadership Training Course

Students who have not considered the benefits of ROTC and a military commission until late in their sophomore year may attend a five-week Leadership Training Course at Fort Knox, Kentucky during the summer between the sophomore and junior years. Upon successful completion they are awarded "credit" for the Basic Course and enter the Advanced Course the beginning of their junior year. Special two-year scholarships are awarded to outstanding performers.

National Advanced Leadership Course

Formally enrolled students in pursuit of a commission must successfully complete a five-week training program normally conducted at Fort Lewis, Washington, between their junior and senior year. Focus is on evaluation of military leadership skills over a broad spectrum of training events. Students are paid for travel and attendance. Prerequisites are completion of the basic military science courses or their equivalent and MS 301 and 302.

Additional Training Opportunities

Volunteer activities include: U.S. Army Airborne School, U.S. Army Air Assault School, Ranger Club (study of small unit tactical operations), orienteering, formal military social affairs, rappelling, Marquis Guard (color guard), and trips to various military installations and historical battlefields.

Course Credit

Credits earned in MS 101, 102, 201, 202, 303, and 304 are recorded on the transcript and count toward the GPA, but may not be used to fulfill the minimum course requirement for graduation. MS 401 and 402 may be used to fulfill two course credits toward the 32 course requirement for graduation in A.B. and B.S. science programs. In the case of B.S. engineering programs, MS 304 and 401 may be used to fulfill two free electives and MS 402 to

satisfy one of the required Humanities/Social Science electives.

Leadership Laboratory

For all MS courses, a Leadership Laboratory is scheduled. The lab provides students the opportunity to demonstrate an understanding of the leadership process and develop fundamental military skills. Lab dates and times are included in the course syllabus.

During labs, instruction on a variety of subjects with military application provides the context within which students have opportunities to both teach and lead in a group setting. Responsibility is expanded as the student progresses through the military science program. In the senior year, students assume responsibility for the planning, preparation, and conduct of the laboratory. Leadership Laboratory is mandatory for all students enrolled in military science courses.

Military Science Courses

MS 101 Introduction to Military Science

This course offers an introduction to the Army, customs and courtesies, Army values, and leadership philosophy. The course work in MS 101 also includes the basics of map reading, physical fitness, and goal setting. Students may elect to take the class only on a pass/fail basis, or enroll in ROTC without a military obligation. Enrollment in ROTC includes practical leadership exercises and a field training exercise as well as weekly physical training. Cadets receive one course credit with the completion of both MS 101 and MS 102. Offered: Fall semester
Staff
Credits earned in MS 101, 102, 201, 202, 303, and 304 are recorded on the transcript and count toward the GPA, but may not be used to fulfill the minimum course requirement for graduation.

MS 102 Leadership Assessment and Group Dynamics

This course focuses on the roles of the individual and the leader within a group. There is emphasis on leadership skills and characteristics. More advanced map reading, land navigation, and basic maneuver techniques are included in the curriculum. The course work emphasizes problem solving and practical applications. Students may elect to take the class only on a

pass/fail basis, or enroll in ROTC without a military obligation. Enrollment in ROTC includes practical leadership exercises and a field training exercise as well as weekly physical training. Cadets receive one course credit with the completion of both MS 101 and MS 102.

Offered: Spring semester

Staff

Credits earned in MS 101, 102, 201, 202, 303, and 304 are recorded on the transcript and count toward the GPA, but may not be used to fulfill the minimum course requirement for graduation.

MS 201 Leadership Theory and Management

Contemporary theories, traits, principles, and small unit tactics development. Emphasizes leadership philosophies, communications, leader-follower relationships, and leadership problem-solving. Leadership simulations. Includes Leadership Laboratory and FTX. One course credit.

Offered: Fall semester

Staff

Credits earned in MS 101, 102, 201, 202, 303, and 304 are recorded on the transcript and count toward the GPA, but may not be used to fulfill the minimum course requirement for graduation.

MS 202 Topographic Analysis and Land Navigation

Use of maps as tools in basic terrain analysis and as navigational aids. Emphasis on practical application in a field environment. Includes Leadership Laboratory and FTX. One course credit.

Offered: Spring semester

Staff

Credits earned in MS 101, 102, 201, 202, 303, and 304 are recorded on the transcript and count toward the GPA, but may not be used to fulfill the minimum course requirement for graduation.

MS 303 Advanced Military Skills

Essential junior officer skills: advanced land navigation, principles of war, small unit tactical planning, tactics and techniques of the soldier, team-leading techniques, oral communications, and trainer skills. Emphasizes application, field experience, and Advanced Camp preparation. Includes Leadership Laboratory and FTX. One course credit.

Prerequisite: Formal enrollment in ROTC Advanced Course

Offered: Fall semester

Staff

Credits earned in MS 101, 102, 201, 202, 303, and 304 are recorded on the transcript and count toward the GPA, but may not be used to fulfill the minimum course requirement for graduation.

MS 304 Advanced Leadership

Critical examination of leadership qualities, traits, and principles with an emphasis on the military environment. Self, peer, and instructor leadership evaluation. Advanced military skills reinforced. Advanced Camp preparation is emphasized. Includes Leadership Laboratory and FTX. One course credit.

Prerequisite: Formal enrollment in ROTC Advanced Course

Offered: Spring semester

Staff

Credits earned in MS 101, 102, 201, 202, 303, and 304 are recorded on the transcript and count toward the GPA, but may not be used to fulfill the minimum course requirement for graduation.

MS 401 Military Command and Staff

Role, authority, and responsibilities of military commanders and staff in personnel, logistics, and training management. Emphasis on staff procedures, problem-solving, training methods, and oral and written communication skills used in military organizations. Includes Leadership Laboratory and FTX. One course credit.

Prerequisite: Formal enrollment in ROTC Advanced Course

Offered: Fall semester

Staff

MS 402 Officer Responsibilities, Ethics, and Military Professionalism

Development of the profession of arms, its fundamental values, and institutions; ethical responsibilities of military professional in contemporary American society; just war theory, international law of war, and American military law. Also covered are current topics to assist cadets in making the transition to the officer corps and service on active duty or in the reserve forces. Includes Leadership Laboratory and FTX.

Prerequisite: Formal enrollment in ROTC Advanced Course

Staff

MUSIC

Faculty

Professor Stockton, Head; Professor Cummings; Associate Professors Moyer, Torres, Wilkins; Assistant Professor Kelly.

The music department offers students from all disciplines opportunities to develop an understanding and appreciation of music through a wide range of courses and performance activities. Students may elect to pursue a major or minor in music, or to participate at whatever level their background and interest dictates. Faculty members are active performers and scholars who take a special interest in personalized instruction.

The curriculum includes offerings in theory, composition, performance, history, and literature. In addition to the more conventional areas of music study, the department offers opportunities to study world music traditions, jazz and popular styles, and electronic music. The Williams Center for the Arts includes rehearsal and practice facilities, an electronic music studio, a score and multimedia library, concert hall, and computer instruction facilities. Students have opportunities to perform in choral groups as well as jazz, brass, string, wind, and percussion ensembles. The artist-in-residence program brings noted artists from all over the world to interact with students through workshops and classes.

Requirements

Ten courses to include: Music 103, 121, 201, 222, 323, one course in Twentieth Century and contemporary music (satisfied by either Music 202 or 324), one elective in musicology at or above the 300-level, a capstone senior project/thesis (Music 491/495, four semesters of Applied Music Lessons (Music 141), four semesters of approved ensemble participation, and demonstrated piano proficiency.

Requirements for the Minor

Six courses to include: Music 103, 121, 201, 222, one additional music course (200-level or above), two semesters of Applied Music Lessons (Music 141), two semesters of approved ensemble participation, and demonstrated piano proficiency.

Additional course listing appears under Interim Session.

Music Courses

MUS 102 Music in Western Civilization

The focus of this course is the development of music in the civilizations of Europe and America, not only as an art with its own history, but also as a mirror of the artistic, social, political, and economic development of the Western world. Students are introduced to a basic repertoire in classical music. Lecture/listening.

Offered: Each semester
Torres

MUS 103 Introduction to World Music Traditions

An exploration of the history, styles, and performance practices of music of African, Asian, and Indian cultures. The study of the music in the context of cultural traditions and institutions and its influence on the music of Europe and America encourages students to examine music from a cross-cultural perspective and to experience the music through performance.

Lecture/assigned listening.
Offered: Each semester
Stockton

MUS 104 Music Technology I

This course explores the use of computers to compose music in a digital format through music sequencing and sampling software. Basics of melody, harmony, and rhythm are examined as they relate to computer-assisted music composition. Weekly assignments engage students in exploring specific techniques and features of the digital audio software. A final capstone project involves utilizing all skills developed in the course to compose a multi-track musical composition in a variety of audio file formats.

Moyer

MUS 121 Music Theory I

This introductory course in music theory begins with a review of elemental concepts including pitch and rhythm notation, intervals, scales, and triads. The primary focus is a study of the "Common Practice Period," encompassing diatonic harmonic practices since the nineteenth century, with correlated sight singing, ear training, and keyboard assignments. One-hour laboratory.

Wilkins

MUS 130 Class Piano Laboratory

This course is intended for those students who wish to begin study of the piano,

particularly those with limited or no music reading skills. The class meets 50 minutes twice a week for 12 weeks. Music reading in both treble and bass clefs, as well as basic piano techniques such as scales, hand position, and other technical concepts are taught. 1/4 course.

Fisher

MUS 140 Applied Music Instruction (non-credit)

Private instruction for students who wish no academic credit. Twelve private lessons of 45 minutes each. Considered an “audited course.” (Extra fee)

Staff

MUS 141 Applied Music Instruction

This is the primary course for students interested in private instrumental or vocal instruction. Twelve lessons of 45 minutes each. Jury examination is required. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree. (Extra fee)

Staff

MUS 142 Intensive Applied Music Instruction

This course is reserved for advanced students who have completed a minimum of two semesters of Music 141 with grades of “A.” Both jury examination and exemplary recital participation are required. Twelve lessons of 60 minutes each. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree. (Extra fee)

Staff

MUS 150 Choir

Active participation in an approved musical ensemble. Regular attendance at rehearsals and all performances in addition to other requirements as deemed necessary. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree.

Staff

MUS 151 Jazz Ensemble

Active participation in an approved musical ensemble. Regular attendance at rehearsals and all performances in addition to other requirements as deemed necessary. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the

32/38 course credit requirement for the degree.

Staff

MUS 152 Chamber Wind Ensemble

Active participation in an approved musical ensemble. Regular attendance at rehearsals and all performances in addition to other requirements as deemed necessary. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree.

Staff

MUS 153 String Ensembles

Active participation in an approved musical ensemble. Regular attendance at rehearsals and all performances in addition to other requirements as deemed necessary. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree.

Staff

MUS 154 Concert Band

Active participation in an approved musical ensemble. Regular attendance at rehearsals and all performances in addition to other requirements as deemed necessary. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree.

Staff

MUS 155 Jazz Combo

Active participation in an approved musical ensemble. Regular attendance at rehearsals and all performances in addition to other requirements as deemed necessary. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree.

Staff

MUS 156 Guitar Ensemble

Active participation in an approved musical ensemble. Regular attendance at rehearsals and all performances in addition to other requirements as deemed necessary. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree.

Staff

MUS 157 Brass Ensemble

Active participation in an approved musical ensemble. Regular attendance at rehearsals and all performances in addition to other requirements as deemed necessary. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree.

Staff

MUS 158 Percussion Ensemble

Active participation in an approved musical ensemble. Regular attendance at rehearsals and all performances in addition to other requirements as deemed necessary. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree.

Staff

MUS 159 Pep Band

Active participation in an approved musical ensemble. Regular attendance at rehearsals and all performances in addition to other requirements as deemed necessary. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree.

Staff

MUS 160 Chamber Singers

This course is a performing ensemble designed to provide qualified vocalists with an opportunity to perform advanced literature from a variety of genres and styles. Attendance at all rehearsals and performances is required. Participation is by audition. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree.

Prerequisite: Permission of instructor
Staff

MUS 161-164 Ensembles

Early Music, String, World Music, Latin-American

Active participation in an approved musical ensemble. Regular attendance at rehearsals and all performances in addition to other requirements as deemed necessary. 0.25 credit course. No more than eight 0.25 credit courses may be counted toward the 32/38 course credit requirement for the degree.

Staff

MUS 201 Music History and Literature: 1600-1915

This course surveys the music of the Western "cultivated" tradition from 1600-1915 (the "Baroque," "Classical," and "Romantic" periods). The repertoire is presented through lectures, discussion, readings, and sound recordings. Emphasis is on an analysis of and engagement with actual musical compositions, representative of the principal stylistic developments characteristic of each of the three major style periods.

Prerequisites: Music 121 or permission of instructor
Cummings, Torres

MUS 202 Music History and Literature: 1915 to Present

This course examines music since 1915 through extensive listening. Course content includes a survey of Western art music as well as examples of blues, jazz, musical theater, rock, and non-Western music. The repertoire is presented through a study of readings, sound recordings, films, and lectures. Students encounter the communities, histories, traditions, and newer forms of expression of music since the early decades of the 20th century.

Prerequisites: Music 121 or permission of instructor
Cummings, Torres

MUS 204 Music Technology II

This course explores music composition, arranging, and digital audio editing using advanced computer hardware and software. The class is designed to further develop skills and application of technology as introduced in Music 104. The course is project-based, using software applications that focus on digital music sequencing, editing, and notation.

Prerequisite: MUS 104
Staff

MUS 222 Music Theory II

This course continues the study of advanced diatonic harmonic practices, with correlated sight singing, ear training, and keyboard assignments. Concepts covered include: inverted triads in four-part harmony, harmonic cadences, dominant seventh chords in four-part harmony, non-harmonic tones, jazz extended chords, improvisation, and exercises in basic form and analysis.

One-hour laboratory.

Prerequisite: Music 121 or permission of instructor

Wilkins

MUS 224 Jazz Improvisation

This course is designed for students who have strong interests in jazz improvisation and performance. Students will expand their historical knowledge and listening skills, study jazz harmony in detail, analyze song forms and chord structures, enhance keyboard skills, learn to sing improvised solos, transcribe and perform solos from recordings, and perform regularly in class. Students will develop specialized musicianship skills with many assignments being individualized and project-based.
Prerequisites: Music 222 or permission of instructor
 Wilkins

MUS 231-239 Selected Studies in World Music

The goal of these courses is to explore the indigenous music of selected cultures and regions independent of Western "common practice." Through guided listening, performance activities, and cultural analysis students experience both the aural landscape and the larger phenomenon of how music functions within culture. Possible topics include the musical culture of a region (e.g., Africa, Asia, Latin America) or a country (e.g., Japan, China, India). Descriptions are available through the department office and the Registrar's Office.
Prerequisite: Music 103 or permission of instructor
 Staff

MUS 240 Women in Music

This course will examine outstanding musical achievements of women throughout history and in contemporary society. Women's global contribution to music will be explored through diverse styles of composition and performance, active participation in education, and patronage. Topics include music and power, gender, class, challenging the "roles," and performing identities. In an active classroom environment, students will have ample opportunity to challenge, lead, and discover their own contribution to the arts through valid argument.
Prerequisites: A music course, or a Women's and Gender Studies course, or permission of instructor
 Kelly

MUS 251-259 Selected Studies in Music Theory and Analysis

Courses focus on an area of music theory, analysis, or composition. Possible topics include the theoretical concepts that underlie an era of "school" (e.g., the New Viennese School), a theoretical/compositional discipline such as eighteenth-century counterpoint, or a special aspect of analysis such as form and structure in music. Descriptions of current offerings are available through the department office and the Registrar's Office. Lecture/discussion/laboratory/listening.
Prerequisite: Music 101 and others as appropriate to the topic
 Staff

MUS 261-269 Selected Studies in Music History and Literature

Possible topics include the historical development and the repertoire of an era or "school" (e.g., the Baroque Era, French Music, Music in the United States, the History of Jazz). These courses typically investigate the master works and lives of the principal composers of the era as well as the social and musical concepts that influenced the period. Classes involve student presentations, field trips, and live and videotaped performances as well as sound recordings. Descriptions of current offerings are available through the department office and the Registrar's Office. Assigned listening. Lecture/laboratory.
Prerequisite: Music 101 or 102 and other courses as appropriate to the topic
 Staff

MUS 271-279 Selected Studies in Musical Forms and Genres

Possible topics include the historical development and literature of opera, the symphony, chamber music, vocal and choral music, music for keyboard instruments, etc. These courses typically investigate the master works in a genre, the lives and contributions of composers in several areas, and the social, technological, and musical factors that have affected the development of that genre. Classes involve student presentations, field trips, and live and videotaped performances as well as sound recordings. Descriptions of current offerings are available through the department office and the Registrar's Office. Lecture/laboratory.
Prerequisite: Music 101 or 102 and other courses as appropriate to the topic
 Staff

MUS 281-289 Selected Studies of Great Composers

Topics include Bach, Mozart, Beethoven, Verdi, Stravinsky, to name a few. These courses investigate the master works in the important genres, the life and musical development of the individual studied, and the social factors that affected the time period in which he/she lived. Classes involve student presentations, field trips, and live and videotaped performances as well as sound recordings. Descriptions of current offerings are available through the department office and the Registrar's Office. Lecture/laboratory.

Prerequisite: Music 101 or 102 and other courses as appropriate to the topic
Staff

MUS 323 Music Theory III

This course furthers the study of the "Common Practice Period" with chromatic language since the eighteenth century, with correlated sight-singing, ear training, and keyboard assignments. Concepts include diatonic 7th Chords in 4-part harmony, borrowed chords and augmented 6th chords, chromatic and enharmonic modulation, secondary sub-dominants and passing chords, jazz analysis and keyboard voicing, chromatic improvisation, and topics in form and analysis. Additional one-hour lab scheduled weekly.

Prerequisite: Music 222 or permission of instructor
Wilkins

MUS 324 Twentieth Century Harmonic Practice

This course continues the study of chromatic harmony of post-Romanticism and begins the study of 20th century idioms. Students will compose short works in 20th century styles for small ensemble settings. Students will also analyze important works by Stravinsky, Bartok, Schoenberg, Copland, and others.

Prerequisite: Music 222 or permission of instructor
Wilkins

MUS 325 Composition Seminar

This course is designed for advanced and highly motivated music theory students interested in writing music for ensembles or individual instruments and voices. Students will compose works in genres largely of their own choosing and will organize and rehearse ensembles appropriate to their compositions, with musicians chosen

primarily from the College community. Additionally, students will research various composers, examining a range of publications produced by the selected composers themselves.

Prerequisite: Music 324
Wilkins

MUS 351-360 Special Topics

The detailed study of a composer, school, specific style or topic, employing more advanced analytical tools. Topics in past years have included African-American music; Mozart: The Man, the Myth, the Music; history of jazz; the music of J. S. Bach. Topics for the following year are announced at spring registration. Classroom experiences are augmented by artist visits and field trips to suitable venues, for example, a jazz club or concert for the course on jazz history.

Prerequisite: Permission of instructor
Staff

MUS 371, 372 Internship

Students majoring in music may wish to explore career opportunities by participating in an approved internship with a professional performing organization, arts management consultant, or related music industry representative. Under the supervision of a designated internship sponsor, the student develops and completes a work-related project. Additional activities include assigned readings and a final written report.

Prerequisite: Permission of department head
Stockton

MUS 380 Junior/Senior Seminar

Advanced special topics studies emphasizing research in greater depth of a selected musicological problem. Open only to junior and senior music majors and minors.

Prerequisite: Permission of department head
Staff

MUS 391, 392 Independent Study

Individual projects in musicology, theory, or composition, with emphasis on the bibliographical and analytical tools of music research or composition. Open to students with a strong background in music.

Prerequisite: Permission of department head
Staff

MUS 491, 492 Senior Project

Independent study of a selected problem in musicology, theory, or composition, with emphasis on the bibliographical and analytical tools of music research, resulting in the completion of a project such as a research paper or a series of original compositions. Open only to senior music majors.

Prerequisite: Permission of department head
Staff

MUS 495, 496 Senior Project

Thesis/Honors independent study of a selected problem in musicology, theory, or composition, with emphasis on the bibliographical and analytical tools of music research, resulting in the completion of a project such as a research paper or a series of original compositions. Open only to senior music majors. Upon completion of 496, the awarding of Departmental Honors is determined by successful defense of the thesis. [496: W]

Prerequisite: Permission of department head
Staff

NEUROSCIENCE

Faculty

Associate Professor Reynolds (Biology), Chair; Professors Hill (Psychology), Assistant Professors Gabel; (Psychology), Dearworth (Biology)

Why do nerve cells die when you develop Alzheimer's disease? Does your brain change after you become dependent on heroin? Answers to these questions as well as many others is the goal of neuroscience, one of the hottest fields of study today. This interdisciplinary field explores the development, structure, and behavioral consequences of the nervous system.

The bachelor of science program, directed jointly by the psychology and biology departments, helps students understand nervous systems from a variety of scientific perspectives. Hands-on learning opportunities are emphasized through laboratory courses and student-directed research experiences. Although not required, students are encouraged to pursue independent study, advanced research, or honors.

Requirements

17 courses in addition to the Common Course of Study including Biology 101, 256; Chemistry 121, 122, 221; Neuroscience 201, 401; Physics 111, 112 or 131, 133; Psychology 110, 120, 323. Five electives, at least two from each category: Category A-Psychology 203, 225, 232, 234, 255, 321, 322, 324, 325; Philosophy 250; Category B-Biology 212, 214, 241, 245, 251, 261, 310, 312, 314; Chemistry 351. Neuroscience 351 can count as either a category A or B elective. One semester of a neuroscience research course (391/392, 491/492, 495/496) may be used as an elective. A neuroscience research course does not count towards either category.

For students considering graduate school in neuroscience or health professions school, a second semester of organic chemistry is recommended. Students interested in pursuing graduate school in behavioral neuroscience are encouraged to take Psychology 203 as one of their category A electives.

Neuroscience majors may not minor in psychology and may not seek a second major (A.B. or B.S.) in either biology or psychology.

Neuroscience Courses

NEUR 201 Introduction to Neuroscience

This course introduces students to the interdisciplinary field of neuroscience using a problem-based approach. The structure and function of the brain are explored at molecular, cellular, and systems levels. Students become familiar with approaches used by neuroscientists as well as the connections between neuroscience and other disciplinary fields.
Staff

NEUR 351 Neurophysiology

This laboratory course builds on information covered in the prerequisites concerning the excitability of neurons. The electrophysiology of neurons and neuronal interactions are examined using electrical recording techniques. Laboratory exercises provide hands-on experience with the properties of nerve function under a variety of circumstances. [W]
Prerequisite: Psychology 323 or Biology 256
Britton

NEUR 391, 392 Independent Study
An opportunity for students to pursue a topic of choice. Each student examines the topic, using primary and secondary sources, discusses the topic with their faculty mentor, and writes a paper of distinguished quality. The study may be designed for one or two semesters. [W]
Prerequisite: Permission of program chair
Staff

NEUR 401 Advanced Neuroscience
This capstone course builds upon information covered in the prerequisites. Through seminar and laboratory, students explore in greater depth the development, organization, and functioning of the nervous system. Particular attention is paid to discussion of current research findings and to learning advanced laboratory techniques used by neuroscientists. Offered in spring semester. [W]
Prerequisite: Biology 256 and Psychology 323, or permission of instructor
Staff

NEUR 491, 492 Advanced Research
An opportunity for students to conduct an in-depth research project in the an area of choice under the supervision of a faculty mentor. The research can be designed for one or two semesters and should culminate in a paper of distinguished quality. [W]
Prerequisite: Permission of program chair
Staff

NEUR 495, 496 Thesis
Open to qualified majors by permission of program chair. [W]
Staff

PHILOSOPHY

Faculty

Professor Panichas, Head; Associate Professor McLeod; Assistant Professors Shieber and Yoo.

The study of philosophy helps students to think critically, to understand and enjoy the literature of philosophy, and to make reasonable decisions relevant to the problems of contemporary life.

Courses include logic, philosophy of science, ethics, social and political philosophy, philosophy of mind, philosophy of art, and existentialism. All of the courses emphasize the precise, logical use of

language and the exercise of careful judgment and judicious evaluation in thinking. Students are encouraged to broaden their study with special topic courses. Recent courses have included the aesthetics of films, death, and feminist philosophy. Individualized tutorials are available for selected students who wish to study a specific philosophical problem or philosopher in depth.

Majors are encouraged to consider course work in several related disciplines to give them a broad background in the humanities, the sciences, or both.

Requirements for the Major

Ten courses in Philosophy including 101, 102 or 105, 110, 112, at least three 200-level courses and one of the following: 310, 320, 322, a 300-level seminar, 390, or honors. Majors who plan to undertake graduate work in philosophy are strongly advised to take 150 and 320.

Students wishing to major in philosophy and another subject should discuss with their advisers the possibility of courses in other departments or programs counting toward both majors.

Requirements for the Minor

At least six courses from among the offerings of the department, no more than four of which may be 100-level courses. The department strongly recommends that students pursuing a minor in philosophy take a course in logic and a course in the history of philosophy. Students with an interest in the minor should consult with a member of the department.

Philosophy Courses

PHIL 101 Introduction to Philosophy
An introduction to the methods of philosophy including logical analysis and traditional philosophical problems such as the nature and extent of knowledge, the dilemma of freedom and determinism, the justification of the belief in god, personal identity, and the mind-body problem. Offered: Fall and spring semesters
Staff

PHIL 102 Basic Social Questions
An examination of conceptual and moral questions associated with selected contemporary social issues. Following

topics are studied: the morality of abortion, the justification of reverse discrimination, the permissibility of homosexuality and prostitution.

Offered: Each semester
Panichas

PHIL 105 Ethics

An introductory survey of some of the major topics in moral philosophy, including the possibility and nature of an objective morality, moral knowledge, the relationship between morality and self-interest, morality and God, and various theories of the nature of right and wrong action. The focus is on theoretical rather than applied moral questions. Readings from classical and contemporary sources.

McLeod

PHIL 110 The First Philosophers

An introduction to the genesis and growth of Western philosophy, the trial and death of Socrates, the philosophical systems of Plato and Aristotle, and the post-Aristotelian schools of Epicureanism and Stoicism.

Prerequisite: No prerequisites

Offered: Fall semester

McLeod

PHIL 112 Modern Philosophy

A critical survey of European philosophy from 1600 to 1800, a period during which enormously influential contributions were made to the philosophical study of knowledge, reality, and the nature and limits of philosophy itself. Philosophers to be studied include Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant.

Prerequisite: No prerequisites

Offered: Spring semester

McLeod

PHIL 113 Existentialism

The philosophies of Kierkegaard, Nietzsche, Husserl, Heidegger, Sartre, and others.

Prerequisite: No prerequisites

Staff

PHIL 120 Business Ethics

An introduction to the application of ethical reasoning in business, this course includes a critical review of classical ethical theories and their application to truth in advertising, product liability, affirmative action, employer and employee rights and duties, whistle blowing, corporate responsibility, and others.

Prerequisite: No prerequisites

McLeod

PHIL 130 Philosophy of Art

A historical and critical examination concerning the nature of works of art (e.g., paintings, music, and poetry), the creation of art, and the evaluation of art.

Prerequisite: No prerequisites

Panichas

PHIL 150 Logic

An investigation of the properties of logical systems, including completeness, compactness, computability, and decidability.

Offered: Fall semester

Shieber

PHIL 204 Metaphysics

A detailed examination of substance, universals, mind-body, personal identity, freedom of the will, causality, space, and time. Contemporary and traditional solutions are presented.

Prerequisite: Philosophy 101 or permission of instructor

Staff

PHIL 206 Theories of Knowledge

A detailed examination of the concept of knowledge, nature of beliefs, justification of beliefs, relationship between knowledge and beliefs, truth, perception.

Prerequisite: Philosophy 101 or permission of instructor

Staff

PHIL 210 Political Philosophy

A critical examination of the traditional theories of liberty, equality, justice, and the social good found in Plato, Hobbes, Locke, and Marx.

Prerequisite: Philosophy 101, or 102, or 105, or permission of instructor

Offered: Alternate years

Panichas

PHIL 212 Philosophy of Science

The course covers theories of scientific method, the nature of scientific explanation, and the evaluation of scientific theories.

Prerequisite: Philosophy 101 or permission of instructor

Offered: Alternate years

Staff

PHIL 215 Feminist Philosophy

Recent developments in feminist philosophy and their application to contemporary social issues. Topics include motherhood, prostitution, pornography, heterosexuality, lesbianism, and ecological feminism.

Prerequisite: No prerequisites
Staff

PHIL 217 Contemporary Philosophy
An investigation of Logical Positivism, Analytical Philosophy, and Pragmatism. Readings in Russell, Wittgenstein, Ayer, Whitehead, Peirce, Dewey, and others.
Prerequisite: Philosophy 103 or permission of instructor
Staff

PHIL 226 Philosophy of Literature
An examination of fundamental philosophical questions on literature as an art form: its nature, interpretation, and evaluation. Topics may include: the ontological status of works of literature; the role of intentionality in literary meaning; the nature of metaphor; the readers&146#; emotional engagement with characters; the role of literature in moral and emotional development; the relationships between the sorts of values literature may have (aesthetic, moral, cognitive, etc.).
Prerequisite: One course in philosophy or permission of instructor
Staff

PHIL 235 Philosophy of Film
An examination of philosophical questions on the nature, interpretation, and evaluation of film. Topics may include: the distinctive nature of the moving image compared to other forms of representation; the issue of whether film is an art form; film authorship; the essence of film narrative; the role of the imagination in understanding and appreciating film; identification and emotional engagement with characters; film and morality; film and knowledge.
Prerequisite: One course in philosophy or permission of instructor
Staff

PHIL 250 Philosophy of Mind
A general introduction to the philosophy of mind, addressing four key philosophical issues: the nature of psychological explanation, the mind-body problem, the possibility of artificial intelligence, and the nature of persons.
Prerequisite: One course in philosophy or psychology
Staff

PHIL 310 Philosophy of Language
This course addresses some basic questions about language: What is the relationship between thought and language? What is the

relationship between language and reality? Theories about these issues will be applied to ethics and philosophy of mind.
Prerequisite: Philosophy 101 or Philosophy 103 or permission of instructor
Staff

PHIL 320 Philosophical Analysis
Advanced training in critical analytical reading and writing using current philosophical writings. [W]
Prerequisite: Philosophy 103 or permission of instructor
Offered: Alternate years
Staff

PHIL 321 Advanced Logic
An investigation of the properties of logical systems and the foundations of deductive logic.
Prerequisite: Philosophy 103 or permission of instructor
Offered: Alternate years
Staff

PHIL 322 Philosophy of Law
An examination of conceptual and normative issues related to law and the legal system. The nature of law and of the legal systems, liberty and the limits of law, causation in the law, responsibility, strict liability, and punishment are studied. [W]
Prerequisite: Philosophy 102, 105, or permission of instructor
Offered: Alternate years
Panichas

PHIL 350-362 Advanced Topics in Philosophy
Seminar on a topic of interest to the members of the department. Topics include: history of philosophy, ethics, metaphysics, epistemology, political philosophy, philosophy of mind, and philosophy of law.
Prerequisite: Determined at time of offering
Staff

PHIL 390 Independent Study
Individual projects with advice from a faculty member resulting in a paper of substantial substance and content. [W]
Prerequisite: Permission of department head
Staff

PHIL 495, 496 Thesis
Readings in original and translated works of philosophers and the writing of a paper of substantial substance and content. Majors

not continuing to 496 from 495 may petition to change 495 to 390. [W]

Prerequisite: Permission of department head
Staff

PHYSICS

Faculty

Professor Hoffman, Head; Professor Novaco; Associate Professors Antanaitis, Dougherty; Assistant Professors Kortyna, Stark

Physics is the study and analysis of physical systems with the view of uncovering the basic principles that govern the behavior of these systems. This involves a method of analysis by which complex physical problems are broken down into sets of relatively simple processes that are easier to understand. Those systems to which physics is applied vary from the macroscopic structure of the universe to the microscopic structure of matter. The same fundamental methodology may be used to study the structure of crystals and the density of liquids at high pressure, create numerical simulations of clusters of galaxies, or examine the relationship between structure and function of metal-bearing proteins and enzymes. For this reason, physicists can be found working in many different professions.

Courses are about equally divided between macroscopic and microscopic physics. Students may also develop an interdisciplinary program in such areas as material science, biophysics, or geophysics. Opportunities are provided for research on campus and at national facilities such as Arecibo Observatory.

Requirements for the Major

The A.B. degree requires four courses in Mathematics (161, 162, 263, 264); ten physics courses, nine with numbers greater than 110, including (131, 132, 133) or (151, 152), 215, 216, 218; two courses in Biology, Chemistry, or Geology from an approved list; and other courses needed to meet the Common Course of Study

The B.S. degree requires five courses in Mathematics (including 161, 162, 263, 264); two courses in Chemistry, Biology, or Geology from a selected list; 13 courses in

Physics including (131, 132, 133) or (151, 152), 215, 216, 218, 327, 335, 338, 342, 351, and electives; and other courses needed to meet the Common Course of Study.

Astronomy concentration within the Physics major

The A.B. Physics degree with an Astronomy concentration consists of ten Physics courses including Physics 104 & 308 or Physics 108 & 304; Physics (131, 132, 133) or (151, 152), 215, 216, 218; recommendations for the two remaining electives include Physics 327, 335, 342, & 442, but should be chosen in consultation with your adviser; Mathematics 161, 162, 263, 264; two courses in Biology, Chemistry, or Geology from an approved list; and the A.B. Common Course of Study.

The B.S. Physics degree with an Astronomy concentration consists of 13 Physics courses including Physics (131, 132, 133) or (151, 152), 215, 216, 218, 304, 308, 327, 335, 338, 342, 351; Mathematics 161, 162, 263, 264 & one Mathematics elective; two courses in Biology, Chemistry, or Geology from an approved list; and the B.S. Common Course of Study.

In special circumstances, students who have taken advanced electrical and computer engineering or mechanical engineering courses in electromagnetic theory, electronics, dynamics, or thermodynamics may waive certain of these required courses with approval of the head of the physics department and the Academic Progress Committee.

Advanced courses from other science or engineering departments may be substituted for physics elective courses and up to two required physics courses with the approval of the head of the physics department and the Academic Progress Committee, when doing so will produce a coherent program of physics applied to an interdisciplinary field such as material science, biophysics, geophysics, etc.

Requirements for the Minor

Six courses, including two from the set Physics (131, 132, 133, 151, 152), 215, and three other courses approved by the department.

Courses that meet the A.B. lab science requirement: 104, 106, 108, 111, 112, 131, 132, 133, 151, 152.

Physics Courses

PHYS 104 Astronomy: The Solar System
An introduction to the study of the Sun and its contingent of planets, moons, comets, and asteroids. Up-to-date details of the orbits, surfaces, atmospheres, and interior structures as deduced from telescopic and spacecraft data are discussed. The elementary physics of gravity, orbits, and distance measurement leads to a limited amount of problem solving. Six biweekly laboratory sessions and at least three nighttime observing sessions with telescopes. Requires only high school algebra and trigonometry.
Offered: Fall semester
Stark

PHYS 106 Physics of Music
A study of the physics of musical sound and musical instruments: wave motion and sound, sound synthesis, room acoustics, woodwinds, brasses, strings, piano, percussion, and the human voice. Open to all students but specifically intended for those who have not previously studied physics. Lecture/laboratory.
Offered: Spring semester, odd years
Hoffman

PHYS 108 Astronomy: Stars, Galaxies and the Big Bang
A study of the nature and evolution of stars, galaxies, and the universe as a whole. Confrontation of theory with observational data from many telescopes and spacecraft is stressed throughout. Open to all but specifically intended for those who have not previously studied physics. Requires only high school algebra and trigonometry. One or more evening telescope observing sessions.
Hoffman

PHYS 111 General Physics—Mechanics and Thermodynamics
Classical mechanics of particles and rigid bodies; laws of thermodynamics with emphasis on microscopic foundation; oscillations and waves. Physical ideas are stressed, but considerable emphasis is placed on problem solving.
Corequisite: Mathematics 125 or 161
Offered: Fall semester
Antanaitis

PHYS 112 General Physics—Electricity, Magnetism, and Optics
Electric and magnetic fields; electromagnetic induction; electric circuits; geometrical and physical optics; Einstein's special theory of relativity; foundations of quantum mechanics; and nuclear physics. Physical ideas are stressed, but considerable emphasis is placed on problem solving.
Prerequisite: Physics 111, Mathematics 125 or 161
Offered: Spring semester
Antanaitis

PHYS 131 Physics I: Mechanics
A rigorous introduction to the study of physics for science and engineering majors; a foundation on which an understanding of physics, physical chemistry, or engineering can be built. Kinematics and dynamics with emphasis on conservation laws for linear momentum, angular momentum, and energy. A calculus-based course satisfying degree requirements in all B.S. or A.B. degree programs. Not open to students with credit for Physics 151.
Corequisite: Mathematics 161
Staff

PHYS 132 Physics IIA: Electricity and Magnetism
A rigorous introduction to the study of physics for science and engineering majors; a foundation on which an understanding of physics, physical chemistry, or engineering can be built. Electrostatics, electric currents, magnetostatics, induction, electromagnetic oscillations and waves. A calculus-based course satisfying degree requirements in all B.S. or A.B. degree programs. Not open to students with credit for Physics 152.
Prerequisite: Mathematics 161, Physics 131
Corequisite: Mathematics 162
Staff

PHYS 133 Physics IIB: Thermodynamics and Waves
A rigorous introduction to the study of physics for science and engineering majors; a foundation on which an understanding of physics, physical chemistry, or engineering can be built. Thermodynamics, oscillatory motion, wave propagation, ray optics, interference and diffraction. A calculus-based course satisfying degree requirements in all B.S. or A.B. degree programs. Not open to students with credit for Physics 152.
Prerequisite: Physics 131, Mathematics 161

PHYSICS

Corequisite: Mathematics 162
Staff

PHYS 151 Accelerated Physics I: Mechanics and Thermodynamics
An accelerated calculus-based introduction to the foundations of classical mechanics and thermodynamics, intended for students majoring in science or engineering; a foundation on which an understanding of physics, physical chemistry, or engineering can be built. Topics include dynamics; conservation laws for linear momentum, angular momentum, and energy; mechanical oscillations and waves; and thermodynamics. A course satisfying degree requirements in all B.S. or A.B. degree programs. Not open to students with credit for Physics 131.

Prerequisite: AP credit (or equivalent) for Physics 111 or permission of instructor
Corequisite: Math 162
Staff

PHYS 152 Accelerated Physics II: Electricity, Magnetism, and Optics
An accelerated calculus-based introduction to the study of physics for science and engineering majors; a foundation on which an understanding of physics, physical chemistry, or engineering can be built. Topics include electrostatics, electric currents, magnetostatics, induction, electromagnetic waves, ray optics, interference and diffraction. A course satisfying degree requirements in all B.S. or A.B. degree programs. Not open to students with credit for Physics 132 or 133.
Prerequisite: Physics 151 or permission of instructor
Corequisite: Math 163
Staff

PHYS 215 Introduction to Quantum Physics
Elements of special relativity and quantum mechanics needed as foundations for atomic, nuclear, solid state and elementary particle physics, relativistic postulates, kinematics and dynamics; wave-particle duality, photons, Schrodinger wave mechanics, hydrogen atom, multielectron atoms, and the quantum approach to angular momentum.
Prerequisite: Physics 132, 133, or 152
Offered: Fall semester
Dougherty

PHYS 216 Topics in Contemporary Physics
An application of the concepts of quantum physics introduced in Physics 215 and the

theory of relativity to several areas of contemporary physics. Topics include quantum statistics, molecular spectra, lasers, introductory solid state physics, models of nuclear structure, radioactivity, nuclear reactions, elementary particles, and grand unification of the fundamental forces.

Prerequisite: Physics 215
Offered: Spring semester
Hoffman

PHYS 218 Oscillatory and Wave Phenomena

A continuation of the study of oscillations and waves with emphasis on experimental work and theoretical methods in physics. Phenomena studied include vibration of mechanical systems, oscillations in electrical circuits, the general behavior of damped oscillations and resonance, normal mode analysis, standing wave phenomena, wave propagation, optics, and other such physical phenomena found in nature.

Students are introduced to the theoretical techniques used to analyze these phenomena as needed. Lecture/laboratory.

Prerequisite: Physics 132 or 133 or 152
Corequisite: Mathematics 264
Offered: Spring semester
Kortyna

PHYS 220 Medical and Biological Physics
Demonstrates how the principles, tools, and strategies of physicists can be applied to problems that have biological, medical, or ecological import. Methods taught are applied to a broad range of interdisciplinary problems from biomechanics to nerve impulse propagation to the latest imaging techniques, including three dimensional ultrasonic imaging and magnetic resonance imaging. The course is aimed at students nearing a decision on a career direction who are curious about what areas of research are open to them, or to those who simply wish to broaden their biophysical or biomedical outlook. [W]

Prerequisite: Physics 112, 132, 133 or 152
Offered: Spring semester, alternate years
Antanaitis

PHYS 304 Observational Astronomy
A study of the methods used for making astronomical observations and analyzing the data these observations produce. The course examines what can be learned about stars, planets, galaxies, and the Universe through these observations. Topics include radio, infrared, optical, ultraviolet, X-ray, and gamma-ray astronomy and observations of

neutrinos, cosmic rays, and gravitational waves. Students complete an independent observing or data analysis project. The course parallels Physics 104 but focuses on observing methods.

Prerequisite: Physics 216.

Offered: Fall semester, concurrent with Physics 104

Stark

PHYS 306 Acoustics

An introduction to the acoustics of musical instruments for students with some background in physics. Spectral analysis and synthesis; waves on strings, membranes, and bars; waves in fluid media; acoustical coupling; sound radiation; acoustics of instrumental families. The course parallels Physics 106 but is more technical in scope and may be counted toward the B.S. degree requirements.

Prerequisite: Physics 218

Offered: Spring semester alternate years, concurrent with Physics 106

Hoffman

PHYS 308 Astrophysics

An introduction to astronomy and astrophysics for students with some background in physics. Stellar structure and evolution; galactic structure and evolution; physical processes in the early universe; radioastronomy. The course parallels Physics 108 but is more technical in scope and may be counted toward the B.S. degree requirements.

Prerequisite: Physics 216

Offered: Spring semester alternate years, concurrent with Physics 108

Hoffman

PHYS 327 Advanced Classical Mechanics

A rigorous development of nonrelativistic mechanics: nonlinear oscillations; central-force motion, celestial mechanics, and the N-body problem; Lagrangian and Hamiltonian formulations; rotation and rigid body motion; collisions and scattering.

Prerequisite: Physics 218; Mathematics 264

Offered: Spring semester

Novaco

PHYS 335 Thermal Physics

The fundamental concepts of heat, temperature, work, internal energy, entropy, reversible and irreversible processes, thermodynamic potentials, etc., are considered from a modern microscopic as well as traditional macroscopic viewpoint.

Statistical thermodynamics is used primarily to study the equilibrium properties of ideal systems and simple models. This course provides the background needed to understand materials from a microscopic point of view.

Prerequisite: Physics 215; Mathematics 263

Offered: Fall semester, alternate years
Antanaitis

PHYS 338 Advanced Physics Laboratory
Design of experiments, statistical analysis of observations, report writing, fundamental experiments in atomic, nuclear, and condensed matter physics. Also experiments selected from electron spin resonance, nuclear magnetic resonance, properties of liquids at high pressures, properties of matter at low temperatures. Computer interfacing with instruments for online data collection and analysis. May involve independent investigation if appropriate.[W]

Prerequisite: Physics 216, 218

Offered: Spring semester, alternate years
Kortyna

PHYS 342 Electromagnetic Fields

Electric fields due to static charges, magnetic fields due to steady currents, fields in matter, Laws of Coulomb, Gauss, Biot-Savart, Ampere, Faraday; scalar and vector potentials; solutions of Laplace's and Poisson's equations. Mathematical emphasis is on the solutions to boundary value problems.

Prerequisite: Physics 132, 218;

Mathematics 264

Offered: Fall semester, alternate years
Antanaitis

PHYS 351 Quantum Theory

The failure of classical physics, the basic concepts of quantum mechanics, Schrodinger's equation, one dimensional systems including barriers and the harmonic oscillator, Hermitian operators, angular momentum, the hydrogen atom, perturbation theory, and interpretations of quantum mechanics.

Prerequisite: Physics 215, 218;

Mathematics 264

Offered: Fall semester

Kortyna

PHYS 352 Special Topics

Investigation of special topics under supervision of a faculty adviser. The most recent offering was Topics in Astrophysics.
Staff

PHYS 391 Individual Study

Juniors and seniors may investigate a research topic in physics under the supervision of a faculty member. The project culminates in an extensive report. Departmental permission is required for enrollment. See individual faculty members about topics of interest. Recent individual study topics include: optics, biophysics, general relativity, astronomical image analysis, and radioastronomy.
Staff

PHYS 424 Solid State Physics

The fundamental aspects of solid state phenomena and the basic quantum physics needed to understand these phenomena. Topics include the basic principles of quantization and matter waves; Fermi statistics; crystal structures; diffraction phenomena in crystals; conduction electrons in metals; the concept of conduction by holes; and the basic physics of electrons and holes in both homogeneous and doped semiconductors.

Prerequisite: Physics 335, 351

Offered: Spring semester, alternate years
Novaco

PHYS 442 Electromagnetic Waves

Maxwell's equations, wave equations for dielectrics and conductors. Reflection, refraction, interference, diffraction, guided waves, radiation.

Prerequisite: Physics 342

Offered: Spring semester, alternate years
Hoffman

PHYS 451 Applications of Quantum Theory

Additional topics in quantum mechanics, depending upon student interests. Possible topics include addition of angular momenta, applications of perturbation theory, scattering theory, and relativistic quantum mechanics.

Prerequisite: Physics 351

Offered: Spring semester, alternate years
Staff

PHYS 495, 496 Thesis

Independent study of a topic chosen for participation in the honors program, culminating in the presentation of a complete written report. Students should see individual faculty members whose research interests are most closely aligned to their own. [W]
Staff

POLICY STUDIES

Faculty

M. Crain (Economics and Business), chair, Averett (Economics and Business), Barclay (History), Bukics (Economics and Business), N. Crain (Economics and Business), Duhl (Foreign Languages and Literature), Fabian (Government and Law), Germanoski (Geology & Environmental Geosciences), Jemison (Electrical and Computer Engineering), Jones (Civil and Environmental Engineering), Kincaid (Government and Law), Kissane (Anthropology and Sociology), Lammers (Religious Studies), Shulman (Anthropology and Sociology), Silverstein (Government and Law), Traldi (Mathematics), and Vinchur (Psychology).

The Policy Studies major gives students the skills and institutional knowledge necessary for understanding policy processes, and provides a multidisciplinary course of study in the design, management, and evaluation of policies and institutions. Faculty affiliates represent all divisions of the college, and the program encourages students to combine coursework in engineering, the natural sciences, humanities, and the social sciences.

An integral part of the major is faculty-student collaboration on applied, real-world problems to address the political, technical, and economic factors relevant to a solution. Students work with an adviser to structure elective courses that relate to a theme of concentration and to develop research opportunities, internships, and, for qualified students, an honors thesis. Themes of concentration include:

Arts and Media Policy: including not-for-profit organizations, ethics, government's role in promoting and protecting culture, censorship, the licensing and regulation of the information sector, and privacy;

Economic Policy and Homeland Security: including fiscal, monetary and regulatory policy, workplace safety, product liability, national defense, homeland security, natural disasters, emergency management, and privacy;

Science Policy: including intellectual and physical property rights, ethics, technology transfer, space, biomedical, and environmental;

Social Policy: including health care, education, poverty, family and children, consumer protection and safety, public retirement and welfare programs, criminal justice, housing and urban planning, human reproductive rights, civil rights, and human rights.

The major is useful as preparation for employment in business, government agencies, or NGOs; as a foundation for postgraduate professional schools in public policy, law, and business; and as preparation for graduate study in the social sciences.

Requirements

Majors are required to take 14 courses including Economics & Business 101, 211, 213; one from Government & Law 101, 102, or 103; History 105; Mathematics 141 or 161, 186; Policy Studies 251, 300, 400; and four electives selected from an approved list and relating to one of the following four themes: Arts and Media Policy, Economic Policy and Homeland Security, Science Policy, Social Policy; and the A.B. Common Course of Study.

A policy-oriented internship approved by the Policy Studies program chair is required. The internship should be tailored to a student's theme of concentration and typically will take place at the sponsor's site. Under particular circumstances the internship might be completed on campus or at another location relevant to the project, such as a national capital. Following the internship, students participate in a seminar (Policy Studies 400) to build on the lessons of the internship experience and to prepare a report. This seminar and written report must be completed by the end of the semester after the internship to receive credit.

Policy Studies Courses

PSTD 251 Introduction to Policy Studies

This course introduces students to the governance of science and engineering. Course topics include the overall context for science and engineering policy, the public policy process and institutions involved in that process, and several current science and engineering public policy issues. The course includes a combination of role-playing exercises, debates, and field trips, as well as traditional lectures.

Staff

PSTD 300 Industry, Strategy, and Policy

This course serially examines specific industries using the tools of industrial organization, macro and microeconomics, and public policy to focus on critical aspects of the industrial sector. During the semester students evaluate the current composition, organization, and status of selected industries; understand the complex issues involved within an industrial group; and analyze the American and international environment within which the selected industries operate. These goals are accomplished through team reports and presentations and guest commentators.

Staff

PSTD 400 Policy Internship and Seminar

The internship in Policy Studies is tailored to a student's theme of concentration and typically will take place at the sponsor's site. Under particular circumstances the internship might be completed on campus or at another location relevant to the project, such as a national capital. Following the internship, students participate in a seminar to build on the lessons of the internship experience and to prepare a report. This seminar and written report must be completed by the end of the semester after the internship to receive credit.

Prerequisite: One of Government 101, 102, or 103; History 105; Policy Studies 251 or 300

Staff

PSTD 495/496 Honors Thesis

Students desiring to take honors should inform the program chair by the beginning of the first semester of the senior year. Honors work involves a guided program of independent reading and research culminating in a thesis on a topic to be selected by the student in consultation with his or her adviser and approved by the program chair. All honors projects must be conducted in accordance with the established written guidelines. Honors candidates enroll in 496 only upon successfully completing Policy Studies 400. Prerequisite: Policy Studies 400 and approval of Policy Studies Program Chair

Staff

PSYCHOLOGY

Faculty

*Associate Professor Shaw, Acting Head;
Professors Basow, Childs, W. Hill,*

McGillicuddy-DeLisi; Associate Professors Allan, Bookwala, Vinchur; Assistant Professors Gabel, Pinto, Talarico; Lab Coordinator Buckley

Psychology is the scientific study of behavior and of underlying mental and physiological processes. Courses are offered in a variety of areas, such as learning, perception, clinical, developmental, social, cognitive, and industrial/organizational.

The department's scientific orientation can be seen in the courses required of all majors and minors and in the orientation of the required core courses. Students begin with a survey of the field and of the basic research techniques used by psychologists.

As students progress, they study statistical analyses of data and more advanced research designs. Majors are encouraged to develop breadth by studying a variety of content areas and to develop depth through advanced-level courses.

Requirements for the Major

For the A.B. degree, 10 courses including Psychology 110, 120, and 203, plus two other laboratory courses from the set 304-327, one course from the set 335-496, and four other courses. All courses from 225 and above are to be distributed among at least four of the seven major subdivisions of psychology to achieve a broad foundation in the major. It is recommended that A.B. students consider taking Psychology 304; 391, 392; 491, 492; or 495, 496.

For the B.S. degree, Mathematics 125 or 161; five courses in natural sciences outside the department to be selected on the basis of concentration interest (Biology, Chemistry, Computer Science, Geology, Mathematics 200 or above, or Physics); three courses in the humanities and social sciences; and 12 courses in psychology including 110, 120, and 203, plus three other laboratory courses from the set 304-327, one upper level course from the set 335-496, and five other courses. All courses from 225 and above are to be distributed among at least four of the seven major subdivisions of psychology to achieve a broad foundation in the major. The seven subdivisions are shown below. It is strongly recommended that B.S. students consider taking Psychology 304; 491, 492; or 495, 496.

Requirements for the Minor

Six courses in psychology to be selected in consultation with a psychology faculty member. These courses must include: Psychology 110, 120, and 203.

Seven Subdivisions

Biological (225, 323, 324, 423), Clinical (231, 232, 337), Cognitive/Learning (236, 242, 255, 321, 322, 325), Developmental (233, 234, 338), Industrial/ Organizational (326, 335, 336), Methods (304, 339, 340), and Social (235, 240, 248, 327).

Psychology Courses

PSYC 110 Introduction to Psychological Science

Psychology is the scientific study of behavior and of underlying mental and physiological processes. Students are introduced to the goals of psychological science, the nature of scientific thinking, and the scientific methods psychologists use to study, explain, and predict animal and human behavior. A variety of content areas are discussed. Students apply their knowledge in weekly laboratory activities with animals and human participants, using various scientific methods.

Offered: Every semester
Staff

PSYC 120 Quantitative Methods in Psychology

An introduction to basic research design, measurement, and the use of descriptive and inferential statistics in psychological research. Topics include correlation, regression, reliability, validity, hypothesis testing, nonparametric techniques, and inferential statistics such as t-tests and analysis of variance. The Statistical Package for the Social Sciences (SPSS) is presented and utilized in a computer component of the course.

Prerequisite: Psychology 110
Offered: Every semester
Staff

PSYC 203 Design and Analysis I

Introduces students to methods used to conduct empirical research in psychology. Students learn how to design, conduct, analyze, and report psychological experiments that comprise the laboratory component. Students read professional journal articles of psychological research, developing skills in drawing critical

conclusions and designing experiments of their own. Lecture/laboratory.

Prerequisite: Psychology 120 or permission of instructor

Offered: Every semester
Staff

PSYC 225 Psychopharmacology

This course examines the neurological, physiological, and psychological effects of psychoactive drugs, such as sedatives, stimulants, opiates, antidepressants, alcohol, and hallucinogens. The use of psychoactive drugs in treating mental disorders such as schizophrenia and manic-depressive illness is also explored.

Prerequisite: Psychology 110
Gabel

PSYC 231 Personality

An examination of the major theories of personality including an evaluation of their strengths and weaknesses. Theories are applied to specific people in order to facilitate understanding how and why people behave. Current issues in personality research are also highlighted.

Prerequisite: Psychology 110 or permission of instructor
Basow

PSYC 232 Abnormal Psychology

This course examines current practices in diagnosing and treating mental illnesses and explores theories about the causes of these disorders. Major psychological disorders such as depression, substance abuse, and schizophrenia are evaluated in light of the latest research findings.

Prerequisite: Psychology 110 or permission of instructor
Basow, Swiatek

PSYC 233 Child and Adolescent Development

Theories of development and the processes underlying physical, cognitive, social, and personality growth during infancy, childhood, and adolescence are examined. Research and practical applications related to changes in abilities and behavior are discussed.

Prerequisite: Psychology 110
McGillicuddy-DeLisi

PSYC 234 Adult Development and Aging

This course adopts a biopsychosocial perspective on adult development and aging. It covers theoretical models of change during the adult years and research designs

and methods that indicate sources of individual differences during adulthood. Selected topics include biological changes, intellectual abilities, physical and mental health, and interpersonal relationships in relation to adult development and aging.

Prerequisite: Psychology 110
Bookwala

PSYC 235 Social Behavior

The psychological bases of social phenomena in individuals and groups. Topics include theory and methods, social perception, attitudes, prejudice and discrimination, leadership, aggression, small groups, attraction and love.

Prerequisite: Psychology 110 or permission of instructor
Childs, Shaw

PSYC 236 Applied Behavior Analysis

An examination of the application of the principles of learning to the control of human behavior. Principles of operant and Pavlovian conditioning including, but not limited to, the concepts of reinforcement, punishment, stimulus control, and schedules of reinforcement are discussed. Students explore how these techniques may be applied in personal, therapeutic, institutional, corporate, and social settings.

Prerequisite: Psychology 110 or permission of instructor
Allan

PSYC 240 Health Psychology

The role of psychology in all aspects of health care is examined. Students study and discuss such issues as the use of psychological methods in preventive medicine and treatment; research methods for examining and improving interpersonal relationships within the health care setting; and the role of psychology in health care delivery.

Prerequisite: Psychology 110 or permission of instructor
Childs

PSYC 242 Educational Psychology

This course introduces students to the theory and research underlying instructional practice. Topics include cognitive and behavioral approaches to learning, components of effective teaching, classroom motivation, measurement and testing issues, and consideration of individual differences.

Prerequisite: Psychology 110 or permission of instructor
Swiatek

PSYC 248 Psychology of Gender

An examination of gender from a psychological perspective including research on gender similarities and differences and gender socialization. Emphasis is placed on the consequences of gender stereotypes and roles for the individual, relationships, and society as a whole. Change strategies and goals are also discussed.

Prerequisite: Psychology 110 or permission of instructor
Basow

PSYC 255 Memory

This course examines human memory processes. The human brain contains a system for classifying, storing, and retrieving information that exceeds the capacity of the best computers in flexibility and speed. Yet the same system is often so unreliable that it cannot consistently remember a seven-digit phone number long enough to dial it. How can memory be so efficient in some regards and unreliable in others? This course considers psychological research and theories that address this question.

Prerequisite: Psychology 110 or permission of instructor
Talarico

PSYC 304 Design and Analysis II

This course focuses on theory and application in the areas of measurement, research design, and statistical analysis and interpretation. Topics include coverage of selected multivariate techniques (e.g., multiple regression, discriminant analysis, factor analysis), measurement theory, and meta-analytic techniques. Emphasis is on developing the necessary skills for success as an independent researcher.

Lecture/laboratory. [W]
Prerequisite: Psychology 203 or permission of instructor
Vinchur

PSYC 321 Learning

Principles derived from learning experiments represent one of the most powerful tools for understanding behavior. This course examines Pavlovian and operant relations involved in behavior change (in an evolutionary context) and how these factors continue to be discovered in animal and human experimental work. Lectures set the stage for a series of experiments conducted during laboratory sessions, and class discussions of additional readings and

experimental work will cover research design issues, data analytic techniques, and written presentation of experimental findings. Behavioral interpretations of linguistic and cognitive approaches will also be discussed. Lecture/laboratory. [W]
Prerequisite: Psychology 120
Allan

PSYC 322 Perception

Perception comprises psychological and physiological processes underlying our ability to get and use information about our environment. This course examines perceptual processing that transforms sensation to cognition. We focus primarily on visual perception of color, depth, and motion, with attention also to audition, touch, and pain. Lecture and laboratory complement each other in the exploration of phenomena and measurement methodologies. In laboratory work, students design and run experiments, analyze data, and present findings of perception-based studies. Lecture/laboratory. [W]
Prerequisite: Psychology 203 or permission of instructor
Pinto

PSYC 323 Physiological Psychology

The neural, hormonal, and physiological bases of animal and human behavior are examined. Physiological aspects of such topics as language, learning and memory, feeding, sexual behavior, emotions, sleep, and neurological disorders are covered. In the laboratory, students will conduct discovery-oriented research utilizing a variety of techniques employed by physiological psychologists and neuroscientists. Lecture/laboratory.
Prerequisite: Psychology 110, 120 or Neuroscience 201
Gabel

PSYC 324 Comparative Psychology: Animal Behavior

Examines how evolution has shaped the behaviors of animals to be adaptive, primarily exploring the functional significance of animal behavior. Topics include animal communication, foraging, antipredator strategies, sociality, mating systems, and parental care patterns. Laboratory involves naturalistic observations and experimental research with a variety of animal species. Lecture/laboratory. [W]
Prerequisite: Psychology 120
Staff

PSYC 325 Cognitive Psychology

The study of how humans process (i.e., acquire, store, and use) information. Topics include attention, perception, short- and long-term memory, mnemonics, imagery, language, problem solving, reasoning, and intelligence. Students design, conduct, and report original research studies on fundamental cognitive phenomena in laboratory. Lecture/laboratory. [W]
Prerequisite: Psychology 203 or permission of instructor
 Talarico

PSYC 327 Advanced Social Psychology

Examines how social psychologists conduct research. Students read and critique primary sources on such topics as altruism and compliance. In the laboratory component, students conduct research projects illustrating various social psychological methods. Lecture/ laboratory. [W]
Prerequisite: Psychology 203 and 235 or permission of instructor
 Shaw, Childs

PSYC 328 Advanced Developmental Psychology

Advanced course that focuses on either development during childhood, youth and/or adulthood. This is a laboratory course that focuses on current theoretical models, recent research, and assessment and analytic methods in relation to a range of course-relevant topics. Students conduct research projects related to the topics under study in laboratory or field settings. [W]
Prerequisite: Psychology 203 and 233 or 234 or permission of instructor
 Bookwala, McGillicuddy-DeLisi

PSYC 335 Industrial Psychology

An overview of industrial (personnel) psychology. Topics include criterion development, performance appraisal, recruitment and selection, validation research, selection bias, job analysis, training and development, compensation, and personnel psychology and the law.
Prerequisite: Psychology 120, or Mathematics 176 or 186, or permission of instructor
 Vinchur

PSYC 336 Organizational Behavior

An overview of organizational psychology. Topics include motivation, leadership, group processes, organizational stress, job satisfaction, communication processes,

decision theory, power, and organizational effectiveness, development, and theory.

Prerequisite: Psychology 120 or Mathematics 176 or 186 or permission of instructor
 Vinchur

PSYC 337 Counseling Psychology

Examines some of the major theories of counseling, such as psychodynamic therapy, cognitive behavior therapy, and client-centered therapy. Students are involved with both conceptual and practical aspects of each counseling approach.
Prerequisite: Psychology 231 or permission of instructor
 Basow

PSYC 339 Tests and Measurement

The emphasis in this course is on the principles underlying psychological testing. These principles are applied to tests in all content areas in psychology (e.g., clinical, educational, neurological, industrial). Topics include the history of psychological tests, technical and methodological concerns such as reliability and validity, and legal, social, and ethical issues. Prominent tests in selected content areas of psychology are examined.
Prerequisite: Psychology 120 or permission of instructor
 Vinchur, McGillicuddy-DeLisi

PSYC 340 History and Systems of Psychology

Provides a historical survey of psychology, with an emphasis on the development of scientific psychology in the late 19th and early 20th centuries. Among the topics explored are the origins of psychology in philosophy and neurology, "schools" of psychology such as functionalism, Gestalt psychology, and behaviorism, and the lives and careers of psychology pioneers. [W]
Prerequisite: Psychology 110, junior or senior standing, or permission of instructor
 Childs, Vinchur

PSYC 342, 343 Advanced Applied Psychology

An experientially based course in which students apply their knowledge from academic course work to a field setting and explore research relevant to their field activities. The internship site matches the student's interest (e.g., human service agency; personnel department, etc.). Field supervision/seminar. [W]

Prerequisite: Psychology major or minor, junior or senior status, and permission of instructor
Staff

PSYC 351-360 Special Topics

A seminar devoted to a subject of interest to students and faculty. Announcement of the proposed subject is made before the registration period each semester. Open to psychology majors or by permission of instructor.
Staff

PSYC 391, 392 Independent Study

An opportunity for students to pursue a topic of choice with the guidance of a faculty member. Each student examines the topic using primary and secondary sources, and writes a paper of distinguished quality. The study may be designed for one or two semesters. [W]

Prerequisite: Psychology 203 and permission of department head
Staff

PSYC 491, 492 Advanced Research

An opportunity for students to engage in an empirical study using advanced research techniques with the guidance of a faculty member. Students undertake a research project in an area of choice designed for one or two semesters. The work should culminate in a data-based paper of distinguished quality. [W]

Prerequisite: Psychology 203 and permission of department head
Staff

PSYC 495, 496 Thesis

Open to qualified majors by permission of department head. [W]
Staff

RELIGION AND POLITICS

Religion and Politics is a coordinate major between the departments of government and law, and religious studies. The major proceeds under two assumptions. First, religious phenomena are a fundamental and often essential component of political analysis. Second, the political implications of religious beliefs, behavior, and institutions are important to the study of religion. In brief, this major gives students greater insight into political dynamics and enhances their ability to assess the impact that religious values have on politics.

Students may choose from two tracks—1) American Politics and Theory: emphasis on religious study in the realm of American politics and theory, 2) International: emphasis on religious study in the international arena.

Requirements for the Major

American Politics and Theory track: 15 courses including Government and Law 101, 104, 401-411 (one senior seminar) and four electives from the following: 207, 211, 213, 215, 243, 244, 245, 310, 311, 313, 314, 320, 321, 341; Religious Studies 101, 102, 222, 231, 240; one elective from the following: 201, 204, 221, 235, 236; one 300-level elective and one of the following: Government and Law 495/496 or Religious Studies 495/496 or a joint thesis in Government and Law and Religious Studies or Government and Law 390 or 391 or Religious Studies 390 or 391 (honors thesis or independent study-capstone). Thesis/Independent Study work must be done under the direction of at least one faculty member in each department.

International track: 15 courses including Government and Law 102, 103, 401-411 (one senior seminar), and four electives from the following: 221, 223, 224, 225, 227, 229, 230, 234, , 239, 322, 329, 335, 336 Religious Studies 101, 102, 222, 240; two electives from the following: 206, 211, 212, 213, 214, 215, 216, 221; one 300-level elective; and one of the following: Government & Law 495/496 or Religious Studies 495/496 or a joint thesis in Government and Law and Religious Studies or Government and Law 390 or 391 or Religious Studies 390 or 391 (honors thesis or independent study-capstone). Thesis/Independent Study work must be done under the direction of at least one faculty member in each department.

Religion and Politics Course

NOTE:

For courses see individual sections on Religious Studies and on Government and Law

RELIGIOUS STUDIES

Faculty

Associate Professor Rinehard, Head;
Professors Cohn, Lammers, Ziolkowski;
Assistant Professor Sayeed

Studying religion provides an understanding of the various cultures of the world and the human condition in the twenty-first century. The major introduces students to world religions including Judaism, Christianity, Islam, Hinduism, Buddhism, and traditional African religions.

The approach in the courses is both systematic and historical, and the offerings touch on all key areas such as religious traditions, religious ethics, sacred texts, and religion and literature. Current ideas and contemporary manifestations of religion appear in various courses. For example, the "cult" controversy course includes discussion of the Branch Davidians, and the Islam and Hinduism courses study religious conflict in the Middle East and South Asia.

Requirements for the Major

Nine courses including Religious Studies 101, one course in Texts, one course in Society or American Religious Experience, two courses in Traditions, Religious Studies 240; one 300-level elective; and Religious Studies 490 (Senior Capstone). Students may choose to count toward the major one related course from another department (subject to department approval) and/or one Independent Study (390).

Students wishing to take honors should inform their advisers early in the second semester of the junior year. They enroll in Religious Studies 496, as a 10th course, after successfully completing Religious Studies 490/495.

Requirements for the Minor

Five courses from the Department's offerings, including 101 and at least three courses above the 100-level.

Religious Studies Course Areas

Introductory: 101, 102, 103, 104

Traditions: 211, 212, 213, 214, 215, 216

Oral and Written Texts: 201, 202, 203, 204, 205, 206, 207

Society: 221, 222, 223, 224, 225

American Religious Experience: 231, 235, 236, 237

Theories of Religion: 240

Advanced: 301 or above

Coordinate Majors

History and Religious Studies, and Religion and Politics

Religious Studies Courses

REL 101 Religions in World Cultures

This course introduces students to the academic study of religion through a consideration of Buddhism, Christianity, Hinduism, Islam, Judaism, and traditional African religions. Different forms of religious experience and belief are examined along with the myths, rituals, concepts, and symbols that convey them. Various methodologies and source materials are used.

Offered: Fall and spring semesters

Staff

REL 102 Contemporary Religious Issues

Questions confronting Western religious traditions in the twentieth century including the condition and stature of humans in the world of technology, the conflict between old and new moralities, the crisis of belief and disbelief, and being human in modern society.

Offered: Fall and spring semesters

Lammers

REL 103 Religion, Myth, and Fantasy

A study of the nature of fantasy and the fantastic and their relation to religion and religious expression, in both West and East. Students examine various texts and tales, as well as films, from a wide range of historical times and traditions, focusing on the modes through which they convey different kinds of religious experience, beliefs, and meanings. Themes include fate of the soul after death, conflict of good and evil, and boundaries between the real and the unreal.

Offered: Fall semester

Ziolkowski

REL 104 Saints, Mystics, Ecstasies

An introduction to the comparative and historical study of religion through an examination of three often interrelated types of religious personality: saint, mystic, ecstatic. After considering classic and recent studies of these three types from both Western and Eastern perspectives, the course analyzes autobiographical, biographical, hagiographic, iconographic, and cinematic portrayals of representative figures, focusing upon the expression of the

figures' defining experiences and followers' responses to the persons' lives and experiences.

Ziolkowski

REL 201 The Biblical Imagination: Torah, Prophets, Writings

Introduction to the religion of ancient Israel; examination of biblical perspectives on the great questions through close reading of selected texts; appropriation and interpretation of the book as "scripture" by both Jewish and Christian communities.

Cohn

REL 202 Christian Scriptures

An introduction to early Christianity with special attention to its Judaic context, the life and teachings of Jesus, the letters of Paul, the rise and expansion of the Christian community.

Lammers

REL 203 Religion and the Literary Imagination

This course interprets the religious meanings and implications of a selection of twentieth-century novels. The focus is upon the problematic relationship of the religious protagonist to society and God, or to some other ultimate concern. Other themes considered include the conflict of faith and doubt tensions between religious commitment and aesthetic yearnings, moral and ethical responsibility in the confrontation with evil, and religious dilemmas arising from the encounter between different cultures and religions.

Ziolkowski

REL 204 India's Religious Texts: Sacred Word, Sacred Sound

This course introduces the oral and written traditions of South Asian religions including Hinduism, Buddhism, Sikhism, and Islam with selections from a range of texts including the Vedas; biographies of the Buddha; Hindu, Sikh, and Islamic mystical and devotional poetry. The course examines the use of oral and written traditions in religious practice.

Rinehart

REL 205 The Art of Biblical Narrative

This course explores the power of biblical tales (from the Hebrew Bible [Old Testament]) to shape the religious imagination of the West. Emphasizing close reading of selected biblical stories, the course examines the forms and themes that

the authors exploited to create their distinctive artistry.

Cohn

REL 206 Jewish Responses to the Holocaust
Investigation of reactions to the Holocaust in the context of reactions to and explanations for catastrophe in the history of Judaism. Study of Jewish literature that addresses the problem of suffering and of Holocaust writing that challenges traditional responses. Examination of modes of Holocaust memorialization and their role in contemporary Jewish life and thought. [W]
Cohn

REL 207 The Quran

A study of the Quran that focuses on the origin and compilation of the text, a sociocultural history of its interpretation, and its function in Muslim life. The course also examines the Quran as scripture and its major themes.

Sayeed

REL 211 Hinduism: Unities and Diversity

An introduction to the vast, complex religious traditions of India known as Hinduism, with readings from some classic works of early Hinduism, such as the Vedas, Upanishads, and the Bhagavad Gita, and Hinduism's extensive oral and written mythological tradition. Hindu worship and meditation are studied, as well as the religious foundations of the caste system. Issues in contemporary Hinduism are also considered. Counts toward Asia Culture Cluster and Asian Studies minor.

Rinehart

REL 212 Buddhism: From India to Asia and Beyond

An introduction to the development of Buddhism and its spread throughout Asia. The course begins with the rise of Buddhism in India and the development of Buddhist philosophy and religious practice. It then examines Buddhism in China, Japan, Tibet, southeast Asia, and the West, focusing on adaptations in Buddhist practice and belief in different environments. Counts toward Asia Culture Cluster and Asian Studies minor.

Rinehart

REL 213 Judaism: Faith, Communities, Identity

An introduction to the religion, history, and literature of the Jewish people. Among the areas covered are: the biblical heritage; the

development of rabbinic Judaism; ritual and the holy life; and the reactions of Judaism to modern developments such as political emancipation, the Holocaust, and the state of Israel; and contemporary Jewish problems.
Cohn

REL 214 Christianity: From Jesus to the Third Millennium

A study of the main branches of Christianity—Eastern Orthodox, Roman Catholic, and Protestant—with reference to their common biblical inheritance, historical developments, characteristic doctrines, and institutional expressions. Readings are assigned in authors representing the viewpoints studied.
Ziolkowski

REL 215 Islam: History, Faith, and Practice

A study of the origin and growth of Islam as a religious, cultural, and political force in the world. Beginning with the founding by the Prophet Muhammad in the early seventh century, the course presents a detailed explanation of the Qur'an, as well as the core of beliefs and obligations. The course also explores the content and practical application of the Sharia, Islam's holy law; the differences between the Sunni and Shiite forms in their historical, theological, and sociopolitical perspectives; and Islam's strength and influence in the contemporary world.
Sayeed

REL 216 Indigenous Religions of West Africa: Continuity and Change

A systematic study of the attitudes of mind and belief, as well as practices, which have evolved in the many societies of West Africa, showing the traditional religious heritage as a profound reflection on the human condition. The course examines the meaning, structure, and sources of West African traditional religion.
Staff

REL 221 Religion in Society

A historical and critical study of the way in which particular religions relate to other structures in their cultural environments. Examples are given from different religious communities at different time periods.
Lammers

REL 222 Religion and Politics: Conflict and Cooperation

This course focuses on the interaction between individuals and communities with religious commitments and the political order within which they find themselves. Examples are drawn from different societies; special attention is given to the situation within the United States—its historical antecedents, particular history, and current problematic.
Prerequisite: Previous course in religion recommended but not required
Lammers

REL 223 Religious Perspectives on Modern Medicine

This course examines questions in traditional medical ethics as well as modern bioethics. The focus is on religious analyses of these questions. Issues discussed include killing, letting die, experimentation, and the implications of the new genetics.
Lammers

REL 224 Religious Ethics

A study of the bases of normative claims about behavior in various religious traditions. Materials from Christian, Jewish, Buddhist, and other religious traditions are used. Topics include freedom, responsibility, and destiny.
Lammers

REL 225 Women, Religion, and Society

This course examines the role of women in the world's major religions. Topics include ideas about gender from texts and oral traditions, ideas regarding gender and spiritual capability, and the connection between religious notions of gender and larger social, political, and economic issues. The course also examines various feminist critiques of religion and reform movements within religious traditions.
Rinehart

REL 226 China and Christianity

This course presents a survey of the introduction and evolution of Christianity in China from the 7th century to the present day. The survey will be viewed through a many-sided prism of intellectual, institutional, ethical, spiritual, and political life of Christianity and its integration into Chinese culture. The course will put Christianity in both global and regional contexts, so that students will learn from a wide spectrum of intellectual exchanges in history.

Staff

REL 231 Religions in American History and Culture

A survey of the histories of religious communities, faiths, and practices in North America, particularly the United States, from the colonial period to the present. The religious histories of Native Americans and of peoples of Europe, Africa, and Asia who later arrived, are all considered. Emphasis is on issues raised by the repulsion and attraction, conflicts and blending, of belief systems (including Sioux, Roman Catholic, Protestant, Jewish, Muslim, African American, Mormon, and Buddhist).
Ziolkowski

REL 235 The "Cult" Controversy in the United States

This course examines some of the alternative movements that have arisen in the United States, from nineteenth-century Spiritualism to the New Age movement in the 1990s. Focus is on the contexts in which these movements arise, reasons people are attracted to them, and the effect on American religious experience overall. Movements include: Christian Science, Nation of Islam, International Society for Krishna Consciousness ("Hare Krishnas"), and David Koresh and the Branch Davidians. One field trip. [W]
Rinehart

REL 236 African Diasporic Religions in the Americas

This course is a study of the African religious heritage brought to the Americas by African people who held a different world view. Eventually, as a result of their experiences in the new environment, the Africans created a coherent faith that preserved and revitalized the basic aspects of African spirituality although blended with Christianity. Historical developments as well as issues of syncretism and cultural camouflage are discussed.
Staff

REL 237 Contemporary Catholic Issues in the United States

An exploration of Catholicism as it has developed within the particular culture of the United States and the reasons for its evolution. Elements in the Catholic tradition that have adapted to American surroundings, examination of tensions and debates which have accompanied those adjustments, and current matters of interest

to that community, including critique of the culture of the United States.

Staff

REL 240 Theories of Religion

What is religion? What is the nature of religious belief? What roles does religion play in society? How can we study and understand religion? There have been many attempts to answer these questions from sociology, anthropology, philosophy, psychology, comparative religion, and the feminist critique of religion. This course examines representative theories of the nature and study of religion, paying close attention to the contexts within which these theories arise, and how effective they are in understanding religious beliefs and practices.[W]

Offered: Every other year

Staff

REL 301 Philosophies of Religion

An examination of central problems and current issues in the philosophy of religion as treated in classic texts of the field: definitions of religion; 'proofs' of God's existence; the nature of religious experience, faith, revelation, and miracle; the problem of evil; human destiny; religious naturalism; religious language; atheism and unbelief; religious pluralism; religion and gender. We discuss these subjects from a rational, critical, objective perspective, taking account of the historical-cultural contexts of the authors.
Ziolkowski

REL 304 Islam in the West

This course examines the history of Islam in the West, with a focus on the United States. Among the topics covered are Islam in African-American communities; Muslim immigration from Africa and Asia to the U.S.; and the political, social, and religious acculturation of Muslims in the West. The course also surveys the history of Islam in Europe in its post-colonial contexts.
Sayeed

REL 351-360 Special Topics

These courses study subjects of current interest to students and members of the staff.

Staff

REL 390, 391 Independent Study

Open to junior or senior Religion majors or minors. Students select a specific area of interest for reading and investigation in

consultation with the faculty adviser and subject to the approval of the department. Students confer regularly with advisers on their work and prepare an essay on an approved subject. Open to other qualified juniors or seniors with permission of the department.

Staff

REL 490 Senior Capstone

Students who major in religion develop a capstone project under the direction of a faculty member in the department, following the established, written guidelines available in the department. This takes place in the first semester of the senior year. [W]

Prerequisite: Students must be Religion majors

Staff

REL 495, 496 Honors Thesis

Students desiring to take honors should inform their department advisers by the end of the second semester of the junior year. Honors work involves a guided program of independent reading and research culminating in a thesis on a topic to be selected by the student in consultation with his or her adviser and approved by the department. All honors projects must be conducted in accordance with the established written guidelines available in the department. Honors candidates enroll in 496 only upon successfully completing Religion 495. [W]

Staff

RUSSIAN AND EAST EUROPEAN STUDIES

Faculty

Associate Professor Sanborn, (History), Chair; Professors Cohn (Religious Studies), Heavey (Economics and Business), Pribic (Foreign Languages and Literatures); Associate Professor Sinkevic (Art); Assistant Professor Fabian (Government and Law); Visiting Instructor Sajež (Foreign Languages and Literatures)

The Russian and East European Studies major prepares students to engage meaningfully with one of the most important areas in the world. Majors learn about the history, culture, and present-day circumstances of life in the Russian Federation and a wide number of other states in the Balkans, the Caucasus region,

Central Asia, and the European Union. Undergraduates have the opportunity to read Tolstoy (both in translation and in the original Russian), to study an empire that covered a sixth of the globe, to see the other side of the Cold War, and to discuss current issues of human rights and state practices in a volatile and dynamic geopolitical space. Upon graduation, REES majors find that many institutions in the public and private sectors alike have a pressing need for well-trained college graduates with a deep knowledge of the region and a proficiency in one or more of the area's languages.

The REES major is emphatically interdisciplinary. Students are required to take courses in language, literature, history, and government and are encouraged to take courses on the region in other departments, such as art and religious studies, as they are offered. Majors are strongly advised to participate in a study-abroad program in the region.

Requirements for the Major

Achievement of Russian proficiency on a second-year level (Russian 101-102, 111-112; two courses in Russian literature in Russian or English (Russian 209, 210, 311, 316; Comparative Literature 161, 162); History 243 or 244; Government and Law 225, or 238; and at least three other courses in Russian/East European Studies such as Art 216; Government and Law 225, 238; History 243, 244, 270, 354; Religious Studies 206, 351; Russian 209, 210, 211, 311, 316; Comparative Literature 161, 162; INDS 280, REES 460, REES 495-496. In addition, all majors must fulfill a capstone requirement. It is recommended that this be met by participation in a study-abroad program in Russia or Eastern Europe (INDS 280 meets this requirement); by writing an honors thesis (REES 495, 496), or by completing either REES 460 or History 354.

Requirements for the Minor

Russian: Seven courses chosen from the offerings in Russian, History, and Government and Law, plus one from Comparative Literature, History, Interdisciplinary Studies, or Art.

Russian and East European Studies Courses

REES 460 Reading and Research in Russian/ East European Studies
 This course gives advanced students the opportunity to investigate intensively an area of special interest. The student is required to meet with the instructor periodically throughout the semester and at the conclusion of the course to submit a scholarly paper as well as to be prepared to take an oral examination on his or her work. Hours arranged.
 Offered: As needed
 Staff

REES 495, 496 Thesis
 Students interested in completing a thesis for Program Honors are advised to consult with the program coordinator toward the end of their junior year. Following selection of a topic and thesis director, a research design must be provided at the opening of the fall semester. The student then completes 495. If the thesis director and program coordinator conclude that sufficient progress has been made, the student takes 496 and completes a thesis for submission for honors.
 Staff

INTERDISCIPLINARY STUDIES

Lafayette encourages students to integrate and evaluate the knowledge gained in many different courses and departments through a number of interdisciplinary academic programs.

Majors and minors: Seven major programs (Africana Studies, American Studies, Biochemistry, International Affairs, Mathematics and Economics, Neuroscience, and Russian and East European Studies) and twelve minor programs focusing on broadly organized interdisciplinary topics are offered within the A.B. curriculum. In addition, a student may develop an individual interdisciplinary A.B. program. Petitions for such majors must be endorsed by three faculty members representing the disciplines involved and must be approved by the Academic Progress Committee.

Minor Programs:

Architectural Studies
 Requirements for the minor: Six courses: Art 120, 126 and four electives. Electives are to be selected from an approved list, with at least one from each of three perspectives: historical, design, and engineering.
 Coordinator: Professor Mattison (Art)

Asian Studies
 Requirements for the minor: Five courses: INDS 112 plus four approved courses from at least two different departments. Current offerings focusing on Asia include: Art History, Chinese Language and Culture, Japanese Language and Culture, History, Government and Law, Religious Studies, and Music. Students should consult with the program coordinator regarding other approved options.
 Coordinator: Associate Professor Rinehart (Religious Studies)

Biotechnology/Bioengineering
 Requirements for the minor: Five approved courses. Biology 101, at least one from an approved list of science courses, and at least one from an approved list of engineering courses. No more than three courses required (a) for the major or (b) the Common Course of Study may be counted toward the minor, and the program is not available to students who are pursuing two majors. Students are encouraged to take at least three courses from departments other than their own and pursue a bio-oriented independent study or honors thesis. It is the responsibility of the student to fulfill any prerequisites. In some cases instructors permission overrides this requirement. Some courses may not be offered every year. The Biotechnology/Bioengineering Minor Advisory Committee must approve a program of study selected by a student. Students may petition the minor committee and the Academic Progress Committee for approval to take appropriate deviations from the course listing.
 Coordinator: Professor Tavakoli (Chemical Engineering)

Classical Civilization
 Requirements for the minor: Six approved courses including Comparative Literature 121, 125; History 211, 212, 213; and electives from the following list:

Comparative Literature 103: Classical Mythology
 Latin 111, 112: Intermediate Latin (and/or Advanced Latin)
 Greek 111,112: Intermediate Greek (and/or Advanced Greek)
 Art 221: Ancient Art
 Philosophy 107: The First Philosophers
 Religious Studies 202: Religion of the Christian Scriptures
 Coordinator: Assistant Professor Shieber (Philosophy)

Computational Methods
 Requirements for the minor: Five courses: Computer Science 102 or Computational Methods 141 or Computational Methods 151, Computational Methods 401 and three electives selected from an approved list.
 Coordinator: Professor Liew (Computer Science)

Environmental Science
 Requirements for the minor: The Environmental Science minor is an interdisciplinary program designed to serve science and engineering majors and students of other disciplines interested in environmental careers or environmental matters.

The minor requires five courses apportioned in three components: a core component, a technical elective component, and a policy/issues component. No more than three courses required (a) for the major or (b) to satisfy Common Course of Study requirements may be counted toward the minor. Students participating in the minor are strongly encouraged to take more than three courses outside of their major and to pursue an environmentally oriented independent study or honors thesis. Please note that some courses have prerequisites (indicated by *); it is the students responsibility to fulfill any prerequisites. Courses that are not offered every year are indicated by †. Students electing the minor must have their program of study approved by the Environmental Science Minor Advisory Committee. Any course selection differing from those prescribed requires petition to the Environmental Science Minor Advisory Committee and the Academic Progress Committee for approval.

Lafayette College is also a member of a consortium of schools whose students may participate in the "Semester at Woods Hole Marine Biological Laboratory" program.

Courses taken at Woods Hole may be used to meet some of the Environmental Science Minor requirements at Lafayette.
 Coordinator : Professor Germanoski (Geology and Environmental Geosciences)

Health Care and Society
 Requirements for the minor: Five approved courses in an interdepartmental program drawing from the humanities, social sciences, and natural sciences. The following three courses are required: Anthropology 222 Medical Anthropology, Psychology 240 Health Psychology, and Religious Studies 223 Religion and Medicine.
 Coordinator: Professor Lammers (Religious Studies)

Jewish Studies
 Requirements for the minor: At least five approved courses in both the humanities and social sciences from at least three departments. Minors are required to take Religious Studies 213. Not more than two courses in Hebrew may be applied toward the minor requirements, both of which must be intermediate level. Courses should be chosen in consultation with the Jewish Studies coordinator from the listing and from special courses offered in cooperation with the Berman Center for Jewish Studies.
 Coordinator: Professor Cohn (Religious Studies)

Latin American and Caribbean Studies
 Requirements for the minor: Six approved courses, one of which must be an upper-level course, independent study, internship, or thesis and be directed by a faculty member affiliated with the minor. Students are asked to demonstrate proficiency through the intermediate level in a language relevant to the study of Latin America and the Caribbean. Spanish is recommended.
 Coordinator: Associate Professor Torres (Music)

Medieval, Renaissance, and Early Modern Studies
 Requirements for the minor: Five courses to be selected in consultation with the advisor from one of three clusters: Medieval, Renaissance-Reformation, or 17th-18th Century. Students must complete an introductory, two intermediate and two advanced courses from an approved list.
 Coordinator: Professor Fix (History)

Women's and Gender Studies

Requirements for the minor: Women's and Gender Studies 101 and four approved electives, including at least one WGS independent study, internship or 300-level seminar. Electives may be selected from Anthropology & Sociology 212 Sex and Gender, Anthropology & Sociology 227 The Family, Economics & Business 325 Women and Economics, English 119 Literary Women, English 274 Taboos: Literary Sexualities, Government & Law 204: Race and Gender in the American Legal System, History 353 Gender and Sexuality in Modern Europe, History 368 Ordinary and Extraordinary Women in Latin American History, Music 267 Women in Music, Philosophy 215 Feminist Philosophy, Psychology 248 Psychology of Gender, Religious Studies 225 Women, Religion and Society, and VAST 256 Body Politics. Other relevant courses may be approved by petition to the Women's and Gender Studies Coordinator, including departmental special topics or departmental courses that in a specific semester explore issues from the perspective of feminist and gender theory.

Coordinator: Professor Byrd (English)

Interdisciplinary Studies Courses

CM 141 Introduction to Computational Media

This course introduces students to the basics of computing and teaches them how to write small programs. The course is centered around the manipulation of images and media files. Students will learn how to write small applications to control and display visual and audio information.

Prerequisite: Math 125

Staff

CM 151 Introduction to Computational Science

Computational science concentrates on the effective use of computer software, hardware and mathematics to solve problems in science. The goal of this course is to teach science and engineering majors how to develop tailored, flexible, and efficient working environments built from small programs (scripts) written in the easy-to-learn, very high-level language Python. Students will learn to use existing applications and tools for automating simulation, data analysis, and visualization, and for steering simulations and computational experiments.

Prerequisite: Math 161 and one of the following: Math 162, Economics 101, introductory science major elective
Staff

CM 390/391 Independent Study
Independent study projects for qualified juniors and seniors.
Staff

INDS 112 Introduction to Asia

This course introduces the traditions and modern development of Asia. The approach is interdisciplinary, covering subject areas such as history, culture, art, literature, music, religion, economics, politics, and law. The course offers an introduction to the region and provides an important foundation for students interested in taking more specialized courses.

Rinehart

INDS 240 From Generosity to Justice: Addressing Social Problems through Action and Reflection

This interdisciplinary seminar centers on questions that arise when students volunteer to work with people in the community who are poor. Specific problems—homelessness, poverty, or crime—as well as the social system in which they exist are studied. [W]
Prerequisite: Sophomore standing or above and one semester of volunteer work

Corequisite: Volunteer experience is also required

Beckman, Miller

INDS 245 Social and Ethical Aspects of Health Care in the United Kingdom and the United States

This course examines selected social and ethical aspects of the health care systems of the United Kingdom and the United States. After providing an overview of the two systems, selected features of the systems are compared. Once the comparisons are made, the ethical implications of system differences are explored. Lecture, discussion, site visits, student presentations.
Staff

INDS 280 Russia and Poland: Past and Present

In this course students spend three weeks examining the history and culture of Russia and Poland while traveling through these two countries. The course is structured around three themes: 1) religious life, 2) the memory of World War I, World War II, and the Holocaust, and 3) the dilemmas of

postcommunism. Students are encouraged to learn and absorb material that falls outside of these narrow categories, but readings and excursions are focused on these themes.

Staff

INDS 321, 322 Technology Clinic

A small group of selected students work together with faculty mentors to solve a real-world problem proposed by an industrial or government sponsor, addressing the social, technological, and economic factors relevant to a solution. Students work on campus as a team and at times independently and on-site with the sponsors. [W]

Prerequisite: Committee recommendation
Bauer

INDS 361 The Gothic Cathedral: Structural Rationalism

Gothic cathedrals are considered as representing the physical embodiment of the values of medieval society. The course explores the dependence of their construction on medieval developments in construction technology and the essential interdependence of societal values and technological progress. It also considers how the structural rationalism of Gothic architecture, as interpreted during the nineteenth century, is the foundation for much of modern architectural theory. [W]
Van Gulick

INDS 371 Health Care and Society Internship

This course involves an internship experience in a health care organization. There are four components: regular attendance at a work site at times determined by the work site supervisor and agreed to by the Lafayette faculty supervisor, a journal by the student, regular meetings with the faculty supervisor; and a writing project developed in consultation with the faculty supervisor.

Staff

INDS 380, 381 Internship in Ethical Studies

An off-campus experience in which students are actively involved in the study and evaluation of ethical issues. The student chooses from a variety of approved organizational settings and works closely with a faculty adviser and designated members of the organization. Examples of appropriate settings are hospitals, business corporations, engineering firms, public

associations, and governmental agencies. Some attention should be paid to an understanding of the structure and dynamics of the organization as they relate to the ethical analysis undertaken by the students.

Prerequisite: Philosophy 105
Staff

INDS 390, 391 Independent Studies in Ethics

Individual investigation of an ethical issue of either a theoretical or applied nature with the approval and under the supervision of a faculty adviser. The student is required to apply various ethical theories to an analysis of an important ethical issue. Ordinarily the student is required to submit an extensive term paper.

Prerequisite: Philosophy 105
Staff

WGS 101 Introduction to Women's Studies

This interdisciplinary course acquaints students with the content and methodology of women's studies. Attention is focused on how gender, together with race, class, sexual orientation, etc., shapes people's lives and experiences. This gender analysis is used to examine American women in relation to society, other people, and to themselves.

Staff

WGS 230 Women's Health Issues

This course examines a wide range of women's health issues as well as other factors that affect women's health such as multiple oppressions, environmental factors, and policy decisions. Scholarly and popular reading, discussions, films/videos, and guest speakers provide the foundation for learning.

Nixon

WGS 240 African/African American Women

This course examines the ways in which race, class, and gender have influenced black women's lives. Discussion topics include familial roles of indigenous African women, institutional oppression (including slavery), male/female relationships, health issues, the Civil Rights Movement, women's liberation struggles nationally and internationally, and coalition building with women of non-African descent.

Nixon

WGS 250 Gender and Science

This course is an interdisciplinary study of the relation between gender and science. Social expectations regarding women's abilities, women's roles, and the nature of science are discussed. The effects of gender on experiences with science as a field of study and with science as a profession are explored through discussion, readings, and class assignments of activities that involve the academic and scientific communities.
Staff

WGS 251-255 Special Topics

An interdisciplinary topic of special interest to students and staff interested in Women's Studies is offered.
Staff

WGS 380,381 Internship in Women's Studies

This course involves the application of academic knowledge to a field setting of particular relevance to women (for example, a battered women's shelter). Students work approximately eight hours a week in their placement, meet biweekly with the supervising instructor, and prepare a final project.

Prerequisite: Women's Studies 101, two other Women's Studies courses, and permission of instructor and the coordinator of Women's Studies
Staff

WGS 390,391 Independent Study

This course provides an opportunity for students to investigate a topic in Women's Studies in depth. The student confers regularly with the instructor and prepares a research project or term paper on an approved topic.

Prerequisite: Women's Studies 101 and permission of instructor and coordinator of Women's Studies
Staff

INTERIM SESSION/ON CAMPUS

Lafayette College offers Interim semester courses that meet in January or May. Courses are offered in a compressed time frame and offer unique opportunities that are not always available in the regular semester. The offerings for each academic year are announced early in the fall semester. Courses listed below have been approved to be taught in the Interim

Session. Occasionally other courses taught during the academic year are offered in the Interim.

Individual course descriptions can be found in each academic departments listing. Approved courses are listed below.

Interim Session/On Campus Courses

Examples of courses offered in the Interim on campus include:

A&S 255. Contemporary Society and the Cinema
ART 191. Promotion Design: The Creative Potential of Production Techniques
ART 193. Techniques with Watercolor
ART 196. Basic Photography (Black and White)
ART 219. Visual Expression and "Controlling" the Painted Surface
ART 290. Graphic Design: Solving Communication Problems
ART 292. Visual Communication through Technology
BIOL 304. Tissue Culture and Virology
CHEM 476. Organometallic Chemistry
EDUC 250. Curriculum and Instruction
ENG 260. The New York Theater
HIST 234. Slavery, Civil War, and Reconstruction
INDS 151. Anatolia: The Cradle of Civilizations
INDS 361. Gothic Catherdrals
ME 482. Applied Mechanical Design
MUS 193. New York Jazz Experience
PSYC 250. Behavior Analysis of Instructional Methods

INTERIM SESSION/STUDY ABROAD

Some of these courses are offered during January interim session; others are offered in May. The offerings for each academic year are announced in the summer prior to fall semester.

Interim Session/Study Abroad Courses

ENG 280 The London Theatre
England's rich theatrical tradition is continually affirmed by the excellence of its London theatre productions. During this course, students attend a dozen plays at West End and fringe theatres, the National Theatre, and the Barbican Center, which hosts the Royal Shakespeare Company. Though the specific works studied depends

on theater offerings, the course focuses on literary and performance aspects of Shakespearean and modern plays.
O'Neill, Westfall

ENGR 290 Engineering in a Global and Societal Context

This is a three-week summer course, taught in various parts of the world, where we examine the global and societal context of engineering including the impact of traditions, customs, policy, and culture on engineering projects. The course involves daily field trips and plant tours, journaling, and discussions with engineers working in the countries we visit. Each course offering is organized around a multi-disciplinary technical theme e.g. renewable energy, water resources, sustainable buildings.

Prerequisite: Completed sophomore year with an engineering major

Staff

GEOL 140 Coral Reefs and Caves: The Geology of the Bahamas

This course presents an opportunity to study physical, chemical, and biological processes that operate to produce carbonate platforms (e.g., tides, waves, and the growth of corals), geomorphic processes that operate to further shape carbonate platforms (e.g., groundwater flow, cave development, and soil development), and the environmental impacts of human activities on carbonate platforms. Field studies are based on San Salvador Island with side trips to Eleuthera and Andros Islands.

Germanoski

GEOL 150 The Geologic Evolution of the Hawaiian Islands

This course provides students with an understanding of how volcanic, geomorphic, and coastal processes have shaped, and continue to shape, the Hawaiian Islands. The course focuses on volcanism, landform development, and coastal processes. The Hawaiian Islands provide a unique opportunity to study active volcanic processes building the islands in conjunction with geomorphic processes which alter the volcanic landscape. The Hawaiian landscape ranges in age from 25 million years to minutes old. Students have the unique opportunity to study the volcanic processes creating the islands and then see how the soils, landscapes, and coasts have evolved through time.

Malinconico, Germanoski

GEOL 160 Geology from A(Arches) to Z(Zion): The Geology of National Parks in the Western United States

The National Park System in the Western United States provides a unique opportunity to examine how geological processes shape the Earth. Visits to parks in Colorado, Arizona, New Mexico, California, and Utah help students develop an understanding of these processes. Introductory geology topics are covered in an experiential field experience. In the canyon lands (Grand Canyon, Bryce, and Zion), students examine processes of sedimentation, igneous intrusion, and erosion. The record of life on Earth is studied in the fossil record on the rocks. In California, geological hazards are learned by studying the San Andreas Fault, mass-wasting in Pt Reyes National Seashore, and volcanism at Lassen volcano.

Staff

INDS 120 Inside the People's Republic of China

This course introduces the complex interaction between traditional culture, communist thinking, and the forces of modernization in the People's Republic of China. The practices and characteristics of distinct Chinese subcultures are examined by traveling to representative areas: Beijing in the north, Kunming in the southwest, and Guangzhou on the southeast coast. Students meet with government officials and business people, attend arts performances, visit a factory, hospital, and university, and attend supplemental lectures.

Barclay

INDS 127 Envision Environmental Science

This course explores the true interdisciplinary nature of environmental science through observation, discussion, and readings. The course intends to demonstrate how all areas of study at Lafayette College (Humanities, Social Sciences, Engineering and Natural Sciences) when integrated together provides knowledge and skills to truly understand and communicate issues impacting our environment.

Staff

INDS 135 Thailand and Myanmar: Challenges of Development

The southeast Asian countries of Thailand and Myanmar (formerly Burma) have developed very differently, despite the fact that they share a similar climate, natural resource endowment, and religion. Students seek to understand these differences through

firsthand experience in both countries—approximately two weeks in Thailand and one week in Myanmar. Issues discussed include imperialism, political development, economic planning, and grassroots capacity building.
Stifel

INDS 150 Turkey: The Cradle of Civilizations

Turkey, known to Romans as Anatolia, has seen the rise and fall of many civilizations. This course critically examines the Byzantine, Ottoman Turkish, and Hellenic periods from cultural and artistic viewpoints. These civilizations have left clear and lasting impressions, both architecturally and artistically in Anatolia, and on the development of Western civilization. Sites of historic, architectural, and artistic importance in Istanbul, Ismir, Bursa, and Iznik (Nicaea) are studied through visits and on-site lectures.
Ulucakli

INDS 165 The Open Wall and the New Europe of the 21st Century: Berlin, Prague, and Munich

With the opening of the Berlin Wall, Germany and the rest of Europe are facing rapid political, social, and economic changes. This course reexamines the events leading to two world wars, the division of Europe, and the new European reality in the 21st Century. Through visits to historical sites, meetings with people in East and West, readings, and class discussions, students obtain an understanding of the events and ideologies that made history and today's new reality in Europe.
Pribic, Weiner

INDS 170 Modern Sub-Saharan Africa: Kenya and Tanzania

This course combines a firsthand look at the sociocultural environment and natural resources that shape development and change in Kenya and Tanzania. Particular attention is devoted to the rich indigenous history and traditions that provide social and economic purpose for art, the foundations for democratic institutions, support for dignity, industriousness, and accommodation for development. This course examines the degree to which Kenya and Tanzania have achieved their development objectives by managing cultural acculturation, natural resources, and modernization.
Ahene

202

INDS 172 Voices of South Africa

South Africa, the "Rainbow Nation," is built on the diversity of its people practicing many cultures and religions, and speaking 11 official languages. In 1994, the first democratic elections were held ending four decades of apartheid. Its society drives an energetic world of culture that draws on African, European, and Asian roots and breathtaking scenery to forge a distinct identity. However, South Africa also suffers under the HIV/AIDS pandemic. This course introduces students to South Africa and confronts a variety of its "voices".
Staff

INDS 175 Back to the Roots of Western Civilization: Greece and Italy

An on-site study of two great pillars of civilization that form the intellectual and spiritual foundations of the western world: Greece, where democracy--"people power"--and a love of beauty and rational discourse originated; and Roman Italy, where the genius for civilization and government made of the classical heritage a great legacy. Students encounter the enduring force of these cultures. On site they learn and experience for themselves, the tangible heritage of each civilization in architecture and plastic arts. Grand public monuments and private structures embody fundamental ideas that have become part of the way Western citizens think and feel. Lectures and discussions complement contributions of local guides.
Cohn

INDS 180 The Colorful Sunset of the Habsburg Empire: An Apocalyptic Waltz
World War I ended in the disintegration of the Habsburg monarchy that for centuries had united peoples of widely differing races and languages. This course focuses on the cultural upheaval in the twilight years of the empire (c. 1870-1919) by indicating how these apocalyptic years found expression in the culture, art, and intellectual work of the most famous luminaries of the period.
McDonald, Shieber

INDS 185 Guatemala: Innovations in Development

Guatemala is a country at the crossroads. Free from the instability generated by the civil war, it is a developing country. Strides have been made towards an economy where markets prevail and citizens find opportunities for entrepreneurship. The experience includes visits to markets that

emerged spontaneously, a coffee plantation, and a volcano. Guest lectures address the architecture, cultural heritage, political and security environment, and challenges facing Guatemala.

Staff

INDS 190 Politics & Culture of the Caribbean

This course introduces students to the key political and economic issues facing the nations of the Caribbean. Attention is given to the relationship between West Indian culture(s) and West Indian literature(s).

Offered in the Bahamas.

McCartney

INDS 195 The History and Politics of Israel: The Peace Process and Internal Cleavages

This course focuses on the evolving peace process in the Middle East, with particular attention to Israel and the West Bank/Gaza and some attention to the Golan Heights and the relations between Israel-Jordan. Since 1992, there has been an accelerated peace process. The course assesses the implications for Israel's international relations and domestic situation against the background of Israel's history. Course includes seminar meetings, visits to historical sites (e.g., Massada, Western Wall, Tel-Hai), museums (e.g., Yad VShem), and political locations (e.g., the Knesset), and sessions with political leaders, academic analysts, and public officials.

Peleg, Weiner

INDS 200 The Land and Imaginative Landscape of Ireland

This course examines the many ways in which the land of Ireland has figured in Irish history and the Irish imagination. The history of Ireland centers on definitions of the land as an economic, political, and symbolic—even religious—value. Using written sources culled from Irish history, ethnography, politics, and literature, along with some guest lectures, and an extensive field program in the Boyne Valley, Galway, Donegal, Dublin, and Belfast, the instructors take students on an exploration of the shifting Irish landscape.

Heavey

INDS 210 Exploring South America: Brazil, Argentina, and the Andes

Travel to such destinations as Quito, Cuzco, Montevideo, Rio de Janeiro, and São Salvador (Bahia) to investigate the cultural

development of South America from pre-Columbian through modern times. Students study Inca, colonial, and postcolonial society, architecture, and art, visiting archeological sites, museums, churches, and other places of interest. The course includes historical and sociological readings and literary texts by such major authors as El Inca Garcilaso de la Vega, Machado de Assis, and Jorge Luis Borges.

Jordan, Rosa

INDS 215 Medieval Architecture in Northern Europe: Belgium, Germany, and the Netherlands

This course entails on-site study of medieval architecture in Belgium, Germany, and the Netherlands. The architecture is considered as an expression of northern medieval European society and technology. The technical accomplishments of medieval builders are emphasized; Roman architecture, based on large-scale use of masonry arches and vaults, is studied as medieval architecture's foundation. Study of history from the Roman through the medieval period enables students to place the architecture in a societal context.

Van Gulick, Van Gulick

INDS 220 Florence: Birthplace of the Renaissance

This on-site course explores the brilliant artistic and literary culture of Florence during the late Middle Ages and Renaissance. Its primary text is the city and its monuments: its buildings, from church to palace; its art, including masterpieces by Giotto, Donatello, Botticelli, and Michaelangelo; and its literature, including such classics as Dante's *Inferno*, Petrarch's sonnets, and Boccaccio's *Decameron*. Visits to Pisa, Siena, Assisi, and Rome enhance understanding of this extraordinary age.

Ahl, Pribic

INDS 230 Paris, Provence, and the Midi: Cathedrals, Kings, and Pilgrims

This course entails on-site study of French medieval art and architecture in and around Avignon, Toulouse, and Paris. Medieval art and architecture are considered as expressions of medieval society and medieval technology. Study of French history from pre-Roman Gaul through the nineteenth century enables students to place the art and architecture in an appropriate societal context.

Van Gulick, Van Gulick

INDS 245 Social and Ethical Aspects of Health Care in the U.K. and U.S.

This course examines selected social and ethical aspects of the health care systems of the U.K. and the U.S. After providing an overview of the two systems, selected features are compared. Once comparisons are made, the ethical implications of system differences are explored. The course includes lectures, discussions, guest lectures, site visits, student presentations, and short papers.

Childs, Lammers

INDS 250 French Commerce and Culture in the European Union: London, Paris, and Brussels

An introduction to the business environment of France and its role in the ever-changing economic marketplace of the European Community. The course examines French culture and its impact on the financial, production, and marketing processes through firsthand experiences in the EU organizations and the French marketplace.

Bukics, Lalande

INDS 260 Scandinavia: Northern Lights (Kierkegaard, Ibsen, Strindberg)

This course examines central themes in the work of Kierkegaard, Ibsen, and Strindberg in their cultural and historical context. It involves reading and discussing a number of their major works, visiting the cities in Denmark, Norway, and Sweden that shaped them, viewing artwork and attending theatrical works that influenced them or that were, in turn, influenced by them, and examining the political, economic, and cultural upheavals in Europe in the 19th century that shaped their thought.

Staff

INDS 270 A Moveable Feast: American Writers in Paris

American writers have always gone to Paris, but the question is why. The answer lies both in the city itself and in the literature it has inspired. Twentieth-century writers like Ernest Hemingway, Gertrude Stein, James Baldwin, and Gore Vidal are among the literary expatriates students consider while exploring 'their Paris'. Their Paris, vividly imagined and literally experienced, still exists—if you know where to look for it and what to read.

Johnson, Washington

INDS 275 Paris: An Introduction to the French Exception

This course provides students of all majors with an introduction to the world of French culture, particularly with respect to how its role is perceived by the global marketplace. The course examines the economic peculiarities of French culture, such as public financial aid to cinema, books, and TV programs with a critical examination of their advantages/disadvantages with respect to the consequence for French business and French culture. The peculiarities of the French management style, the work environment, and work group dynamics are presented within the context of the global work environment.

Bukics, Reynolds-Chikuma

INDS 280 Russia and Poland: Past and Present

In this course students spend three weeks examining the history and culture of Russia and Poland while traveling through these two countries. The course is structured around three themes: religious life; the memory of World War I, World War II, and the Holocaust; and the dilemmas of postcommunism. Students are encouraged to learn and absorb materials that fall outside of these narrow categories, but the reading and excursions are focused on these themes.

Sanborn, Cohn

MUS 195 Helsinki, Tallinn, Budapest

This is an international concert tour by Lafayette College Choirs, enhanced by cultural and historical studies. The primary text is the music literature to be performed: works for mixed, men's, women's, and chamber choir, including styles and techniques appropriate to historical and cultural contexts. Students rehearse and perform in interactive concerts with local host choirs and conductors. Guest speakers address history, politics, architecture, religion, and language, as well as specialized musical issues.

Prerequisite: Music 150
Gilbert

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Client Services, Richmond, Va.

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New York, N.Y.

Bruce Maggin '65

Principal, The H.A.M. Media Group LLC,
Chappagua, N.Y.

Douglas R. Marvin '69

Partner, Williams & Connolly, Washington,
D.C.

Angel L. Mendez '82

Senior Vice President, World Wide
Manufacturing, Cisco Systems Inc., San
Jose, Calif.

Michael H. Moskow '59

Senior Fellow for the Global Economy,
The Chicago Council on Global Affairs,
Chicago, Ill.

Stephen D. Pryor '71

President, Exxon Mobil Chemical
Company,
Houston, Tex.

J.B. Reilly '83

Managing Director, Traditions of America,
Bethlehem, Pa.

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Ft. Lauderdale, Fla.

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Investment Trust, Philadelphia, Pa.

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Human Resources, New Jersey Transit,
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President, Lafayette College, Easton, Pa.

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Family Health International, Research
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W. Lanigan, Somerville, N.J.

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Springs, Fla.

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ANTHROPOLOGY AND SOCIOLOGY

Susan A. Niles 1981
B.A. (Wisconsin), M.A., Ph.D. (California-Berkeley)
Professor

Howard G. Schneiderman 1973
B.A. (City College of New York), M.A., Ph.D. (Pennsylvania)
Professor

David H.P. Shulman 1997
B.A. (Clark), M.A. (Boston), Ph.D. (Northwestern)
Associate Professor and Head of the Department

Andrea L. Smith 1999
B.A. (Wesleyan), M.A., Ph.D. (University of Arizona)
Associate Professor

William C. Bissell 2002
B.A. (Columbia), M.A., Ph.D. (University of Chicago)
Assistant Professor

Rebecca J. Kissane 2004
B.A. (Villanova), M.A., Ph.D. (Pennsylvania)
Assistant Professor

Caroline W. Lee 2006
B.A. (Vassar), M.A., Ph.D. (California-San Diego)
Assistant Professor

ART

Diane Cole Ahl 1977
B.A. (Sarah Lawrence), Ph.D. (Virginia)
Arthur J. '55 and Barbara S. Rothkopf Professor of Art History

Edward J. Kerns, Jr. 1980
B.F.A. (Virginia Commonwealth), M.F.A. (Maryland Institute, College of Art)
Eugene H. Clapp II Professor of Art

Robert S. Mattison 1981
B.A. (Middlebury), M.A. (Williams),

M.F.A., Ph.D. (Princeton)
Marshall R. Metzgar Professor of Art and Head of the Department

Curlee Holton 1991
B.F.A. (Cleveland Institute of Art), M.F.A. (Kent State)
Professor

Daniel H. Weiss 2005
B.A. (George Washington), M.A. (Johns Hopkins), M.B.A. (Yale School of Management), Ph.D. (Johns Hopkins)
Professor and President of the College

Ida Sinkevic 1994
B.A. (University of Belgrade), M.A. (Southern Methodist), Ph.D. (Princeton)
Associate Professor

Alastair R. Noble 2002
B.A. (Hull College of Art, England), M.F.A. (Rutgers)
Assistant Professor

Karina A. Skvirsky 2006
B.A. (Oberlin), M.F.A. (Indiana)
Assistant Professor

BIOLOGY

Charles W. Holliday 1982
B.S. (Marietta), Ph.D. (Oregon)
Professor

Wayne S. Leibel 1983
B.A. (Dartmouth), Ph.D. (Yale)
Gideon R., Jr. and Alice L. Kreider Professor of Biology and Head of the Department

Laurie F. Caslake 1999
B.S. (Arizona State), M.S., Ph.D. (Pennsylvania State)
Associate Professor

Robert A. Kurt 2000
B.S. (Bowling Green), Ph.D. (University of Arizona)
Associate Professor

Elaine R. Reynolds 1997
B.S. (Pennsylvania State), Ph.D. (Carnegie Mellon)
Associate Professor and Chair of Neuroscience Program

Nancy M. Waters 1985
B.S. (St. Francis), Ph.D. (Notre Dame)
Associate Professor

James R. Dearworth, Jr. 2004
B.S. (Michigan), Ph.D. (Delaware)
Assistant Professor

Manuel D. Ospina-Giraldo 2006
B.S., M.S. (Universidad del Valle), Ph.D. (Pennsylvania State)
Assistant Professor

CHEMICAL AND BIOMOLECULAR ENGINEERING

J. Ronald Martin 1976
B.S. (Lafayette), Ph.D. (Princeton)
Professor

James P. Schaffer 1990
B.S.E., M.S., Ph.D. (Duke)
*Professor, Interim Director of Institutional
Research, and Chair of Engineering Studies*

Javad Tavakoli 1988
B.S. (Shiraz), M.S. (Illinois Institute of
Technology), Ph.D. (New Jersey Institute of
Technology)
Professor, P.E. (Pennsylvania)

James K. Ferri 2001
B.S., Ph.D. (Johns Hopkins)
Associate Professor

Polly R. Piergiovanni 1990
B.A. (Kansas State), Ph.D. (Houston)
*Associate Professor and Head of the
Department*

Patricia A. Darcy 2005
B.S. (Johns Hopkins), M.S. (Rutgers), Ph.D. (University of Iowa)
Assistant Professor

Samuel A. Morton, III 2004
B.S. (Tennessee Technological University),
M.S., Ph.D. (Tennessee)
Assistant Professor

CHEMISTRY

H. David Husic 1986
B.S. (Pennsylvania State), Ph.D. (Michigan
State)
*John D. & Frances H. Larkin Professor of
Chemistry*

William H. Miles 1990
B.S. (Delaware), Ph.D. (Wisconsin)

*Professor, Head of the Department, and
Director of Research Services*

Yvonne M. Gindt 2001
B.S. (University of Wisconsin-Eau Claire),
Ph.D. (UCLA at Berkeley)
Associate Professor

Kenneth O. Haug 1997
B.A., Ph.D. (Minnesota)
Associate Professor

Chip Nataro 2001
B.S. (Messiah College), Ph.D. (Iowa State)
Associate Professor

Charles F. Nutaitis 1987
B.S. (King's College), Ph.D. (Dartmouth)
Associate Professor

Tina H. Huang 2003
B.S. (Bethel College), Ph.D. (Kansas)
Assistant Professor

Steven E. Mylon 2004
B.A., B.S. (Tufts), Ph.D. (Dartmouth)
Assistant Professor

Jennifer L. Rutherford 2007
B.S., M.S. (Bucknell), M.S., Ph.D. (Cornell)
Assistant Professor

CIVIL AND ENVIRONMENTAL ENGINEERING

Mary J.S. Roth 1991
B.S. (Lafayette), M.S. (Cornell), Ph.D. (Maine)
*Simon Cameron Long Professor and
Associate Provost for Academic Operations,
P.E. (Maine)*

Sharon A. Jones 2002
B.S. (Columbia), M.E. (University of
Florida), M.P.A. (California State
University at Long Beach), Ph.D. (Carnegie
Mellon)
*Professor and Director of the Engineering
Division, P.E. (Oregon, California)*

David Brandes 1999
B.S. (University of Maryland), M.S. (Clemson), Ph.D. (Pennsylvania State)
Associate Professor

Arthur D. Kney 1999
B.A. (St. Francis College), B.S. (University
of Massachusetts-Dartmouth), M.S., Ph.D. (Lehigh University)
Associate Professor

FACULTY

Roger W. Ruggles 1985
B.S., M.S., Ph.D. (Clarkson)
Associate Professor and Head of the Department

David A. Veshosky 1991
B.C.E. (Catholic), M.A. (George Washington), Ph.D. (Lehigh)
Associate Professor

Stephen J. Kurtz 2002
B.A., B.S., M.S., Ph.D. (Rutgers)
Assistant Professor

Anne Marie Raich 2005
B.S. (West Virginia), M.S. (Carnegie Mellon), Ph.D. (Illinois)
Assistant Professor

Kristen L. Sanford Bernhardt 2001
B.S.E. (Duke University), M.S., Ph.D. (Carnegie Mellon)
Assistant Professor

Muhannad T. Suleiman 2008
B.S., M.S. (Jordan University of Science and Technology), Ph.D. (Iowa State)
Assistant Professor

COMPUTER SCIENCE

William J. Collins 1990
B.A., M.A. (Boston College), M.S., Ph.D. (Purdue)
Associate Professor

Chun Wai Liew 1995
B.Sc. (Cornell), Ph.D. (Rutgers)
Associate Professor and Head of the Department

Xiaoyan Li 2006
B.S. (Tongji), M.S. (Rutgers), Ph.D. (Rutgers University)
Assistant Professor

Jeffrey O. Pfaffmann 2003
B.A.A. (Central Michigan University), Ph.D. (Wayne State University)
Assistant Professor

Ge Xia 2005
B.S. (Tongji), M.S. (Texas A&M), Ph.D. (Texas A&M)
Assistant Professor

ECONOMICS AND BUSINESS

Susan L. Averett 1991
B.S. (Colorado State), M.A., Ph.D. (Colorado)

Charles A. Dana Professor of Economics and Business Professor and Head of the Department

Rose Marie L. Bukics 1980
B.S. (Scranton), M.B.A. (Lehigh)
Thomas Roy and Lura Forrest Jones Professor and Chair of International Economics and Commerce Program, C.P.A. Pennsylvania

Donald R. Chambers 1992
B.S. (SUNY-Binghamton), Ph.D. (North Carolina)
Walter E. Hanson/KPMG Peat Marwick Professor of Business and Finance

W. Mark Crain 2004
B.S. (Houston), Ph.D. (Texas A&M)
William E. Simon Professor of Political Economy and Chair of Policy Studies Program

Rexford A. Ahene 1982
B.S. (University of Science and Technology, Ghana), M.A. (Virginia State), Ph.D. (Wisconsin)
Professor

Howard N. Bodenhorn 1993
B.S. (Virginia Polytechnic), M.A., Ph.D. (Rutgers)
Professor

Thomas H. Bruggink 1978
A.B. (Hope), M.A., Ph.D. (Illinois)
Professor

Edward N. Gamber 1992
B.A. (Towson State), M.A., Ph.D. (Virginia Polytechnic)
Professor

Jerome F. Heavey 1973
B.S. (St. Joseph's), M.A., Ph.D. (Pennsylvania State)
Professor

James M. DeVault 1989
B.A. (Rhode Island), M.A., Ph.D. (Wisconsin)
Associate Professor

Gladstone A. Hutchinson 1992
B.A. (SUNY-Oneonta), M.A., Ph.D. (Clark)
Associate Professor

Christopher S. Ruebeck 2000
B.S.E.E. (Purdue), M.S.E. (Stanford), M.A., Ph.D. (Johns Hopkins)
Associate Professor

Michael A. Kelly 2005
A.B. (Harvard) M.A., Ph.D. (Cornell)
Assistant Professor

Julie K. Smith 2005
B.A. (Smith), M.A., Ph.D. (Johns Hopkins)
Assistant Professor

David C. Stifel 2003
B.A. (Colgate), M.A. (Johns Hopkins),
M.A., Ph.D. (Cornell)
Assistant Professor

ELECTRICAL AND COMPUTER ENGINEERING

Ismail I. Jouny 1990
B.S. (Beirut), M.S., Ph.D. (Ohio State)
*Charles A. Dana Professor of Electrical and
Computer Engineering and Head of the
Department*

John F. Greco 1977
B.E., M.E., Ph.D. (City College of New
York)
Professor

William A. Hornfeck 1988
B.S. (Pennsylvania State), M.S., Ph.D.
(Auburn)
Professor

William D. Jemison 1996
B.S. (Lafayette), M.S. (Pennsylvania State),
Ph.D. (Drexel)
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B.E.E. (Georgia Institute of Technology),
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B.S.E.E. (Rose-Hulman), M.S.E.E. (Texas -
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Assistant Professor

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Lee Upton 1988
B.A. (Michigan State), M.F.A.
(Massachusetts), Ph.D. (SUNY-
Binghamton)
Professor and Writer-in-Residence

Carolynn Van Dyke 1980
B.A. (Grinnell), Ph.D. (Yale)
Francis A. March Professor of English

James Woolley 1980
B.A. (Wake Forest), M.A., Ph.D. (Chicago)
*Frank Lee and Edna M. Smith Professor of
English*

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B.A. (Redlands), M.A., Ph.D. (California-
Irvine)
Professor

David R. Johnson 1974
B.A. (Maryland), M.A., Ph.D.
(Pennsylvania State)
Professor

Suzanne R. Westfall 1986
B.A. (Southeastern Massachusetts), M.A.,
Ph.D. (Toronto)
Professor and Head of the Department

Deborah L. Byrd 1981
B.A. (Duke), M.A., Ph.D. (Emory)
Associate Professor

Paul A. Cefalu 1998
B.A. (Johns Hopkins), M.A., Ph.D.
(Chicago)
Associate Professor

Bianca M. Falbo 1998
B.A. (Swarthmore), M.A., Ph.D.
(Pittsburgh)
*Associate Professor and Director of College
Writing Program*

Michael C. O'Neill 1992
A.B. (Fordham), M.A., Ph.D. (Purdue)
Associate Professor and Director of Theater

Ian D. Smith 1991
B.A. (University of the West Indies),
Licence de Lettres, Maîtrise de Lettres
(Paris), Ph.D. (Columbia)
*Associate Professor and Associate Head of
the Department*

Bryan R. Washington 1987
B.A. (Pennsylvania), B.A.-M.A. (Oxford),
A.M., Ph.D. (Harvard)
Associate Professor

Steven W. Belletto 2006
B.A. (Sonoma State), M.A., Ph.D.
(Wisconsin-Madison)
Assistant Professor

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B.A. (Bard), M.A., Ph.D. (Rochester)
Assistant Professor

Mary Jo Lodge 2006
B.M. (Catholic), M.A. (Villanova), Ph.D.
(Bowling Green)
Assistant Professor

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B.A. (Harvard), M.F.A. (Texas - Austin)
Assistant Professor

Christopher N. Phillips 2007
B.A. (Westmont College), M.A., Ph.D.
(Stanford)
Assistant Professor

Carrie L. Rohman 2008
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Assistant Professor

Andrew M. Smith 2001
B.A. (Hamline University), M.A. Ph.D.
(University of New Mexico)
*Assistant Professor and Chair of American
Studies Program*

FOREIGN LANGUAGES AND LITERATURES

Olga Anna Duhl 1992
M.A. (University of Clug-Napoca,
Romania), Ph.D. (Rutgers)
Professor

Rado Pribic 1971
B.A. (Florida State), M.A., Ph.D.
(Vanderbilt)
*Oliver Edwin Williams Professor of
Languages and Chair of International
Affairs Program*

Roxanne E. Lalande 1982
B.A., M.A., Ed.S., Ph.D. (Iowa)
Professor

Margarete B. Lamb-Faffelberger 1992
B.S. (Pedagogische Akademie, Austria),
M.A. (Illinois), Ph.D. (Rice)
Professor and Head of the Department

Edward R. McDonald 1964
B.S. (St. Peter's), M.A., Ph.D. (Columbia)
Professor

George M. Rosa 1986
B.A. (California-Los Angeles), D.Phil.
(Oxford)
Professor

Sidney E. Donnell 1994
B.A. (Texas-Austin), M.A., Ph.D.
(Pennsylvania)
Associate Professor

Markus Dubischar 2008
M.A. (Universität Heidelberg), D. Phil.
(Universität Greifswald)
Associate Professor

Michelle C. Geoffrion-Vinci 1998
B.A. (Wellesley), M.A., Ph.D. (Stanford)
*Associate Professor and Assistant Head of
the Department*

Denise Galarza Sepúlveda 2002
B.A. (University of Connecticut), M.A.
(Purdue), Ph.D. (Emory)
Assistant Professor

Juan J. Rojo 2008
B.A. (Clark), M.A. (Emory), Ph.D.
(Cornell)
Assistant Professor

GEOLOGY AND ENVIRONMENTAL GEOSCIENCES

Dru Germanoski 1987
B.S. (Pennsylvania State), M.S. (Southern
Illinois), Ph.D. (Colorado State)
*Dr. Ervin R. VanArtsdalen '35 Professor of
Geology and Head of the Department*

Guy L. Hovis 1974
A.B. (Franklin and Marshall), M.A., Ph.D.
(Harvard)
John H. Markle Professor of Geology

Lawrence L. Malinconico, Jr. 1989
A.B., M.S., Ph.D. (Dartmouth)
Associate Professor

Kira T. Lawrence 2006
A.B. (Dartmouth), M.S. (California-Santa
Cruz), Ph.D. (Brown)
Assistant Professor

David Sunderlin 2006
B.A. (Colgate), Ph.D. (Chicago)
Assistant Professor

GOVERNMENT AND LAW

John Kincaid 1994
B.A. (Temple), M.A. (Wisconsin-
Milwaukee), Ph.D. (Temple)
*Robert B. and Helen S. Meyner Professor of
Government and Public Service; Director of
the Meyner Center for the Study of State and
Local Government*

Bruce A. Murphy 1998
B.A. (Massachusetts-Amherst), Ph.D.
(Virginia)
*Fred Morgan Kirby Professor of Civil
Rights*

Ilan Peleg 1974
B.A., M.A. (Tel Aviv), M.A., Ph.D.
(Northwestern)
*Charles A. Dana Professor of Government
and Law*

John T. McCartney 1986
B.A. (Drake), M.A. (Detroit), Ph.D. (Iowa)
Professor and Chair of Africana Studies

Joshua I. Miller 1986
B.A. (California-Santa Cruz), M.A., Ph.D.
(Princeton)
Professor

Helena Silverstein 1992
B.A. (Pennsylvania), M.A., Ph.D.
(University of Washington)
Professor and Head of the Department

Hannah W. Stewart-Gambino 2007
B.A. (Converse College), M.A., Ph.D.
(Duke)
Professor and Dean of the College

James E. Lennertz 1975
A.B. (Boston College), J.D. (Harvard),
Ph.D. (Pennsylvania)
Associate Professor

Katalin Fabian 2000
University Diploma (University of
Economics, Budapest), M.A. (Notre Dame),
Ph.D. (Syracuse University)
Assistant Professor

HISTORY

Andrew C. Fix 1985
B.A. (Wake Forest), M.A., Ph.D. (Indiana)
Charles A. Dana Professor of History

Donald L. Miller 1977
B.A. (St. Vincent's), M.A. (Ohio), Ph.D.
(Maryland)
*John Henry MacCracken Professor of
History*

Arnold A. Offner 1991
B.A. (Columbia), M.A., Ph.D. (Indiana)
Cornelia F. Hugel Professor of History

Robert I. Weiner 1969
B.A. (Temple), M.A., Ph.D. (Rutgers)
*Thomas Roy and Lura Forrest Jones
Professor of History*

Donald C. Jackson 1989
B.S. (Swarthmore), M.A., Ph.D.
(Pennsylvania)
Professor

Deborah A. Rosen 1990
A.B. (Princeton), J.D. (Boston University

School of Law), M.A. (New York
University), Ph.D. (Columbia)
Professor and Head of the Department

Paul D. Barclay 1999
B.S. (University of Wisconsin-Madison),
M.A., Ph.D. (University of Minnesota)
Associate Professor

Joshua A. Sanborn 1999
B.A. (Stanford), Ph.D. (University of
Chicago)
*Associate Professor, Assistant Head of the
Department, and Chair of Russian and East
European Studies Program*

Rebekah E. Pite 2007
B.A. (Amherst), Ph.D. (University of
Michigan)
Assistant Professor

MATHEMATICS

Lorenzo Traldi 1980
B.A. (Queens-New York), Ph.D. (Yale)
*Marshall R. Metzgar Professor of
Mathematics*

Evan D. Fisher 1986
B.A. (Rochester), M.S. Ph.D. (Illinois)
Professor

Gary P. Gordon 1986
B.S. (Florida), Ph.D. (North Carolina)
Professor

L. Thomas Hill 1979
B.S. (North Carolina State), Ph.D.
(Virginia)
Professor

Elizabeth W. McMahon 1986
A.B. (Mount Holyoke), M.S. (Michigan),
Ph.D. (North Carolina)
Professor

John E. Meier 1992
B.A. (Virginia), M.S., Ph.D. (Cornell)
Professor

Clifford A. Reiter 1983
B.S. (Bucknell), M.S. (Rutgers), Ph.D.
(Pennsylvania State)
Professor

Ethan J. Berkove 1999
B.S. (University of Michigan-Ann Arbor),
M.A., Ph.D. (University of Wisconsin-
Madison)
Associate Professor

Arthur D. Gorman 1982
B.S. (Illinois), M.A. (Washington
University), Ph.D. (Pennsylvania State)

FACULTY

Associate Professor

Chawne M. Kimber 2000
B.S. (University of Florida), M.S. (UNC-Chapel Hill), Ph.D. (University of Florida)
Associate Professor

Qin Lu 1999
B.S. (Tsinghua University, China), Ph.D. (Ohio State)
Associate Professor

Robert G. Root 1991
A.B. (Vassar), M.A. (Johns Hopkins), Ph.D. (Delaware)
Associate Professor and Associate Head of the Department

Chester J. Salwach 1976
B.S. (LaSalle), M.S., Ph.D. (Lehigh)
Associate Professor and Head of the Department

Derek Smith 1999
B.S. (North Carolina State), M.A., Ph.D. (Princeton)
Associate Professor

J. Randolph Stonesifer 1975
A.B. (Dartmouth), Ph.D. (California Institute of Technology)
Associate Professor

Thomas R. Yuster 1983
B.S. (Stanford), M.A., Ph.D. (Wisconsin)
Associate Professor and Faculty Liaison, VAST

Louis Zulli 1999
B.S. (SUNY-Stony Brook), M.S., Ph.D. (Cornell)
Associate Professor

Justin J. Corvino 2004
B.S. (MIT), M.S., Ph.D. (Stanford)
Assistant Professor

Miranda I. Teboh-Ewungkem
B.S., M.S. (Buea), M.S., Ph.D. (Lehigh)
Assistant Professor

MECHANICAL ENGINEERING

Leonard A. Van Gulick 1974-77, 1981
B.S. (Newark College of Engineering), M.A., M.S., Ph.D. (Princeton)
Matthew Baird Professor of Mechanical Engineering, and Chair of B.S. in Engineering/ A.B. in International Studies Program, P.E. (Pennsylvania)

Scott R. Hummel 1998
B.S. (Hartford), M.S. (Stevens Institute of Technology), Ph.D. (Lehigh)
Associate Professor and Head of the Department

Richard A. Merz 1981
B.S., M.S., Ph.D. (Rutgers)
Associate Professor, P.E. (Pennsylvania, New Jersey, Ohio)

Steven M. Nesbit 1990
B.S., M.S., Ph.D. (West Virginia)
Associate Professor, P.E. (Pennsylvania)

Karl A. Seeler 1989
S.B.C.E., S.M.C.E., S.M.M.E., Ph.D. (Massachusetts Institute of Technology)
Associate Professor, P.E. (Pennsylvania)

M. Erol Ulucakli 1988
M.S. (Technical University of Istanbul), Ph.D. (Michigan)
Associate Professor

Jeffrey D. Helm 2002
B.S., M.S., Ph.D. (University of South Carolina)
Assistant Professor

Jennifer S. Rossman 2005
B.S., Ph.D. (UCLA – Berkeley)
Assistant Professor

Joshua H. Smith 2007
B.S. (Bucknell), M.S., Ph.D. (University of Virginia)
Assistant Professor

MUSIC

Anthony M. Cummings 2006
B.A. (Williams), M.F.A., Ph.D. (Princeton)
Professor

J. Larry Stockton 1977
B.S., M.M.E. (Western Carolina), D.M.A. (Temple)
Professor and Head of the Department

James A. Moyer 2004
B.M.Ed. (Susquehanna), M.M., D.M.A. (Oklahoma)
Associate Professor

George Torres 2004
B.F.A. (California Institute of the Arts), M.A., Ph.D. (Cornell)
Associate Professor

Walter R. Wilkins, III 2001
A.B. (College of the Holy Cross), M.M. (University of Northern Colorado)
Associate Professor

Jennifer Kelly 2006
B.A., M.M., D.M.A. (California-Los Angeles)
Assistant Professor

PHILOSOPHY

George E. Panichas 1980
B.A. (Rhode Island), M.A., Ph.D. (Arizona)
James Renwick Hogg Professor of Mental and Moral Philosophy and Head of the Department

J. Owen McLeod 1998
B.A. (King's College, London), M.A. (University of Washington), Ph.D. (Massachusetts-Amherst)
Associate Professor

Alessandro Giovannelli 2006
Laurea (University of Florence), M.A. (Yale), M.A., Ph.D. (Maryland)
Assistant Professor

Joseph H. Shieber 2003
B.A. (Yale), A.M., Ph.D. (Brown)
Assistant Professor

PHYSICS

Anthony D. Novaco 1973
B.S., M.S., Ph.D. (Stevens Institute of Technology)
Marshall R. Metzgar Professor of Physics

G. Lyle Hoffman 1983
B.A. (Dartmouth), M.Sc., Ph.D. (Cornell)
Professor and Head of the Department

Bradley C. Antanaitis 1984
A.B. (Northeastern), Ph.D. (Columbia)
Associate Professor

Andrew J. Dougherty 1990
B.S. (St. Joseph's), Ph.D. (Pennsylvania)
Associate Professor

Andrew Kortyna 2001
B.S. (Juniata), Ph.D. (Wesleyan)
Assistant Professor

Michael J. Stark 2001
B.S. (Harvey Mudd), Ph.D. (University of Maryland)
Assistant Professor

PSYCHOLOGY

Susan A. Basow 1977
B.A. (Douglass), M.A., Ph.D. (Brandeis)
Charles A. Dana Professor of Psychology

and Acting Assistant Head of the Department

Wendy L. Hill 1989
B.A. (Douglass), Ph.D. (University of Washington)
William C. '67 and Pamela H. Rappolt Professor in Neuroscience and Provost and Dean of the Faculty

Ann V. McGillicuddy-De Lisi 1985
B.A. (Rochester), M.A., Ph.D. (Catholic)
Marshall R. Metzgar Professor of Psychology

Alan W. Childs 1980
B.A. (Maryville), Ph.D. (Tennessee)
Professor and Faculty Liaison, FYS

Robert W. Allan 1991
B.S. (Brigham Young), Ph.D. (New York University)
Associate Professor

Jamila Bookwala 2001
B.A. (University of Bombay), M.A. (CUNY), M.S., Ph.D. (University of Pittsburgh)
Associate Professor

John S. Shaw, III 1997
B.A. (Vanderbilt), J.D. (Stanford Law School), M.A., Ph.D. (California- Los Angeles)
Associate Professor and Acting Head of the Department

Andrew J. Vinchur 1989
B.A. (Rutgers), M.S., Ph.D. (Memphis State)
Associate Professor

Lisa A. Gabel 2007
B.S. (Allegheny College), M.A., Ph.D. (University of Connecticut)
Assistant Professor

Jeannine M. Pinto 2001
B.A. (Vassar), M.A., Ph.D. (University of Virginia)
Assistant Professor

Jennifer M. Talarico 2006
B.A. (Michigan), M.A., Ph.D. (Duke)
Assistant Professor

RELIGIOUS STUDIES

Robert L. Cohn 1987
B.A. (Northwestern), A.M., Ph.D. (Stanford)
Professor and Philip and Muriel Berman Chair of Jewish Studies

FACULTY

Stephen E. Lammers 1969
A.B., M.A. (Marquette), Ph.D. (Brown)
Helen H.P. Manson Professor of the English Bible

Eric J. Ziolkowski 1988
B.A. (Dartmouth), M.A., Ph.D. (Chicago)
Charles A. Dana Professor of Religious Studies

Robin C. Rinehart 1991
B.A., M.A. (University of Washington),
Ph.D. (Pennsylvania)
Associate Professor and Head of the Department

Asma Sayeed 2006
B.A. (Princeton), M.A. (Binghamton), Ph.D. (Princeton)
Assistant Professor

LIBRARY

Neil J. McElroy 1990
B.A. (Rhodes), M.L.S. (Simmons), M.T.S. (Harvard)
Dean of Libraries and Information Technology Services

Amy E. Abruzzi 2000
B.A., M.L.S. (Rutgers), M.A. (New York University)
Reference Resources Coordinator

Robert E. Duncan 1997
B.A. (Skidmore), M.L.S. (SUNY-Albany)
Systems Librarian

Helen V. Dungan 1969
B.S. (Kutztown), M.S.L.S. (Drexel)
Cataloging Librarian

Katherine A. Furlong 2002
B.A., M.L.I.S. (University of Pittsburgh)
Associate Director for Access and Administrative Services

Michael J. Hanson 2006
B.A. (Utah), M.L.S. (Indiana)
Acquisitions and Serials Librarian

Terese A. Heidenwolf 1992
B.A. (Notre Dame), M.I.L.S. (Michigan)
Associate Director for Research and Instructional Services

Ana Ramirez Luhrs 2008
B.A. (Fairleigh Dickinson), MLIS (Rutgers)
Librarian, Kirby Library

Eric S. Luhrs 2005
B.A. (Fairleigh Dickinson), M.A. (University of Birmingham, U.K.), M.L.I.S. (Rutgers)

Digital Initiatives Librarian

Rebecca Metzger 2006
B.A. (Smith), M.S. (Simmons)
Reference and Instruction Librarian

Diane W. Shaw 1985
B.A., M.L.S. (Emory)
Special Collections Librarian and College Archivist

Lijuan Xu 2003
B.A.L.S. (Wuhan University, China),
M.L.S. (Clarion)
Instruction Coordinator

FACULTY EMERITI

Joseph R. Arboleda 1964-94
A.B. (New York University), M.A. (Florida), M.A., Ph.D. (Princeton)
Associate Professor Emeritus of Foreign Languages and Literatures

Lawrence W. Beer 1982-97
A.B., M.A. (Gonzaga), Ph.D. (University of Washington)
Professor Emeritus of Government and Law

Susan L. Blake 1974-2006
A.B., A.M. (Brown), Ph.D. (Connecticut)
Professor Emerita of English

Mary Jane C. Bradford 1960-85
A.B. (Mt. Holyoke), Ph.D. (Wisconsin)
Associate Professor Emerita of Biology

Robert W. Bradford 1953-85
A.B. (Dartmouth), A.M. (Columbia), Ph.D. (Syracuse)
Associate Professor Emeritus of English

J. Marshall Brown 1954-89
B.S., Ph.D. (Pennsylvania State)
Professor Emeritus of Psychology

Jean-Pierre Cap 1968-99
B.A., M.A. (Temple), M.A. (Pennsylvania),
Ph.D. (Rutgers)
Professor Emeritus of Foreign Languages and Literatures

Wallace M. Catanach, Jr. 1959-92
B.S. in Ag.E. (Pennsylvania State), M.S. in M.E. (Bradley), Ph.D. (Lehigh)
Associate Professor Emeritus of Mechanical Engineering

Robert S. Chase, Jr. 1958-96
A.B. (Haverford), M.A. (Arkansas), Ph.D. (Bryn Mawr)
Professor Emeritus of Biology

- Dorothy L. Cieslicki 1980-90
B.S. (Bucknell), M.L.S. (Columbia), M.L.A. (Johns Hopkins)
Librarian Emerita
- Jacob E. Cooke 1962-90
A.B. (North Carolina), M.A., Ph.D. (Columbia)
Professor Emeritus of History
- David S. Crockett III 1959-96
A.B. (Colby), M.S., Ph.D. (New Hampshire)
Professor Emeritus of Chemistry
- George E. Davidson 1965-90
A.B. (Lafayette), M.A. (Lehigh)
Instructor Emeritus in Physical Education
- William M. Dobriner 1971-88
A.B. (Hofstra), M.A., Ph.D. (Columbia)
Professor Emeritus of Anthropology and Sociology
- David W. Ellis 1978-90
B.A. (Haverford), Ph.D. (Massachusetts Institute of Technology), LL.D. (Lehigh, Lafayette), Sc.D. (Susquehanna, Ursinus)
President Emeritus of the College
- Lester C. Erich 1947-82
B.S., M.S., Ph.D. (Lehigh)
Associate Professor Emeritus of Physics
- Richard W. Faas 1964-95
A.B. (Lawrence), M.S., Ph.D. (Iowa State)
Professor Emeritus of Geology
- Patricia M. Fisher 1980-2002
B.S. (East Stroudsburg)
Instructor Emerita of Athletics
- Bernard Fried 1963-2000
A.B. (New York University), M.S. (New Hampshire), Ph.D. (Connecticut)
Professor Emeritus of Biology
- Howard F. Gallup 1958-95
B.A. (Rutgers), M.A. Ph.D. (Pennsylvania)
Professor Emeritus of Psychology
- Ann Gold 1982-2007
B.S. (Ursinus)
Instructor Emerita of Athletics
- Warren J. Guy 1964-98
B.S. (Drexel), M.A. (Temple), Sc.D. (Newark College of Engineering)
Professor Emeritus of Electrical Engineering
- Harold M. Hochman 1992-2003
B.A., M.A., Ph.D. (Yale)
Professor Emeritus of Economics and Business
- David L. Hogenboom 1965-2000
B.A. (Wooster), M.S., Ph.D. (Pennsylvania State)
Professor Emeritus of Physics
- William C. Holstein 1959-92
B.C.E. (Union), M.C.E. (Rensselaer Polytechnic Institute)
Associate Professor Emeritus of Civil Engineering
- Laylin K. James, Jr. 1959-90
B.S., M.S. (Michigan), Ph.D. (Illinois)
Professor Emeritus of Chemistry
- Donald R. Jenkins 1947, 1959-87
B.S. in M.E. (Rutgers), M.S. in M.E. (Lehigh)
Associate Professor Emeritus of Mechanical Engineering, P.E. (Pennsylvania, New Jersey, Michigan)
- William R. Jones 1963-94
B.S. (Glassboro State), M.S., Ph.D. (Rutgers)
Professor Emeritus of Mathematics
- Bernard S. Katz 1967-91
B.B.A., M.A. (Michigan), Ph.D. (Connecticut)
Associate Professor Emeritus of Economics and Business
- Winfield Keck 1949-83
B.A. (Amherst), M.A. (Pennsylvania), Ph.D. (Brown)
Professor Emeritus of Physics
- Olav B. Kollevoll 1965-89
B.A. (Colgate), M.A. (Saint Lawrence)
Professor Emeritus of Physical Education and Athletics
- Edward V. Krick 1960-88
B.S. in I.E. (Lehigh), M.M.E. (Cornell)
Professor Emeritus of Engineering Science
- Martin D. Landau 1965-88
B.S. (Massachusetts Institute of Technology), M.A. (Syracuse), Ph.D. (Lehigh)
Associate Professor Emeritus of Mathematics
- William L. Lawson 1965-2002
B.S. (Springfield), M.Ed. (Westfield State)
Instructor Emeritus
- Brenda J. Latka 1991-2005
B.S. (Maryland), M.A. (Johns Hopkins), Ph.D. (Rutgers)
Associate Professor Emerita of Mathematics
- Herman I. Liebling 1976-82
B.A. (Brooklyn), M.A., Ph.D. (American)

FACULTY

Professor Emeritus of Economics and Business

John P. Losee, Jr. 1961-2000
A.B. (Colgate), M.S. (Cornell), Ph.D. (Drew)
Professor Emeritus of Philosophy

Shyamal K. Majumdar 1969-2006
B.Sc. (Calcutta), M.S., Ph.D. (Kentucky)
Professor Emeritus of Biology

Joseph N. Mancini 1984-96
B.S. (Rhode Island), M.Ed. (Providence)
Instructor Emeritus of Physical Education

Joseph J. Martin 1967-2004
B.S. (Fordham), M.A. (Indiana), Ph.D. (Pennsylvania State)
Associate Professor Emeritus of English

Donald McCluskey 1946-80
A.B. (Lafayette), Ph.D. (Yale)
Associate Professor Emeritus of English

Leon J. McGeady 1949-86
B.S., M.S., Ph.D. (Lehigh)
Professor Emeritus of Metallurgical Engineering

Terence J. McGhee 1989-99
B.S. (Newark College of Engineering), M.S. (Virginia Polytechnic), Ph.D. (Kansas)
Professor Emeritus of Civil and Environmental Engineering, P.E. (Nebraska)

William E. Melin 1973-2005
Mus.B. (Lawrence), Mus. M. (American Conservatory of Music), Ph.D. (Ohio State)
Professor Emeritus of Music

Thomas G. Miller 1957-87
A.B. (Miami), M.S., Ph.D. (Illinois)
Professor Emeritus of Chemistry

Michael A. Paolino 1986-2005
B.S. (Siena), M.S., Ph.D. (Arizona)
Professor Emeritus of Mechanical Engineering, P.E. (Virginia)

Catherine R. Perricone 1988-98
B.A. (Notre Dame College), M.A. (Oklahoma), Ph.D. (Tulane)
Professor Emerita of Foreign Languages and Literatures

Earl A. Pope 1960-90
B.A., M.A. (Wheaton), B.D. (Yale), Ph.D. (Brown)
Professor Emeritus of Religion

Charles W. Saalfrank 1952-86
B.S. (Pennsylvania), M.S. (Nevada), Ph.D. (Pennsylvania)

Professor Emeritus of Mathematics

June Schlueter 1977-08
B.A. (Fairleigh Dickinson), M.A. (Hunter), Ph.D. (Columbia)
Professor Emerita of English

James P. Schwarz 1962-2000
B.S. (Lafayette), M.S.E. (Princeton), Ph.D. (Lehigh)
Professor Emeritus of Computer Science, P.E. (Pennsylvania, Texas)

Edmond J. Seifried 1978-2008
A.B. (Indiana-Pennsylvania), A.M. (Connecticut), Ph.D. (West Virginia)
Professor Emeritus of Economics and Business

Mercedes Benitez Sharpless 1975-08
B.A. (Universidad de Antioquia, Columbia), M.A.L.S. (Michigan)
Librarian Emerita

Richard E. Sharpless 1970-2003
A.B. (Elizabethtown), M.A., Ph.D. (Rutgers)
Professor Emeritus of History

Joseph A. Sherma, Jr. 1958-2000
B.S. (Upsala), Ph.D. (Rutgers)
Professor Emeritus of Chemistry

Ralph L. Slaght 1969-2003
A.B. (Eastern), M.A., Ph.D. (Pennsylvania)
Professor Emeritus of Philosophy

Arthur Statum 1969-94
B.S., M.S. (North Carolina A&T)
Instructor Emeritus of Physical Education

Samuel Stoddard, Jr. 1946-85
B.S. (Bates), M.S. (Lehigh)
Associate Professor Emeritus of Mathematics

Elwyn E. Tilden 1949-78
A.B. (Harvard), Th.B., Th.D. (Princeton Theological Seminary)
Professor Emeritus of Bible

B. Vincent Viscomi 1964-2005
B.S. (Drexel), M.S. (Lehigh), Ph.D. (Colorado)
Professor Emeritus of Civil and Environmental Engineering, P.E. (Pennsylvania)

Barbara Young 1975-2003
B.S. (Delaware), M.S. (West Chester)
Instructor Emerita of Physical Education

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B.A. (George Washington), M.A. (Johns Hopkins), M.B.A. (Yale School of Management), Ph.D. (Johns Hopkins)
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B.A. (St. Andrews), B.S. (University of Georgia)
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Wendy L. Hill
B.A. (Douglass), Ph.D. (University of Washington)
Provost and Dean of the Faculty; William C. '67 and Pamela H. Rappolt Professor in Neuroscience

Mary J.S. Roth
B.S. (Lafayette), M.S. (Cornell), Ph. D. (Maine)
Associate Provost of Academic Operations; Simon Cameron Long Professor of Civil and Environmental Engineering

Emily A. Schneider
B.A. (Rutgers)
Executive Assistant to the Provost

Nancy L. Williams
Assistant to the Provost

Nancy L. Ball
A.B. (Denison), M.Ed. (Indiana)
Director of Sponsored Programs

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James P. Schaffer
B.S.E.M.S., Ph.D. (Duke)
Professor and Acting Director of

Institutional Research

Simon Tonev
B.S. (Toronto), Ph.D. (Duke)
Assistant Director of Institutional Research

LIBRARY

Neil J. McElroy
B.S. (Rhodes), M.L.S. (Simmons), M.T.S. (Harvard)
Dean of Libraries and Information Technology Services

Elaine McCluskey Stomber
B.A. (Lafayette)
Associate College Archivist

ACADEMIC TECHNOLOGY AND NETWORK SERVICES

John O'Keefe
B.A. (Lafayette)
Director of Academic Technology and Network Services

Jason Alley
BA (Grove City College), M.Ed. (William and Mary)
Instructional Technologist

Bob Bailey
Senior Application Developer

Courtney Bentley
Instructional Technology Program Coordinator

Janemarie Berry
B.A. (East Stroudsburg)
Systems Programmer

Brenda Bomgardner
Academic Technology Facilities Support Specialist

Edwardo D. Bonilla
User Services Specialist

Michael Costello
B.S. (Bucknell) Electrical Engineering, B.A. (Bucknell) Physics
Associate Director of Network Services and Senior Systems Programmer

Patricia A. Facciponti
B.S. Ed. (Kutztown)
Instructional Technologist

John Fulton
B.S. (Rutgers)
*Associate Director of Network Services and
Senior Systems Programmer*

Amy A. Gordon
B.S. (Elizabethtown)
Faculty Services Consultant

Peter R. Hoernle
Network Engineer

Edward J. Hudock
Academic Technology Facilities Manager

John Iannucelli
Hardware Consultant

Robert N. Jones
B.A. (Fordham)
Network Administrator

Chris J. Koch
A.B. (Lafayette College)
Manager, User Services Group

Kenneth Newquist
B.A. (Lockhaven)
Web Applications Specialist

Rich Santillo
B.S. (The College of New Jersey), M.S.
(Lehigh)
User Services Specialist

Lori Young
User Services Specialist

ADMINISTRATIVE INFORMATION SYSTEMS

Paulette R. Poloni
B.S. (Allentown), M.B.A. (Wilkes)
*Director of Administrative Technology
Services*

Richard J. Higgins
B.S. (DeSales)
Enterprise System Support Analyst

Jonathan Li
M.S. (Ohio State)
Database Administrator

Marat Litvan
B.S. (Ukrainian Technical)
Banner Applications Support Analyst

Douglas R. Stewart
B.S. (Allentown College)

Programmer/Analyst

Tina Werkheiser
B.S. (DeSales)
Programmer/Analyst

ENROLLMENT SERVICES

Roberto Noya
A.B. (New York University), M.Ed.
(Harvard)
Dean of Enrollment Services

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A.B. (Lafayette), M.S. (Villanova)
Director of Admissions

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B.S., B.A. (Kings), M.A. (Connecticut)
Senior Associate Director of Admissions

Susan E. Burns
B.A. (Bucknell)
Senior Associate Director of Admissions

Anne Marie Ferriere
B.A. (Gettysburg)
Associate Director of Admissions

Eugene Gabay
B.A. (College of Wooster)
Associate Director of Admissions

Joan B. Lichtenwalner
A.B. (Lafayette)
Senior Assistant Director of Admissions

Dana M. Matassino
B.A. (Gettysburg), M.A. (Seton Hall)
Senior Assistant Director of Admissions

Michael Materasso
B.A. (Connecticut)
Assistant Director of Admissions

Leah S. Austin
B.S. (Tuskegee) M.S. (Virginia Tech)
Assistant Director of Admissions

Lauren M. Carballo
B.A. (Muhlenberg)
Assistant Director of Admissions

Jessica C. Goldblat
A.B. (Lafayette)
Assistant Director of Admissions

Lynne A. Murray
Technology Specialist

STUDENT FINANCIAL AID

Arlina DeNardo
B.A., M.B.A. (Tulane)
Director of Student Financial Aid

Laurie A. Chisesi
B.A. (Rider)
*Associate Director of Student Financial Aid
and Admissions*

Jeffrey D. Metz
B.S. (Fairleigh Dickinson University)
*Manager of Financial Aid
Information Systems*

REGISTRAR

Francis A. Benginia
B.S.Ed. (Mansfield), M.Ed. (Lehigh)
Registrar

David K. Thomas
B.A. (Colby)
Associate Registrar

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Hannah Stewart-Gambino
B.A. (Converse College), Ph.D. (Duke)
Dean of the College

Karen Clemence
B.A. (DePauw), M.P.A. (Lehigh)
Associate Dean of the College

Ronald E. Robbins
A.B., M.A.T., M.A. (Indiana)
Associate Dean of the College

Julia A. Goldberg
B.A., M.A., (Illinois, Urbana-Champaign),
M.Phil., Ph.D., (Cambridge)
Associate Dean of the College

Susan Herschlag
B.A. (Rutgers)
Project Mgr/Tech Liaison

Michael Jordan
B.A. (Carleton), M.A. (Northwestern),
Ph.D. (Emory)
*Director of International Off Campus
Education*

Dana Filchner
B.S., M.S. (Radford University)
*Associate Director of Academic Resource
Center*

Erica Matos

B.A. (Lafayette College), M.A. (Seton
Hall), Ed.S, Ed.D.(Seton Hall)
Director of Academic Resource Center

ENGINEERING

Sharon A. Jones
B.S. (Columbia), M.E. University of
Florida, M.P.A. (California State University
at Long Beach) Ph.D. (Carnegie Mellon)
*Director of the Engineering Division and
Professor of Civil and Environmental
Engineering*

Rebecca L. Rosenbauer
B.S. (Lafayette), M.E. (Rensselaer)
*Director of Engineering Computer Graphics
Laboratory and Lecturer in Engineering*

Thomas J. DeFazio
*Coordinator of Chemical and
Environmental Engineering Laboratories*

Harry Folk
Supervisor Engineering Machine Shop

Christopher Nadovich
M.E.E. Rensselaer Polytechnic Lab Director

Beverly Bortz
Coordinator

HUMANITIES

Lewis Minter
B.F.A. (Maryland Institute)
Visiting Media Lab Director/Lecture

Christian Tatu
B.A., M.A. (Millersville); Ph.D. (ABD)
(Lehigh)
CWP Coordinator

James Toia
B.A. (Bard College); MFA (School of
Visual Arts NYC)
Director/Community Arts Program

Mary Toulouse
B.A. (Skidmore); M.A. (New York
University); M.Ed. Technology (Lehigh)
Director/Language Lab

NATURAL SCIENCE

Carolyn Buckley
B.S. (SUNY College at Oswego), M.A.
(East Stroudsburg), Ph.D.(Lehigh)

Lab Coordinator

Michael Chejlava
B.S. (Harvey Mudd College), PhD. (Kansas State)
Instrumentation Specialist

John Drummond
B.S. (Pennsylvania State College)
General Lab Biology/Lab Coordinator

Gail Salter
B.S. (Mississippi College), Ph.D. (Vanderbilt)
General Chemistry Lab Coordinator

John Wilson
B.S. (University of New Hampshire), M.A. (Virginia Polytechnic)
Lab Coordinator

SOCIAL SCIENCE

David Woglom
B.A. (Lafayette College) M.S. (Lehigh)
Associate Director for Public Service

STUDENT AFFAIRS

James F. Krivoski
A.B. (James Madison), M.S. (Shippensburg), Ed. Spec. (James Madison), Ed.D. (Columbia)
Vice President for Student Affairs and Assistant to the President

Kevin D. Worthen
B.S. (William & Mary), M.S. (Tennessee)
Dean of Students

STUDENT ACTIVITIES

Pamela E. Brewer
B.A. (North Carolina Chapel Hill), M.Ed. (James Madison)
Associate Dean of Students and Director of Student Life Programs

Lauren Ibbotson
B.A., M.A. (Rowan)
Assistant Director of Student Life Programs

Jessica Manjack
B.S. (East Stroudsburg), M.Ed. (Kutztown University)
Assistant Operations Manager

RESIDENCE LIFE

Annette Diorio
B.S. (SUNY), M.Ed. (St. Lawrence), Ed.D. (University of Kansas)
Associate Dean of Students and Director of Residence Life

Laurel E. Peffer
B.S. (Ball State University), M. Ed. (Bowling Green State)
Assistant Director of Residence Life and Adviser to Fraternities and Sororities

Grace E. Reynolds
B.A. (Univ. of Michigan), M.A. (William & Mary)
Associate Director of Residence Life

Julie Ann Mulé
B.S. (St. Peter's), M.Ed. (William & Mary)
Assistant Director of Residence Life

Clarence Scott Jr.
B.A. (Cabrini College), M.Ed. (Salisbury University)
*Assistant Director of Residence Life
Coordinator of Off-Campus Housing*

INTERCULTURAL DEVELOPMENT

Amina M. DeBurst
B.A. (Haverford), M.A. (Columbia)
Assistant Director of Intercultural Development

CHAPLAIN

John P. Colatch
B.A. (West Virginia Wesleyan College), M.Ed. (Duquesne), M.Div (Duke), D.Min. (Colgate Rochester Crozer Div. School)
Director of Religious Life and College Chaplain

CULTURAL PROGRAMS

H. Ellis Finger
A.B. (Davidson), M.A. (Duke), Ph.D. (Princeton)
Director of Cultural Programs

Allison Q. Blatt
B.A. (Concord)
Operations Director, Williams Center for the Arts

Richard A. Kendrick
 B.A. (Colorado), M.A. (North Carolina)
Technical Director of Cultural Programs

LANDIS COMMUNITY OUTREACH CENTER

Bonnie Winfield
 B.A., Ph.D. (Syracuse University)
*Director of Landis Outreach Community
 Center*

Amber Zuber
 B.A. (Cedar Crest), M.A. (Ohio State
 University)
Community Outreach Coordinator

HEALTH CENTER

Jeffrey E. Goldstein
 B.S. (Rutgers), M.D. (New York Medical
 College)
*Director of Health Services and College
 Physician*

COUNSELING SERVICES

Karen J. Forbes
 B.A. (Oberlin), M.S., Ph.D. (Florida)
*Director of Counseling Services and Student
 Life Research*

Timothy J. Silvestri
 B.A. (Muhlenberg), Ph.D. (Lehigh)
Assistant Director of Counseling Services

ATHLETICS

Bruce E. McCutcheon
 B.A. (William & Mary), M.A., Ph.D. (Ohio
 State)
Director of Athletics

George L. Bright
 B.A. (Clafin), M.Ed. (South Carolina State)
Associate Director of Athletics

Kaitlyn M. Cerco
 B.A. (Moravian College), M.S. (East
 Stroudsburg)
*Associate Director of Athletics- Senior
 Women's Administrator*

Margeritte Abdelkodoos
 B.E. (Steven Institute of Technology),
 M.S. (Seton Hall)
Assistant Athletic Trainer

Matthew F. Bayly
 B.S. (Springfield), M.Ed. (Virginia)
*Director of Sports Medicine and Head
 Athletic Trainer*

Dennis Bohn
 B.S. (Columbia)
Head Men's Soccer Coach

Terri Dadio Campbell
 B.A. (Lafayette), M. Ed. (College of New
 Jersey)
Head Volleyball Coach

Richard A. Clagett, Jr.
 B.A. (Utah)
Assistant Baseball Coach

Michele M. Curcio
 B.S. (Delaware), M.Ed. (East Stroudsburg)
*Assistant Men's and Women's Track & Field
 and Cross Country Coach*

James L. Dailey
 B.S. (SUNY-Courtland), M.Ed. (Lehigh)
Head Men's and Women's Swimming Coach

Joseph J. Dougherty III
 B.S. (Dickinson), M.E. (Rowan)
Assistant Football Coach

Mickey D. Fein
 B.S. (Maine)
Assistant Football Coach

Alison L. Fisher
 B.S. (Lafayette College)
Head Women's Lacrosse Coach

Andrew Griffiths
 B.A. (Ryerson University)
Instructor, Head Field Hockey Coach

Jeanine A. Gunther
 B.A. (Univ. of NC at Chapel Hill), M.Ed.
 (Penn State)
Head Softball Coach

Matthew R. Hachmann
 B.A. (St. Thomas), M.S. (Oklahoma and
 Northern Illinois)
Assistant Football Coach

Robert Heffner
 B.S. (Temple)
Associate Head Football Coach

Brian Herr
 B.S. (Drexel University)
Assistant Women's Soccer Coach

Al Holcomb
 B.S. (West Virginia University)
Assistant Football Coach

OFFICERS OF ADMINISTRATION

Joseph A. Kinney
B.S., M.A. (Lehigh)
Head Baseball Coach

Bryan Laut
B.A. (Assumption College)
Assistant Men's Soccer Coach

Joshua A. Loeffler
B.A. (Swarthmore College)
Assistant Men's Basketball Coach

John C. Loose
B.S. (Ithaca), M.S. (Albany)
Assistant Football Coach

Terence J. Mangan
B.A. (Roanoke)
Head Men's Lacrosse Coach

Christopher Meny
B.S. (Montclair State), M.S. (California
University of PA)
Associate Athletic Trainer

Tiffany A. Muir
B.A. (UNC-Chapel Hill) M.S.
(Kentucky)
Assistant Athletic Trainer

LaRonda M. Murphy
B.B.A. (Saginaw Valley State), M.A.
(Eastern Michigan)
Assistant Women's Basketball Coach

Francis B. O'Hanlon
B.S. (Villanova)
Head Men's Basketball Coach

Julio A. Piazza
B.A., M.S.Ed. (Pennsylvania)
*Instructor, Head Men's and Women's Track
and Field and Cross Country Coach*

Brad Potts
B.S. (Duquesne), M.S. (IUP)
Head Strength and Conditioning Coach

C. Eric Ratchford
B.S. (Appalachian State), M.S. (Idaho State)
Head Men's and Women's Tennis Coach

Dawn M. Schleiden
B.A. (Millersville)
Senior Associate Athletic Trainer

Peter B. Schwethelm
B.A. (Trinity)
Assistant Men's Basketball Coach

Tammy Smith
B.S. (East Stroudsburg)
Head Women's Basketball Coach

Michael Statham
B.A. (Franklin Pierce College)
Head Women's Soccer Coach

Frank A. Tavani, Jr.
B.A. (Lebanon Valley)
Head Men's Football Coach

Bryan T. Valladares
B.A. (Alfred University)
Director of Athletic Equipment Services

Jeanette Wedo
B.A. (San Diego), M.S. (East Stroudsburg)
Assistant Women's Basketball Coach

RECREATION SERVICES

Jodie A. Frey
B.S. (West Chester), M.Ed. (Temple)
*Assistant Dean of Students and Director of
Recreation Services*

Karen A. Howell
B.S. (Ithaca College), M.Ed. (Temple)
Assistant Director of Recreation Services

Carolyn C. Hill
A. B. (North Carolina State)
Coordinator of Intramural and Club Sports

BUSINESS AFFAIRS AND FINANCE

Mitchell L. Wein
B.S. (Arizona State), M.S. (Carnegie
Melon)
*Vice President for Business Affairs and
Treasurer*

Kari A. Fazio
B.A. (Georgetown), M.B.A. (Columbia)
*Director of Finance and Business
Operations*

Rosemary M. Bader
B.S. (Allentown College)
Associate Treasurer

CONTROLLER

Paul H. Zimmerman
B.S. (Trenton State), C.P.A.
*Associate Vice President for Business
Affairs and Controller*

Judy Reed
B.S. (Bloomsburg), MBA (Mason)
Associate Controller

Jill E. Snyder
B.A. (Muhlenberg)
Assistant Controller

Donna Yellen
B.S. (Fort Lauderdale College)
Special Funds Accountant

Thomas C. Duffy
B.S. (East Stroudsburg)
Manager Financial Information Systems

Rochelle Lam
B.A. (DeSales)
Manager, Student Accounts

PLANT OPERATIONS

Bruce S. Ferretti
B.S. (Lafayette), B.S. (New Jersey Institute
of Technology)
Director of Plant Operations

Mario A. Cozzubbo
*Associate Director for Plant Operations and
Trades*

FACILITIES PLANNING & CONSTRUCTION AND SUSTAINABILITY

Mary Wilford-Hunt
B.S. (University of Virginia)
*Director of Facilities Planning and
Construction*

George A. Xiques
B.S.M.E. (New Jersey Institute of
Technology)
*Manager of Sustainability and
Environmental Planning*

PUBLIC SAFETY

Hugh W. Harris
B.S. (Pennsylvania State)
Director of Public Safety

James P. Meyer
Assistant Director of Public Safety

Jeffrey E. Troxell
B.S. (Indiana-Pennsylvania)
Assistant Director of Public Safety

Diana M. Buchok
Manager, Public Safety Operations

SCHEDULING AND EVENTS PLANNING

Theresa K. Antolick
Manager Scheduling and Events Planning

PURCHASING AND ADMINISTRATIVE SERVICES

Linda L. Jroski
Procurement Manager

Brad M. Orey
*Manager, Reprographic and Bulk Mailing
Services*

COLLEGE STORE

Charles J. Corsi
Manager of the College Store

DEVELOPMENT AND COLLEGE RELATIONS

James W. Dicker
A.B. (Lafayette)
*Vice President for Development and
College Relations*

Gary A. Carney
B.S. (Ithaca), M.S. (West Virginia)
Director of Development

Kimberly A. Spang
B.S. (Kutztown)
Associate Director for Development

Thomas Hampsey
B.A. (Mount Saint Mary's);
M.A. (University of Scranton)
Director/Development Research

ALUMNI AFFAIRS

Sherri I. Jones
B.S. (Cornell)
Director of Alumni Affairs

Mary P. Staats
B.S., M.A. (Spalding)
Associate Director of Alumni Affairs

James C. Hughes
A.B. (Lafayette)
Associate Director of Alumni Affairs

COLLEGE FUND

Joseph E. Samaritano
B.A. (Lafayette), M.Ed. (East Stroudsburg)
Director of the College Fund

Emily S. Kernan
B.A. (Binghamton)
Assistant Director of the College Fund

Elizabeth M. Hertneck
B.S. (Loyola College), M.S. (Western
Maryland College)
Assistant Director of the College Fund

PARENT RELATIONS

Donna L. Krivoski
B.S. (Shippensburg)
*Assistant Director of Development Services
and Director of Parents Programs*

MAJOR GIFTS

Elizabeth A. Nelson
B.A. (Lafayette), M.A. (Ohio State)
Director of Major Gifts

John E. Leone
B.A. (Hartwick), M.Ed. (Syracuse)
Associate Director of Major Gifts

James A. Gold
B.A. (Moravian)
Associate Director of Major Gifts

Janice A. Egan
B.S. (Pennsylvania State University)
Assistant Director of Major Gifts

Adam S. Stauffer
B.S. (East Stroudsburg), M.Ed. (East
Stroudsburg)
Assistant Director of Major Gifts

Kristen P. Quirk
B.A. (Virginia Polytechnic and State
University)
Director of Stewardship and Special Events

ESTATE PLANNED GIVING

Robert H. Nourse
B.S. (U.S. Military Academy), M.A. (New
Hampshire), M.A. (Central Michigan)
Director of Estate Planned Giving

Susan M. Bradlau
B.A. (College of New Rochelle)

Associate Director of Estate Planned Giving

CORPORATE AND FOUNDATION RELATIONS

Maurice S. Luker III
A.B. (Duke), M.A. (Cornell)
*Director of Foundation and Corporate
Relations*

DEVELOPMENT COMMUNICATIONS

Ann R. Carter
A.B. (Randolph-Macon Women's College),
M.A., Ph.D. (Case Western Reserve)
Director of Development Communications

ADVANCEMENT INFORMATION SYSTEMS

Robert T. VanBlargen
A.S. (Northampton County Area
Community College)
Manager

Jason M. Kalb
M.I.S. (Pennsylvania State University)
Information Systems Coordinator

CAREER SERVICES

Linda N. Arra
A.B. (Lafayette), M.Ed. (Lehigh)
Director of Career Services

Rachel Moeller
B.A. (Lafayette), M.S. (University of
Pennsylvania)
Assistant Director of Career Services

Nanette Cooley
Assistant Director for Employer Relations

Maureen Walz Boehmer
B.S. (Rider), M.Ed. (Kutztown)
Assistant Director for Special Events

Rochelle Crozie
Recruiting Coordinator

PUBLIC INFORMATION

Glenn Airgood
B.A. (Lehigh)
Director of Public Information

David A. Block
 B.A. (Lafayette)
Alumni Communications Editor

Roger B. Clow
 A.B. (Pennsylvania)
Director of College Communications

Terri Deily
Customer Service Representative

Allison Gaul
 B.S. (Virginia Polytechnic and State
 University)
Web Manager

Donna Kneule
 B.F.A. (Kutztown)
*Art Director, Periodicals and Special
 Projects*

Michael Litzenberger
 B.A. (Mansfield)
News Editor

Dale Mack
 B.S. (East Stroudsburg)
Art Director, Graphic Designer

Rita T. Malone-Sorensen
 B.A. (University of Pennsylvania), M.B.A.
 (Lehigh)
Senior Communications Manager

Toby Maynard
Audio/Video Media Manager

Stephanie Shelly
 B.F.A. (Kutztown)
*Director of Creative Services & Electronic
 Media*

Kristine Y. Todaro
 B.A. (Muhlenberg)
Director of News Services

ATHLETIC COMMUNICATIONS

Scott D. Morse
 B.S. (Slippery Rock)
*Director of Athletic Communications and
 Promotions/Executive Director of the
 Maroon Club*

Philip LaBella
 B.A. (St. Bonaventure)
Sports Information Director

HUMAN RESOURCES AND GENERAL COUNSEL

Leslie F. Muhlfelder
 B.A. (Lafayette), J.D. (Georgetown
 University Law Center)
*Vice President for Human Resources and
 General Counsel*

Lisa Rex
 B.S. (Kutztown), M.A. (Fairleigh
 Dickinson)
*Director of Human Resources- Employment
 Specialist*

Charles F. Crawford
 B.S. (Widener)
*Assistant Director of Human Resources-
 Benefits*

Janice E. Hoffman
*Manager of Human Resources Information
 Systems*

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Equity in Athletics Disclosure Act (EADA) Statement: In response to a new federal law, the "Equity in Athletics Disclosure Act" (EADA), Lafayette has prepared an annual report covering the prior year which contains financial information, rates of participation, and other data related to women's and men's athletic programs. A copy of this report will be available for review after October 1 each year at Skillman Library, the Office of Admissions, the Office of Financial Aid, and the Department of Athletics and Physical Education. In accordance with the new law, Lafayette is informing all students and potential students of the availability of the information contained in the report, and will provide a copy of the EADA Report to