



LAWRENCE UNIVERSITY
APPLETON, WI 54912-0599

Non-Profit Organization
U.S. Postage
PAID
Appleton, Wisconsin
Permit No. 5

ADDRESS SERVICE REQUESTED

LAWRENCE UNIVERSITY

2003-04 CATALOG

LAWRENCE UNIVERSITY COURSE CATALOG 2003-04



COURSE CATALOG 2003-04
www.lawrence.edu



CONTENTS

About Lawrence	5	Education.....	87
Mission.....	6	English.....	93
Purposes.....	6	Environmental studies.....	98
History.....	7	Ethnic studies.....	106
Presidents of the college.....	8	French.....	113
The Liberal Arts Education	9	Freshman studies.....	117
Liberal learning.....	10	Gender studies.....	119
A Lawrence education.....	10	Geology.....	124
A residential education.....	10	German.....	129
The Campus Community	12	Government.....	134
Academic and campus life services.....	13	History.....	141
The campus and campus life.....	13	International studies.....	151
Planning an Academic Program	19	Japanese (see East Asian languages and cultures)	
The structure of the curriculum.....	20	Law (see postgraduate considerations)	
Postgraduate considerations.....	23	Linguistics.....	152
Degree and General Education Requirements	25	Mathematics.....	156
Residence requirements.....	26	Medicine (see postgraduate considerations)	
Bachelor of Arts degree.....	26	Music.....	162
Bachelor of Music degree.....	27	Natural sciences.....	163
Five-year B.A. and B.Mus. double-degree program.....	29	Neuroscience.....	164
Cooperative degree programs.....	31	Philosophy.....	168
Allied Health Sciences.....	31	Physics.....	172
Engineering.....	31	Political science (see government)	
Forestry and Environmental Studies.....	31	Psychology.....	178
Occupational Therapy.....	32	Religious studies.....	185
Courses of Study	33	Russian.....	190
Anthropology.....	34	Sociology (see anthropology, gender studies)	
Archaeology (see anthropology)		Spanish.....	194
Art and art history.....	40	Statistics (see economics, mathematics)	
Studio art.....	40	Theatre arts.....	202
Art education.....	43	University courses.....	208
Art history.....	44		
Biology.....	47	Conservatory of Music	211
Biomedical ethics.....	53	General information.....	212
Business (see postgraduate considerations)		Residence requirements.....	212
Chemistry.....	58	Bachelor of Music degree.....	213
Chinese (see East Asian languages and cultures)		Major in performance.....	214
Classics.....	64	Emphasis options for performance majors.....	216
Cognitive science.....	69	Major in music education.....	217
Computer science.....	73	Major in theory/composition.....	220
East Asian languages and cultures.....	76	Emphasis option for theory/composition majors.....	221
Economics.....	82	Five-year B.A. and B.Mus. double-degree program.....	222
		Courses.....	224
		Composition and arranging.....	224
		Ensemble performance study.....	225
		Music education and pedagogy.....	227
		Music history.....	230
		Applied music individual instruction.....	231
		Music repertoire and performance studies.....	233
		Music theory.....	236

CONTENTS

Student-Initiated Courses and Programs	239	Tropical Field Research	255
Tutorials	240	Czech Republic	
Independent study	240	Central European Studies	256
Honors projects	240	England, Italy	
Writing for credit	243	London and Florence: Arts in Context	256
Student-designed courses	244	France	
Student-designed majors	244	Nantes	256
Student-designed interdisciplinary areas	245	Paris	256
Academic internships	245	Germany	
Learning Experiences Outside the Classroom	246	Berlin	256
Student programs at Björklunden	247	Freiburg	256
Speakers and other campus visitors	247	Greece	
The Career Center and internships	249	Athens	257
Off-Campus Programs	250	India	
United States programs	252	Pune	257
Arizona		Italy	
Biosphere 2: Earth Semester	252	Florence	257
Biosphere 2: Universe Semester	253	Intercollegiate Center for Classical Studies	257
Chicago		Milan	258
Chicago Arts Program	253	Japan	
Newberry Seminar in the Humanities	253	Tokyo	258
Urban Education	253	Mexico	
Urban Studies	253	Guanajuato	258
Tennessee		The Netherlands	
Oak Ridge Science Semester	273	Amsterdam	258
Washington, D.C.		Russia	
Washington Semester	254	Krasnodar	258
Woods Hole, Massachusetts		Lawrence-Kurgan Exchange Term	258
Semester in Environmental Science	254	Senegal	
International programs	254	Lawrence Francophone Seminar	258
Argentina		Spain	
Buenos Aires	254	Barcelona	259
Australia		Madrid	259
Adelaide	254	Salamanca	259
Austria		Tanzania	
Vienna	254	Studies in Human Evolution and Ecology	259
British West Indies		Nation-Building in Southern Africa	259
Lawrence Marine Biology Term	255	United Kingdom	
Canada		Lawrence London Center	260
Québec Seminar and Internship	255	Lawrence London Center	260
Chile		Courses	260
Santiago	255	Academic Procedures and Regulations	263
China		Opportunities, obligations, and responsibilities	264
Beijing	255	Academic advising	264
Costa Rica		Honor code	264
Studies in Latin American Culture		Three-term system and course loads	265
and Society	255	Registration	265
		Class changes	266

CONTENTS

Limited enrollment classes.....	267	Tuition, fees, and refunds.....	279
Class attendance.....	267	Admission and matriculation fees.....	279
Final examinations.....	268	Comprehensive fee 2003-04.....	280
Academic accommodations for students		Incremental fees.....	280
with disabilities.....	268	Other fees and costs.....	280
Grading system.....	268	Bills and payments.....	280
Academic progress.....	270	Room and board.....	281
Transfer between degree programs within the		Refunds.....	281
university.....	271	Financial aid.....	282
Declaration of a major.....	271		
Declaration of minors and interdisciplinary areas ...	271	Awards, Societies, and Fellowships	284
Transfer credit.....	272	Awards and prizes.....	285
Credit for Advanced Placement Examinations.....	272	Academic honorary societies.....	286
Credit for International Baccalaureate Program.....	273	Fellowships.....	286
Completion of the foreign language			
General Education Requirement.....	273	Directory	289
Leaves of absence and withdrawal.....	274	2003 Board of Trustees.....	290
Dean's List.....	274	Emeriti trustees.....	291
Conferring of degrees and graduation.....	274	Faculty.....	292
Honors at graduation.....	275	Emeriti faculty.....	304
Confidentiality of student education records.....	275	Administrative offices and officers.....	307
Petitions for exceptions to academic regulations.....	275	2003-04 academic year calendar.....	309
Grievance procedures.....	276	2004-05 academic year calendar.....	310
		Campus map and directions to Lawrence.....	311
Admission, Fees, and Financial Aid	278		
Admission.....	279	Index.....	314
Admission to the university.....	279	For more information.....	320
Application deadlines and campus visits.....	279		

Lawrence University does not discriminate on the basis of sex, race, color, national or ethnic origin, religion, sexual orientation, parental or marital status, age, or disability in its programs and activities. Inquiries regarding the non-discrimination policy may be directed to the Vice President for Business Affairs at 920-832-6537 or the Dean of the Faculty at 920-832-6528.

This catalog represents the most accurate information on Lawrence University available at the time of printing. The university reserves the right to make such alterations in its programs, regulations, fees, and other policies as are warranted.

ABOUT LAWRENCE



Mission

Lawrence University of Wisconsin, through its undergraduate college and Conservatory of Music, educates men and women in the liberal arts and sciences. Committed to the development of intellect and talent, the acquisition of knowledge and understanding, and the cultivation of judgment and values, Lawrence prepares students for lives of service, achievement, leadership, and personal fulfillment.

Purposes

- To enroll intellectually curious students who demonstrate an abiding desire to learn and the will to join a community of scholars and artists in the vigorous pursuit of knowledge.
- To attract, support, and sustain a faculty of active scholars and artists devoted to the intellectual life and to the teaching of undergraduates.
- To attract and retain administrative and support personnel who will effectively promote the educational purposes and values of the university.
- To seek diversity within the university community as a means to enrich teaching and learning and to promote tolerance and understanding.
- To maintain an intellectual environment that: encourages excellence in teaching and scholarship; encourages dialogue and close collaboration between students and faculty; encourages an active search for knowledge and understanding; fosters the critical examination of values, ideas, and actions; supports open and free inquiry; develops aesthetic appreciation; encourages responsible commitment; challenges individuals to surpass their previous achievements, to seek new opportunities, and to explore new areas; promotes an enduring enthusiasm for learning; develops a sense of responsibilities inherent in intellectual endeavors and social relationships; and informs and inspires student residential life.
- To provide a curriculum leading to the Bachelor of Arts degree that: comprises recognized disciplines of the arts and sciences; examines the heritage of great civilizations; encompasses the current state of knowledge in the disciplines; exposes students to a wide range of subjects and intellectual approaches; engages each student actively in one or more disciplines at an advanced level; fosters opportunities for independent intellectual activity; develops students' abilities to think critically, write clearly, and speak effectively; and allows opportunities for choice and the pursuit of an individual's special interests while preserving a coherent course of study.
- To provide a curriculum leading to the Bachelor of Music degree that combines professional education in music, accredited by the National Association of Schools of Music, with study in the liberal arts.
- To provide a program leading to certification as public school teachers in the state of Wisconsin.
- To provide opportunities for students to create and participate in extracurricular activities that are consistent with the educational goals and values of the university.
- To nurture a social environment that promotes mature and responsible behavior and good citizenship.
- To cultivate a safe and healthful campus environment.
- To contribute to the vitality of the surrounding community and to make available programs of cultural enrichment and to draw on the knowledge and experience of members of that community in the exploration of significant issues.
- To provide opportunities for alumni to maintain a lifelong connection with the institution and with each other and to encourage their continuing interest in learning.
- To provide the physical and financial resources needed to support the educational purposes and to ensure the future well-being of the university.

History

Lawrence, like the city of Appleton in which it is situated, owes its origins to the perseverance of frontier ministers and to the philanthropy of wealthy Bostonians. In 1847, prior to the statehood of Wisconsin, the first member of the Lawrence administration and Appleton's first permanent resident arrived on the scene in a dugout canoe and selected a wooded bluff above the Fox River as the site for the campus.

The Rev. William Harkness Sampson had been commissioned, along with the Rev. Henry R. Colman, by the Boston merchant Amos A. Lawrence to establish a frontier school to afford "gratuitous advantage to Germans and Indians of both sexes." Lawrence pledged \$10,000 to endow the school, on condition that the Methodists, represented by Sampson and Colman, match his gift. Even before the money could be raised, the Territorial Legislature, on January 15, 1847, granted a charter to Lawrence Institute, a name that was changed to Lawrence University when classes first began on November 12, 1849.

The early years

During its first 40 years Lawrence struggled with the problems of a developing frontier: the failure of wheat crops, the disruptions of the Civil War, and the chaos of financial panics. Through it all, seven different college administrations held fast to the tenets of a strong classical education. The early curriculum, though constrictive by today's standards, was, on the whole, rather broad for the time, and the alumni of that era attained distinguished careers in education, business, the ministry, law, and politics.

The return of Dr. Samuel Plantz to his *alma mater* as president in 1894 marked a turning point for Lawrence. During his 30-year administration, the student body grew from 200 to 800; the faculty increased from nine to 68; the endowment grew from less than \$100,000 to \$2,000,000; and the physical plant was enhanced by the construction of eight major buildings. During these years, Lawrence's pursuit of academic excellence was reflected in the selection of its first Rhodes Scholar in 1904 and the establishment of a Phi Beta Kappa chapter in 1914.

During Plantz's administration, the Conservatory of Music came into its own as a separate part of the university with the addition of six faculty members, the introduction of curricular offerings in public

school music and music history, and the acquisition of a building devoted exclusively to music instruction.

Lawrence College

In 1913, the institution adopted the name Lawrence College to underscore its commitment to undergraduate liberal education. That commitment received further articulation during the administration of President Henry Merritt Wriston (1925-37), when the college charted a course that it has followed faithfully to the present day. In the words of the catalog of 1934, "The ultimate purpose of liberal education at Lawrence is the establishment and improvement of standards — standards of thought and expression, of taste and interest, of character and ethics, of health and sane living."

While holding fast to these enduring goals of liberal education, Lawrence continually has reassessed and reshaped its academic program in response to the changing contours of knowledge and changing views on the nature of learning. The tutorial system, first instituted by President Wriston, has blossomed into a wide range of options for independent learning. Freshman Studies, introduced by President Nathan Marsh Pusey (1944-53), today remains a distinctive expression of the commitment of the entire Lawrence community to the examination of ideas of abiding importance.

With the introduction of a number of overseas programs in the 1960s, Lawrence enhanced its ability to broaden the horizons of its students through direct contact with other societies. The recent appearance in the curriculum of special programs in computer science, biomedical ethics, environmental studies, gender studies, ethnic studies, and others reflects a concern that new knowledge be available to Lawrence students along with the traditional courses in the arts and sciences.

Milwaukee-Downer College

Under the leadership of President Curtis W. Tarr (1963-69), Lawrence once again assumed the name Lawrence University, when it was consolidated in 1964 with Milwaukee-Downer College for Women. Milwaukee-Downer, named in honor of its trustee and benefactor, Jason Downer, was itself the product of a merger in 1895 between Milwaukee Female College and Downer College of Fox Lake. Both

ABOUT LAWRENCE

schools had pioneered in the education of women, and Milwaukee Female College had benefited early on from the interest of Catharine Beecher, a sister of Harriet Beecher Stowe, who provided the institution with an advanced program of high educational standards.

Today's Lawrence

The present campus, situated on 84 acres, contains 58 instructional, residential, recreational, and administrative facilities. *Björklunden vid Sjön*, Lawrence's 425-acre northern campus, is located on Lake Michigan in Door County, Wisconsin.

The student body of 1,300, drawn from 49 states and 45 other countries, is served by a full-time faculty of 135 men and women.

Lawrence is accredited as a degree-granting institution by the North Central Association of Colleges and Secondary Schools, and the Conservatory of Music is an accredited institutional member of the National Association of Schools of Music. Lawrence also is a member of the Midwest Conference and National Collegiate Athletic Association, Division III (NCAA III).

Lawrence today is what it has always been, a liberal arts college with a conservatory of music. It honors the vision of its founders and builds on the

heritage of more than a century and a half of excellence in undergraduate education.

Presidents of the college

1849-1853	William Harkness Sampson (principal of the institution)
1853-1859	Edward Cooke (first president)
1859-1865	Russell Zelotes Mason
1865-1879	George McKendree Steele
1879-1883	Elias DeWitt Huntley
1883-1889	Bradford Paul Raymond (Class of 1871)
1889-1893	Charles Wesley Gallagher
1893-1894	L. Wesley Underwood (as acting president)
1894-1924	Samuel G. Plantz (Class of 1880)
1924-1925	Wilson Samuel Naylor (as acting president)
1925-1937	Henry Merritt Wriston
1937-1943	Thomas Nichols Barrows
1943-1944	Ralph Jerome Watts (as acting president)
1944-1953	Nathan Marsh Pusey
1954-1963	Douglas Maitland Knight
1963-1969	Curtis William Tarr
1969-1979	Thomas Stevenson Smith
1979-	Richard Warch

THE LIBERAL ARTS EDUCATION



Liberal learning

To participate in a liberal education is a privilege and a challenge; to be liberally educated is to be transformed. Open and free inquiry, a devotion to excellence, the development of character, the mastery of competencies, the ability to think critically, the excitement and rewards of learning — these are the aims and principles of a liberal arts education.

Liberal learning liberates, freeing us from the restraints of time and place, enabling us to grow, to change, and to respond to the new, the unforeseen, the unexpected. To be liberally educated is to live imaginatively in worlds not our own and to examine values not of our making.

A liberal education tests our ability to investigate and understand the nature of an organism, the applications of a theorem, the behavior of a crowd, the principles of a political system, the meaning of a poem, the causes of an event, the consequences of an argument, or the composition of a symphony.

Liberal education promotes diversity, skepticism, and debate. It views the world as changing, not fixed. It asks not only what, but why. It insists that we make judgments rather than have opinions, that we treat ideas seriously, not casually, that we be committed instead of indifferent.

Liberal education is vocational. It prepares us to assume positions of leadership and responsibility as wage-earners and citizens. To be liberally educated is not to be limited to a particular niche in the job market but to be freed and qualified for many opportunities. And, most important of all, it is to be equipped to assume new vocations and accept new challenges throughout life.

Students come to Lawrence with many career objectives and options — law, public service, health professions, business, service vocations, engineering, teaching, ministry. Liberal education is a prerequisite to all of these and more. Whether or not a student seeks professional or graduate training beyond the bachelor's degree, liberal learning provides the skills, the talents, the critical intelligence, and the range that offer access to many careers.

Above all, however, a liberal education is a function of choice and self-discipline. Lawrence provides opportunities; it does not prescribe decisions. The privilege of liberal learning is the

freedom to choose; the challenge of liberal learning is to choose responsibly.

A Lawrence education

“Welcome to the company of educated men and women.”

With these words, university presidents traditionally salute Bachelor of Arts recipients at Commencement. In the centuries since that greeting was first proclaimed, the definition of the educated man or woman has expanded. Two and one-half centuries ago, a college curriculum was relatively uniform and straightforward; the “liberal arts” numbered seven. Today, the curriculum is diverse and complex; the liberal arts find expression in many disciplines and departments, use a variety of methodologies and skills, and are conveyed by courses numbering in the hundreds.

No one — neither student nor faculty member — can master all available disciplines and subject matters. When graduates are hailed among the company of educated men and women, each will have reached that state by selecting a program of courses unique to him or her.

“What one knows is, in youth, of little moment,” wrote Henry Adams; “they know enough who know how to learn.”

Lawrence does not pretend to certify that every graduate possesses a prescribed amount of knowledge. But the university does claim that the education students attain here marks them as persons who have developed the abilities to think critically, write clearly, and speak effectively.

The route to liberal education lies in a course of study that combines both breadth and depth. The Lawrence curriculum promotes exposure to a wide range of subject matters and intellectual approaches. It also calls for the focused study of a single area of knowledge. Within this general framework, the student exercises wide latitude in building a course of study. A Lawrence education, then, results from considered choices. The college provides ample room for such choices and encourages students to exercise them boldly.

A residential education

Lawrence University is a residential college by design. Students are required to live on campus because we believe that a small residential community

THE LIBERAL ARTS EDUCATION

distinguished by frequent face-to-face interactions between and among its members provides an ideal environment for accomplishing the goals of liberal education.

Lawrence's residential nature maintains and expands the opportunities for meaningful interactions outside the classroom and, in so doing, contributes to the fulfillment of Lawrence's mission to promote

among students "the development of intellect and talent, the acquisition of knowledge and understanding, and the cultivation of judgment and values." Furthermore, meaningful relationships between students and faculty, among students, and within the Lawrence community at large preserve and extend the vitality of the institution.

THE CAMPUS COMMUNITY



Academic and campus life services

The dean of the faculty is the chief academic officer of the university. Among the responsibilities of the dean are the oversight of all academic programs; the hiring and evaluation of faculty; and the disbursement of funds for travel, research, and curricular development.

The dean of student academic services oversees and assists the academic progress of Lawrence students. The dean assigns and supports faculty advisors, especially as questions arise concerning variations from traditional courses of study, academic progress, and withdrawal from the college or conservatory. The dean of student academic services serves as advisor to the Honor Council.

The student academic services office also supervises academic support services, including the Center for Teaching and Learning, which provides help with writing, speaking, quantitative, and study skills, as well as content tutoring in most courses offered by the university.

The director of international and off-campus programs is responsible for Lawrence's off-campus programs (including the London Center), as well as programs offered by the Associated Colleges of the Midwest, the Great Lakes Colleges Association, the Associated Colleges in China, and the Institute for the International Education of Students. This office also organizes programs at the university's Björklunden campus (see page 247).

The dean of students supervises extra-curricular, residential, career, international student, multicultural, health, and counseling services and also advises the Judicial Board and effects liaison with local police and emergency personnel.

The campus activities staff advises students about campus organizations and co-curricular activities; helps students identify campus and community resources to support their interests; assists student organizations with leadership/membership development and program planning; manages Memorial Union; and advises fraternities and sororities. The campus activities staff also is responsible for coordinating volunteer and community service initiatives and overseeing intramurals.

The Office of Multicultural Affairs promotes dialogue, understanding, and respect among the many cultural and identity populations represented within

the Lawrence community. The office supports a range of programs designed to develop and sustain cooperation and collaboration among students, faculty, and staff. The assistant dean of students for multicultural affairs serves as a resource and advocate for students from groups traditionally under-represented at Lawrence. The director of international student services offers support, advice, and assistance with immigration procedures to all international students attending Lawrence.

The Office of the Dean of Students initiates programs to enhance campus life. The housing and residence life department includes the residence hall directors, residence life advisors, and residence life managers, who coordinate activities, oversee the general operation of the halls, serve as community leaders, and help maintain a safe and comfortable living environment. The housing coordinator is responsible for the management of the housing-selection process for returning students, as well as the matching of new Lawrentians with roommates and placing them in room assignments.

The Career Center provides individual career counseling, assists students with choosing a major and developing an internship, maintains a library of print and on-line information on careers and graduate schools, hosts employers wishing to conduct on-campus interviews, collects and publicizes full-time and part-time employment opportunities and internships, and assists students with career decision-making and job-search activities.

Confidential health and counseling services are available to all students. Health Services is staffed by a registered nurse and physicians who can aid students with health concerns. Counseling Service staff members offer individual and group sessions, as well as outreach programs to support the psychological well-being of students that is necessary to achieve their academic and personal goals. Drug and alcohol education is an integral part of this outreach.

The campus and campus life

Main Hall

Main Hall, the building at the heart of the campus, is perhaps the most visible symbol of the Lawrence tradition. Constructed in 1853, it originally housed all of the college — classrooms, the laboratory, the library, administrative and faculty offices, a dining room, a chapel, and even living quarters.

During the Civil War, Main Hall was rumored to have been a station on the Underground Railroad to Canada; in 1974, it was entered in the National Register of Historic Places of the U. S. Park Service.

It now houses classrooms and faculty offices for the humanities, along with the John G. Strange Student Commons, an advanced Humanities Computing Laboratory, and the Hiram A. Jones Latin Library.

Youngchild Hall and Science Hall

Stretching out south of Main Hall are other major classroom buildings, including Youngchild Hall of Science and Science Hall.

Youngchild Hall, built in 1964 and fully renovated in 2000-01, houses the physics department, the geology department, and part of the biology department.

Connected to Youngchild by a glass-enclosed atrium, Science Hall, dedicated in October 2000, provides space for the molecular sciences. The building has state-of-the-art research and teaching laboratories, a number of which are shared spaces used by several of the sciences. The chemistry department occupies the first and second floors of the building, and offices and classrooms for biology are found on the top floor. A third-floor bridge within the atrium allows close contact between the biology laboratories and offices in Science Hall and those in Youngchild Hall.

Lucia R. Briggs Hall

Briggs Hall, opened in 1997, houses the anthropology, economics, education, government, mathematics, and psychology departments, with laboratories for developmental psychology, clinical psychology, social psychology, sound and language psychology, ethnography, and archaeology/paleoanthropology. Other facilities include computer classrooms for mathematics and computer science and a statistics laboratory, along with other classrooms, seminar rooms, and meeting rooms for departmental student organizations, the Office of Student Academic Services, and the Center for Teaching and Learning.

Wriston Art Center

The Wriston Art Center features three spacious galleries; studios for painting, drawing, sculpture, printmaking, ceramics, computer-assisted art,

photography, and art metal; a visual-resources library; a print study room; a seminar room; a 150-seat auditorium; and an outdoor amphitheatre.

Music-Drama Center, Ruth Harwood Shattuck Hall of Music

The Music-Drama Center houses teaching facilities for the Conservatory of Music and the theatre arts department and is the site of concerts, recitals, dramatic productions, films, and lectures. It contains studios, numerous practice rooms, classrooms, and three performance spaces: the 250-seat William E. Harper Hall; the 500-seat Stansbury Theatre; and a smaller experimental theatre, the F. Theodore Cloak Theatre. The studios of WLFM, Lawrence's student-run FM radio station (affiliated with Wisconsin Public Radio) also are located in the Music-Drama Center.

The Ruth Harwood Shattuck Hall of Music, opened in September 1991, connects the Music-Drama Center with the Lawrence Memorial Chapel. It provides additional classroom space, two large rehearsal rooms, including Elizabeth Miller Hall, jazz and percussion studios, faculty studios, practice rooms, student study areas, the Carl J. Waterman Ensemble Music Library, instrument storage, and a recording studio.

Seeley G. Mudd Library

The library's primary purpose is to support the liberal arts curriculum of the university. To this end, the library staff builds and organizes the library's collection and provides the best possible service to faculty and students as they engage in the teaching/learning process.

The library collection consists of over 377,000 books and periodicals; 330,000 government documents; 1,500 current periodical subscriptions; 14,500 music scores; and 121,000 videotapes, recordings, and microform items. The Milwaukee-Downer Room houses the rare book collection, while the Lincoln Reading Room contains published materials about the U.S. Civil War and Abraham Lincoln. In addition to the Lawrence collection, students have access to materials across the world through inter-library loan.

To teach students how to identify, retrieve, and evaluate appropriate materials, librarians work with classes as assignments are made and provide individual instruction at the reference desk. The

library is open 110 hours per week, with extended hours during exams.

The library's computer system offers a gateway to the Lawrence collection, as well as to other library catalogs, full-text online resources, and the World Wide Web.

Mudd Library provides well-designed group study rooms, individual carrels, lounge seating, and offices for students to use in research projects. There also are media-viewing and music-listening facilities. Students may connect to the campus network at various locations in the building, using their own laptop computers.

Computer Services

Computer Services staff members have offices in the library, where the Information Technology Center provides the setting for non-credit technology training for all members of the Lawrence community. Computer facilities for use by faculty, staff, and students are widely distributed throughout the campus. The university provides central computing servers accessible from all parts of campus and offers world-wide communication via the Internet. Data connections are available from student rooms in residence halls and small houses. In addition, there is opportunity for students with laptop computers to connect from different points across the campus, including the library.

The large residence halls contain clusters of microcomputers (both Windows and Apple Macintosh varieties) with laser printers. Principal academic buildings contain additional public clusters as well as interdepartmental facilities tied more closely to aspects of the curriculum, such as foreign languages and applied statistics. High-resolution graphics workstations are located in laboratories for computer science and physics; several other science departments use computing equipment extensively in their course offerings.

Lawrence Memorial Chapel

Built in 1918 and renovated for the second time in 1993, the 1,248-seat Lawrence Memorial Chapel is used for public events such as the Lawrence Artist and Jazz Series, ensemble concerts, public meetings, and the university convocation series. In recent years, the chapel has been host to such performing artists as Emmanuel Ax, the Prague Chamber Orchestra, Joshua

Bell, Wynton Marsalis and the Lincoln Center Jazz Orchestra, Richard Stoltzman, Dale Duesing, Bobby McFerrin, the Academy of Ancient Music, the Imani Winds, and Dianne Reeves.

Residence Halls and Food Service

Lawrence is a residential college, and more than 95 percent of all students live on campus in one of the residence halls or small houses. Residence life is designed to promote the educational and social development of students. Residence halls are supervised by professional residence hall directors, college graduates trained specifically to deal with residential living. Each residence hall director supervises a team of student residence life advisors (RLAs) whose main function is to help students acclimate to campus and residential living. Each hall is small (no more than 185 students), and community-building is the prime objective.

Each hall is unique and displays that distinctiveness in many ways. The oldest is Ormsby Hall (1889) and the newest is Hiett Hall (2003), located on the hillside behind Ormsby, overlooking the Fox River. The 79,500-square-foot building houses 183 students in suite-style accommodations.

Kohler Hall is Lawrence's substance-free residence, and both Colman and Ormsby provide smoke-free living options. Representative hall governments establish living rules, which supplement university regulations. Each residence building on campus quickly becomes "home" to the residents, and students are encouraged to respect it and use it as such. Residential living at Lawrence is an integral part of a student's total education, and the members of the professional and student staff make it their goal to make living on campus an enriching experience.

Students living on campus eat in either of two university dining areas — one on each end of the campus. Jason Downer Commons, on the east, has a central serving area and several dining rooms. Rooms also are available at Downer for small group meetings. Across campus, Colman Hall houses the Lucinda Darling Colman Room (Lucinda's). Featuring slightly different fare in a homier atmosphere, Lucinda's serves breakfast and lunch Monday through Thursday. Several meal plans are available.

Memorial Union

Situated atop a bluff overlooking the Fox River, the Memorial Union is the center of campus co-curricular activities. Campus organizations frequently use Riverview Lounge for their meetings and social gatherings. The Viking Room provides alcoholic and non-alcoholic beverages, snacks, and good company each evening, and the Underground Coffeehouse — which offers a selection of specialty coffees, teas, baked goods, and other treats — often features live entertainment. The game room has pool tables, pinball machines, board games, a large-screen TV, and video games. Appetizing fare also is available at the Union Grill, where the menu ranges from hamburgers and ice cream to salads and vegetarian entrees. The Volunteer and Community Service Center offers information and referrals for students, faculty, and staff interested in service opportunities.

Union Station, the campus store, has food, gifts, supplies, and Lawrence paraphernalia for sale. The campus Information Desk provides check cashing, a fax machine, information and referral services, photocopying, equipment rental, and on-campus mailboxes for campus organizations and off-campus students. An Automatic Teller Machine (ATM) is available in the union. The campus activities office is also located in the union, and its staff works closely with the Lawrence University Community Council (LUCC) and student publications that share space in a small campus house.

Diversity Center

The Diversity Center, opened in 1997, is a gathering place for students who wish to explore their cultural heritage and identity. The center features a comfortable lounge, seminar rooms, and meeting rooms for campus organizations dedicated to increasing awareness of diversity-related issues. The Office of Multicultural Affairs supports programs and annual events such as Black Heritage Celebration, Pride Week, Women's Week, identity forums, and Latino/a awareness programs.

International House

International House is Lawrence's center for internationalism and is devoted to cross-cultural experiences and understanding. The first floor provides gathering places for international students, language tutoring, and receptions or meals of all

kinds. The second floor houses the Office of Off-Campus Programs, the Office of International Student Services, and a reading and resource room used for seminars and small meetings.

Alexander Gymnasium and athletic fields

Alexander Gymnasium, completely renovated in 1986, is the center for 19 of Lawrence's 23 varsity sports. Facilities at the gymnasium include two regulation gym floors, a regulation squash court, three regulation racquetball/handball courts, a wrestling room, a weight room, and three batting cages.

Six tennis courts are on the campus close to the major residence halls. Near the gymnasium are the Banta Bowl, a 5,255-seat football stadium and lighted field built into a natural ravine, and Whiting Field, a complex that includes an eight-lane all-weather track, baseball field, softball field, soccer fields, and practice field.

Buchanan Kiewit Center

Dedicated almost exclusively to health and recreation, the Buchanan Kiewit Center contains an eight-lane swimming pool and diving well, a gymnasium equipped for basketball, volleyball, tennis, and badminton, a four-lane running track, a weight and exercise room, a dance studio, racquetball courts, and saunas. It also is home to men's and women's varsity swimming and diving and men's and women's varsity fencing.

Athletics and recreation

Athletics at Lawrence are seen as part of a student's total education. Through intercollegiate sports, club sports, and a broad intramural and recreation program, the university offers opportunities to compete or just have fun for both men and women.

The varsity athletic teams are members of the Midwest Conference (MWC) and the National Collegiate Athletic Association, Division III (NCAA III). Hockey is in the Midwest Collegiate Hockey Association and wrestling is in the Wisconsin Intercollegiate Athletic Conference. Lawrence offers 13 varsity sports for men, ten for women, and numerous club sports, intramural sports, and activities for both.

Many students participate in intramural and recreation programs. These activities provide physical fitness and the joy of competition without the time commitment and discipline required at the varsity level.

Student publications

Students have full control and responsibility for the weekly campus newspaper, *The Lawrentian*; for *Ariel*, a largely pictorial yearbook; for *Tropos*, a magazine of original poetry, fiction, and visual art; and for *One Minute Left*, a newspaper that provides a liberal perspective. All student publications share production and meeting space in Mursell House.

Music

Music pervades life at Lawrence for both the casual listener and the ardent performer. There are weekly student and faculty recitals and frequent concerts by Lawrence ensembles, including the Jazz Ensemble, the Symphony Orchestra, the Concert Choir, and the Wind Ensemble, which are free and open to the public.

According to their interests and abilities, students have a chance to sing opera, play in a concert band, or perform their own jazz compositions. Lawrence ensembles come under the auspices of the Conservatory of Music, but membership is open to all students by audition, and nearly all musical groups include members from the college.

Theatre

Every year, numerous dramatic productions enable interested students to try their hand at acting, set designing, or even playwriting. Three major plays are performed annually. The selection has ranged from Greek classics to contemporary experimental plays, from Shakespeare to the Theatre of the Absurd. In recent years, productions have included *Sweeney Todd*, *The Demon Barber of Fleet Street* by Stephen Sondheim; Anton Chekhov's *The Seagull*, *Little Eva Takes a Trip* by Rebecca Gilman; Brian Friel's *Translations*; *The Little Foxes* by Lillian Hellman; Molière's *The Learned Ladies*; Cole Porter's *Kiss Me, Kate*; and, in collaboration with the Lawrence Opera Theatre, a double offering of *The Marriage of Figaro* — both the play by Beaumarchais and the opera by Mozart. Major productions are supplemented by numerous student-directed one-act plays and special projects.

Film

The Classic Film Society offers classic American and international films.

Additional film series are sponsored by academic departments, the campus activities office, or as part of special programs.

Lectures

See "Speakers and Other Campus Visitors," page 247.

Lawrence University Community Council

The Lawrence University Community Council (LUCC) governs most non-academic matters. Since 1968, students and faculty have successfully worked together on social and other noncurricular issues. The council's structure reflects the community. It has a student president and vice president, 14 student representatives, and four faculty representatives. LUCC offices are located in Mursell House.

The LUCC concept of government demands more than the usual amount of cooperation, interest, and involvement by students and faculty. The council constantly reviews its legislation in an attempt to keep policies up-to-date, and it strives to meet the challenges of new community issues as they arise.

Volunteer and community service

Volunteer opportunities play an important role in educating students for lives of service and community responsibility. The Volunteer and Community Service Center, located in the Memorial Union, is committed to helping Lawrentians identify, participate in, and reflect upon service opportunities. Staffed primarily by students, the office maintains resource files and a volunteer database, sponsors both one-time and long-term volunteer experiences, and facilitates the activities of student organizations dedicated to service. The Volunteer and Community Service Center values the holistic development of volunteers, supporting students in their service endeavors from preparation to evaluation.

Service projects and volunteer placements address at-risk youth, seniors, environmental issues, social justice, education, literacy, the arts, and a variety of other populations and topics.

Campus organizations

Students participate in more than 100 organizations, including various governance committees, athletic and recreational clubs, academic societies, fraternities and sororities, and religious organizations. More information about campus organizations can be obtained from the Campus Activities Office.

Students form organizations around interests ranging from hobbies and avocational activities to social issues and cultural awareness. A number of

THE CAMPUS COMMUNITY

academic departments sponsor clubs. Each group plans programs that can be shared with the larger campus community. Meetings are open to the entire student body.

About 20 percent of the student body participates in a fraternity or sorority. Lawrence is

host to three sorority and five fraternity chapters, each representing a national or international organization. Sororities include Delta Gamma, Kappa Alpha Theta, and Kappa Kappa Gamma. Fraternities include Beta Theta Pi, Delta Tau Delta, Phi Delta Theta, Phi Kappa Tau, and Sigma Phi Epsilon.

PLANNING AN ACADEMIC PROGRAM



Students must plan ahead if they are to meet the goals of a liberal arts education. The first step toward planning is to become aware of the range of Lawrence's curricular offerings and programs. The course catalog contains this information, and students should become thoroughly familiar with it. Students should then discuss their academic programs regularly with their faculty advisors and, as needed, with advisors of programs or instructors of courses in which they have an interest.

Upon entering Lawrence, each student is assigned a faculty advisor to give advice and perspective on developing an educational program.

Students who build strong relationships with their advisors will benefit most from a Lawrence education. If necessary, students may switch advisors as they develop a close working relationship with another faculty member. Students need not, however, have an advisor in their major field of study until the beginning of their junior year.

Over the academic year, freshmen most often enroll in seven courses in addition to the Freshman Studies sequence. They will take courses in their general area of intellectual interest and explore new areas as well. Lawrence's General Education Requirements should be considered in making these choices. Other considerations also should figure in this planning. For example, Bachelor of Music students have fewer choices in the first year since they must also take music theory and private lessons. Some majors and preprofessional programs may require that specific course sequences be started in the freshman year. Students also may want to consider off-campus programs. They should learn when these programs are offered and what, if any, coursework is required for participation in them. Finally, students may want to think ahead to postgraduate study.

Most students select a major during the sophomore year, after they have had an opportunity to sample coursework in a variety of disciplines. Once they have determined a major, they consult with a faculty member in that department and plan their future academic program. This planning should take into account not only the requirements of the major but also courses in other areas that might complement the major or other particular interests. Again, postgraduate plans may be important considerations.

Planning is essential, but it need not be rigid. Initial interests students have on arrival at Lawrence may change dramatically as a result of exposure to new and different areas of study.

The structure of the curriculum

The curriculum of the university is structured into three parts. For the Bachelor of Arts degree, students take approximately one-third of their coursework in general education, another third in their major course of study, and a final third in elective areas of study. Bachelor of Music students take approximately one-third of their courses in general education and the other two-thirds in music-related study.

General education

To ensure that Lawrence students gain familiarity with the principal academic disciplines and with the modes of thought and expression appropriate to each, approximately one-third of the coursework required for the bachelor's degree is in general education.

The general education component of each degree program consists of three parts. The purpose of the *distribution requirements* is to ensure that students graduating from Lawrence experience the breadth of study central to a liberal arts education. The purpose of the *diversity requirements* is to prepare students for positions of leadership within an increasingly diverse American society and an increasingly interconnected world. The skills represented by the *competency requirements* are fundamental to the study of the liberal arts and prerequisites for success in any discipline or profession.

Distribution: divisions within the university

Lawrence University organizes its curricular programs and offerings into divisions that are further described in the degree requirements (page 25 *et seq.*). The divisions are as follows:

Humanities: classics, East Asian languages and cultures, English, French, German, history, philosophy, religious studies, Russian, and Spanish.

Natural sciences: biology, chemistry, geology, mathematics and computer science, and physics.

Social sciences: anthropology, economics, government, and psychology.

Fine arts: art and art history, music, and theatre arts.

Interdisciplinary programs, such as biomedical

ethics, environmental studies, ethnic studies, gender studies, and linguistics are usually non-divisional. However, such non-divisional courses, as well as education and university courses may be assigned divisional affiliations when appropriate.

Diversity and competencies

Certain classes offered during particular terms have been designated as addressing the diversity and competency requirements that are part of the General Education Requirements of each degree program. These classes are structured to meet specific guidelines determined by the faculty of the university and reflect a dimension of the curriculum not captured by course subject and number.

Diversity requirements call for at least one course with a global perspective focusing on an area outside Europe and the United States and one course exploring dimensions of diversity in contemporary American society.

Competency requirements specify four courses that improve fundamental skills central to a liberal arts education, courses designated as writing intensive, speaking intensive, emphasizing quantitative reasoning, and leading toward proficiency in a foreign language.

Classes identified as meeting diversity or competency requirements are identified in the class schedule published each term on the registrar's website (www.lawrence.edu/dept/registrar/).

Freshman Studies

Entering students enroll in Freshman Studies, a two-course sequence specifically designed to acquaint students with the modes of inquiry characteristic of intellectual discourse at Lawrence and to increase their reading, writing, and speaking skills. The program does more than develop these basic academic skills, however. Through the study of classical works of systematic thought or creative imagination, it also raises for discussion and analysis important ideas of abiding concern. Freshman Studies is both an introduction to and an important part of a Lawrence education. (See page 117.)

Majors

Liberal learning calls for depth and focus as well as for breadth of knowledge. The academic major gives students the opportunity to master a subject, while

providing the challenge and pleasure of learning something thoroughly.

Lawrence provides its students with an opportunity to work in the major academic areas in ways that best suit their interests, talents, and plans. Most students choose to major in a single discipline. Some students design their own majors. Others pursue double majors. All Lawrence major programs, however, share as their foundation the commitment to a schedule that is substantially integrated and methodologically as sophisticated as the discipline allows.

Minors

Minors provide an opportunity for students seeking the Bachelor of Arts degree to do organized and focused work in a field outside the area of their majors. Some students will combine majors and minors in closely related fields — biology and chemistry, for instance, or English and history — while others will use minors to explore subjects very different from their major areas. Minors are offered by almost all curricular departments of the university.

Interdisciplinary areas

The rigor of a major is still the best method of guiding, coordinating, and integrating a student's advanced scholarly work in a liberal arts college. But knowledge does not come boxed in disciplines and departments, and students' interests and needs often cross the boundaries of their majors into many related areas.

Interdisciplinary areas at Lawrence allow students pursuing a Bachelor of Arts degree to cross departmental or disciplinary boundaries and address issues from several perspectives. Every Lawrence student still chooses a major and fulfills its requirements, but students who satisfy the requirements of an interdisciplinary area of concentration may have the area listed on their transcripts along with the declared major.

Each interdisciplinary area constitutes a field of study that allows students to explore particular themes, topics, or problems from the perspective of several disciplines. Lawrence has established interdisciplinary areas in biomedical ethics, international studies, and neuroscience (see "Courses of Study," beginning on page 33, where interdisciplinary areas are listed alphabetically along with departmental listings).

Performance areas and areas of emphasis

Students pursuing a Bachelor of Music degree with a major in performance must select a performance area for their studies (piano, organ, harpsichord, voice, strings, classical guitar, winds, or percussion).

Performance majors may choose to complete an optional area of emphasis in piano accompanying, piano pedagogy, or jazz and improvisational music.

Majors in music education must select from five areas of emphasis (general, choral/ general, instrumental, instrumental/general, and choral/ general/instrumental).

Theory/composition majors may elect to complete an area of emphasis in jazz and improvisational music.

University Courses

University Courses deal with subjects of interest and importance that are outside the purview of any given department. Usually interdisciplinary, University Courses call upon students and faculty to integrate ideas from sometimes disparate fields of knowledge. Alternatively, they provide opportunity for faculty to present material of specific scholarly interest or expertise. Students from all disciplines may enroll in University Courses (see page 208).

Individual courses of study

Student-initiated options for study are a long-standing feature of the Lawrence curriculum. Most often, students elect tutorials or independent study in order to pursue topics of special interest in depth. Lawrence students usually participate in at least one of these two options during the four years. Most often, students pursue tutorials or independent study in the department of their majors, but they may, when qualified, undertake such work in other departments.

Additional opportunities for individual courses of instruction include student-designed courses, student-designed majors, writing for credit, and academic internships (see page 239 and following for details on these special options and for specific information on Lawrence's academic internship policy).

Off-campus study

Lawrence University encourages students to extend their program of study by choosing to participate in

the challenging educational and cultural experiences offered through its portfolio of off-campus study programs. Lawrence operates three programs of its own, including the London Center, and also offers programs operated by other organizations, such as the Associated Colleges of the Midwest (ACM) and the Institute for the International Education of Students (IES), which have been evaluated by the faculty and approved for Lawrence affiliation.

It is best to start planning for an off-campus experience in combination with considering options for major and minor programs of study. With that in mind, it is strongly recommended that students interested in off-campus study make an appointment with the director of international and off-campus programs as early as the freshman year to explore the range of possibilities for including off-campus study in their degree program.

Lawrence also engages in cooperative arrangements with certain professional schools that allow students to combine two or three years of study here and subsequent enrollment at the professional school toward the attainment of two degrees. Students may contact the designated advisors for further information and guidance (see page 31).

Course numbering and course credit

During the 2001-02 academic year Lawrence implemented a new course-number system and a new credit scale. The information presented below references the new formats.

100-199: Introductory courses generally do not require prior study unless they are part of a sequence, such as introductory language or mathematics courses. This level includes courses introducing students to the discipline as well as any topical courses aimed at non-majors.

200-399: Foundation/gateway courses represent the second tier of work in each discipline and might include methods courses and introductions to sub-disciplines. Typically these courses are not appropriate for entering freshmen, but in some departments they might be appropriate for continuing students with no prior experience in the subject.

400-599: Advanced courses include seminar series, special-topics courses, and advanced work in sub-disciplines. Students enrolling in advanced

courses are expected to understand the basic methodology of the discipline.

600-699: Capstone courses include the culminating work in a discipline and are not appropriate for students who are neither majors nor minors in the discipline.

A standard course at Lawrence is valued at 6 units. A normal course load for a term is three standard courses, or 18 units. For more information about course loads and how to translate Lawrence units into semester or quarter hours, please see page 265.

Postgraduate considerations

Career planning

The Career Center offers a wide range of services to all Lawrentians — undergraduates and graduates alike. These include individual career counseling to assist in identifying career interests and skills, assistance in developing internships and summer employment, job fairs, and on-campus recruiting opportunities. The center sponsors workshops and seminars to increase career awareness and to improve job-search skills. It also collects and publicizes information on specific job opportunities.

Graduate study

Students interested in graduate and professional schools will find a variety of valuable resources in the Career Center. Students can research information on specific schools and programs, on graduate and professional school entrance examinations, and on financial aid. The Career Center also offers computer-based practice tests for students interested in honing their testing skills before taking a graduate school exam. Lawrence serves as a center for the administration of the Graduate Record Examination (GRE) subject tests, the Law School Admission Test, the Foreign Service Examination, and the Medical College Admission Test (MCAT).

Professional study

Lawrence strongly believes that liberal education — with its emphasis on skills of analysis and communication, on breadth of knowledge, and on the ability to pursue knowledge of one area in depth — affords the best preparation for rigorous professional study. Since these attributes of liberal education can be developed and nurtured regardless of a student's

area of concentration, in most cases Lawrence does not prescribe fixed courses of study for students with preprofessional interests.

At the same time, we recognize that some professional programs and schools require specific preparation at the undergraduate level. Faculty and other advisors assist students in determining what preparatory studies, if any, will be essential or valuable for later work in these areas. Students with specific professional goals should consult with these advisors as early as possible — in some instances during the freshman registration period.

Pre-Business

Advisor: Mr. Alger

Students who plan to undertake postgraduate study in business — in most cases a program leading to a master's degree in business administration — normally are advised to supplement the major of their choice and the university's General Education Requirements with coursework in mathematics, as well as statistics, economics, and computer science. In addition, they should pay particular attention to the development of writing skills.

Pre-Law

Advisors: Mr. Podair, Mr. Wulf

Legal studies require strong analytic skills, a knowledge of society, and the ability to communicate effectively. Students planning to attend law school normally are advised to supplement the major of their choice and the university's General Education Requirements with some coursework in philosophy and the theoretical and analytic aspects of their field of concentration, as well as coursework in the social sciences.

Health Careers

Advisors: Mr. Maravolo (chair), Ms. De Stasio, Mr. Lokensgard

The Health Careers Advisory Committee works closely with students as they apply to medical schools and other programs to prepare for health science and allied health careers. It provides guidance in the selection of schools, in developing applications, in the preparation for interviews, and in planning for medical school admissions testing.

Students who plan to attend medical school may concentrate in the field or fields of their greatest

interest. Medical schools do, however, require considerable work in the natural sciences, including biology, chemistry, and physics, as well as English. Members of the Health Careers Advisory Committee are available to help students select courses that will meet the requirements of medical schools and at the same time provide a broad liberal education.

Lawrence offers a number of programs designed to familiarize students with the nature of medical education and practice. These programs include workshops, discussions with local physicians, and opportunities to observe, under the supervision of local practitioners, various aspects of the medical profession. The college also sponsors Mielke and Kasel Summer Internship Grants. The former provide opportunities to study medical problems in the Fox

Valley, and the latter offers internships in biomedical ethics, health economics, and medical humanities (see Biomedical Ethics, page 53).

Teacher certification

Lawrence offers certification at the secondary level in most subjects and at the elementary and secondary level in music and art. Students generally student-teach during their senior year, but, to encourage students to pursue this certification, a 13th term of student teaching is available without normal tuition charges in the fall following graduation. Those interested in student teaching should consult with the education department faculty at their earliest opportunity (see page 87).

DEGREE AND GENERAL EDUCATION REQUIREMENTS



Residence requirements

To qualify for a Lawrence University B.A. or B.Mus. degree, students are required to have a minimum of six terms in residence and earn 108 units (Lawrence foreign study programs, ACM programs, and other special arrangements under Lawrence sponsorship included). Nine terms in residence and 162 units are required for the five-year B.A. and B.Mus. double-degree program.

Students must be in residence on the Appleton campus until they have completed the Freshman Studies requirement.

The last three terms of work and a minimum of 54 units submitted for the graduation requirements must be done in residence unless a department (or departments, or advisory committee, where appropriate) previously has certified completion of the requirements for a major. This requirement, or one of its parts, may be waived by the admissions office in the case of incoming transfer students or by the Faculty Subcommittee on Administration in any other cases.

Bachelor of Arts degree

Students seeking the Bachelor of Arts degree will complete approximately one-third of their work in each of three areas: Freshman Studies and General Education, a major, and elective study. The Freshman Studies and General Education Requirements are designed to promote the breadth of study central to a liberal arts education, perspective on issues critical to a diverse America and an interconnected world, and the development of skills essential for success in any discipline or profession. The completion of a major provides focused, in-depth work in a single discipline. Elective study affords students opportunities to develop secondary interests, work in areas complementary to their primary discipline, or explore new fields of study.

Degree requirements

1. Completion of 216 units. Of the 216 units required for the degree, a student must present:
 - a. a minimum of 72 units from courses numbered 200 or above
 - b. no more than 150 units from a single division
 - c. no more than 90 units from a single department, except that in the art department a student may present no more

than 126 units, no more than 90 of which may be in studio art and no more than 90 of which may be in art history.

- d. no more than 42 units in education
- e. no more than 12 units from academic internships
2. In the freshman year, 12 units of Freshman Studies
3. Completion of the General Education Requirements:
 - a. Distribution, in order to gain exposure to a range of disciplines, subjects, and perspectives within the liberal arts:
 - i. 12 units selected from departments and courses listed within the Division of Humanities. All courses in the Humanities taught in English will count towards this requirement. Humanities courses taught in a foreign language and numbered 300 and above will count towards this requirement, except as noted in the course catalog.
 - ii. 6 units selected from departments and courses listed within the Division of Fine Arts;
 - iii. 12 units selected from departments and courses listed within the Division of Social Sciences;
 - iv. 12 units selected from departments and courses listed within the Division of Natural Sciences, at least six units of which must be in a laboratory course in biology, chemistry, geology, or physics.
 - b. Diversity, in order to prepare students for a more global world and a more diverse America:
 - i. 6 units selected from courses designated as either emphasizing global and comparative perspectives on the world or focusing on areas outside Europe and the United States;
 - ii. 6 units selected from courses designated as focusing on dimensions of diversity, such as race, ethnicity, and gender, that are of particular importance in understanding contemporary society in the United States.
 - c. Competency, in order to improve and reinforce those fundamental abilities central to a liberal arts education:
 - i. 6 units selected from courses designated as writing intensive;
 - ii. 6 units selected from courses designated

- as speaking intensive;
- iii. 6 units selected from courses designated as emphasizing mathematical reasoning or quantitative analysis;
- iv. 6 units in a foreign language taken from courses numbered 200 or above and taught primarily in a language other than English. This requirement may also be satisfied by attaining a score of 4 or 5 on an Advanced Placement examination in a foreign language or by passing a proficiency examination administered by a Lawrence University foreign language department.

Stipulations pertaining to the General Education Requirements

A single course may not be used to satisfy more than one requirement within categories (a) Distribution and (b) Diversity. A single course may be used to satisfy a requirement within category (c) Competency and a requirement within category (a) Distribution or (b) Diversity. No course will be designated as fulfilling more than one category (c) Competency requirement. Credits granted pursuant to university policy for advanced placement or for transfer work may be used to fulfill General Education Requirements.

4. Completion of a major — departmental, interdisciplinary, or student-designed — including all course and non-course requirements, such as departmental examinations, research projects and presentations, portfolios, etc. Students are required to declare a major by the beginning of the junior year.
5. An academic record that meets the following standards:
 - a. A 2.000 grade-point average in all Lawrence courses.
 - b. A 2.000 grade-point average in the college major (all courses taken in the major department and any required courses outside the major department).
6. Completion of the required terms and units in residence as specified by the university residence requirements (see page 00).

The Bachelor of Music is a professional degree. Courses in music represent approximately two-thirds of the curriculum, while one-third is devoted to Freshman Studies and General Education Requirements.

In addition to academic policies and regulations detailed in this catalog, students in the conservatory are subject to policies and procedures detailed in conservatory department guidelines and the *Conservatory Student Handbook* (www.lawrence.edu/conservatory/handbook).

Admission to the degree

An entrance audition is required of all applicants for admission to the Bachelor of Music degree. Bachelor of Arts students who wish to become Bachelor of Music students must petition the Conservatory Committee on Administration for admission. Bachelor of Music students who wish to become Bachelor of Arts students must petition the University Committee on Administration for acceptance into the Bachelor of Arts degree program. Such changes are not normally allowed before the end of the freshman year nor later than the beginning of the junior year.

Bachelor of Music students must complete the appropriate qualifying examination(s), normally by the end of the sophomore year, to be admitted to a major (please see descriptions of individual majors, page 214 *et seq.*).

Degree requirements

1. Completion of a minimum of 216 units. The following music courses are used in the computation of the degree grade-point average but are excluded from the total of 216 units required for the degree: MURP 201, 202, 203, 301, 302 and MUTH 161, 162, 171, 172.
2. Of the 216 units required to complete the degree, a student must present:
 - a. a minimum of 144 units in music
 - b. a minimum of 60 units in courses other than music.
 - c. no more than 12 units from academic internships

The additional 12 units may be selected from any department.
3. In the freshman year, 12 units of Freshman Studies.
4. Completion of the General Education Requirements

DEGREE AND GENERAL EDUCATION REQUIREMENTS

- a. Distribution
 - i. 12 units selected from departments and courses listed within the Division of Humanities;
 - ii. 6 units selected from departments and courses listed within the Division of Social Sciences;
 - iii. 6 units selected from departments and courses listed within the Division of Natural Sciences.
 - b. Diversity
 - i. 6 units selected from courses designated as emphasizing global and comparative perspectives on the world or focusing on areas outside Europe and the United States or focusing on dimensions of diversity, such as race, ethnicity, and gender, that are of particular importance in understanding contemporary society in the United States.
 - c. Competency
 - i. 6 units selected from courses designated as writing intensive.
 - ii. 12 units selected from courses numbered below 200 in a foreign language or the equivalent as determined by placement based on an Advanced Placement examination or a proficiency examination administered by a Lawrence University foreign language department.
Note: While some music courses may satisfy General Education Requirements, a minimum of 60 units in courses other than music is required for the degree.
- Stipulations pertaining to the General Education Requirements**
 A single course may be used to satisfy requirements in all three categories (Distribution, Diversity, and Competency). A single course may be used to satisfy only one requirement in the Competency category. Credits granted pursuant to university policy for advanced placement or for transfer work may be used to fulfill General Education Requirements.
5. Completion of music core requirements:
 - a. Music theory
 - i. MUTH 151, 161, 171 or MUTH 201, 211, 221
 - ii. MUTH 152, 162, 172 or MUTH 202, 212, 222
 - iii. MUTH 251, 261, and 271
 - iv. MUTH 252, 262, and 272
 - v. MUTH 301, 311, and 321
 - b. Music history
 - i. MUHI 201 and 202
 - ii. 6 units selected from courses in music history numbered 300 or above
 - iii. 6 units selected from courses in music history numbered 400 or above
 - c. Keyboard skills: MURP 201, 202, 203 or MURP 301, 302
 - d. Applied music individual instruction as specified under requirements for the major and areas of emphasis
 - e. Ensemble study: a minimum of 12 units. Students are required to participate in an ensemble every term in which they are attending classes on the Appleton campus. Requirements for specific types of ensemble study (MUEN) are specified under requirements for majors and areas of emphasis.
 6. Completion of a major in music — performance, music education, theory/ composition, or student-designed — including all course and non-course requirements, such as recitals, qualifying examinations, etc. A student is expected to pass a qualifying examination for admission to the major after no more than six terms of study.
 7. An academic record that meets the following standards:
 - a. A 2.000 grade-point average in all Lawrence courses.
 - b. A 2.000 grade-point average in the music major (all music courses and non-music courses required for the major) unless otherwise specified under the major requirements.
 8. Completion of required terms and units in residence as specified by the university residence requirements (see page 26).

Bachelor of Arts/Bachelor of Music double-degree program

Professional study in music and study in the liberal arts may be combined in a five-year program leading to both Bachelor of Music and Bachelor of Arts degrees, the latter with a major other than music. Both degrees are awarded at the conclusion of the five-year program. Interested students should discuss this possibility with their advisors as early as possible.

Approximately half of the curriculum is devoted to the study of music — completion of the music core and requirements for a major in performance, music education, or theory/composition. The other half of the curriculum mirrors that of the Bachelor of Arts program, emphasizing breadth of study central to a liberal arts education, focused study in the college major, and elective study to complement other work or explore other fields of interest.

Certain majors in the Bachelor of Arts degree program (for example, some laboratory sciences) may be difficult to combine with the Bachelor of Music degree program into a five-year double-degree program, especially if the student's objective is to maintain serious options for graduate or professional work in both areas after graduation. Such combinations may require that course overloads be taken to complete minimum requirements in each major in a timely and satisfactory manner. Early and regular consultation with advisors in both the college and the conservatory is imperative. Further, students who seek certification for purposes of teaching a subject other than music are urged to see the dean of the conservatory.

In addition to academic policies and regulations detailed in this catalog, students in the conservatory are subject to policies and procedures detailed in conservatory department guidelines and the *Conservatory Student Handbook* (www.lawrence.edu/conservatory/handbook).

Degree requirements

1. Completion of a minimum of 15 terms of study and 270 units. Of the 270 units required, a student must present:
 - a. a minimum of 144 units in music, exclusive of MURP 201, 202, 203, 301, 302 and MUTH 161, 162, 171, 172
 - b. a minimum of 114 units selected from courses other than music
 - c. no more than 42 units from courses in education
 - d. a minimum of 72 units from courses numbered 200 and above
 - e. no more than 90 units from a single department outside of music, except that in the art department a student may present no more than 126 units, no more than 90 of which may be in art and no more than 90 of which may be in art history
 - f. no more than 12 units from academic internships
2. In the freshman year, 12 units of Freshman Studies.
3. Completion of the General Education Requirements:
 - a. Distribution, in order to gain exposure to a range of disciplines, subjects, and perspectives within the liberal arts:
 - i. 12 units selected from departments and courses listed within the Division of Humanities. All courses in the humanities taught in English will count toward this requirement. Humanities courses taught in a foreign language and numbered 300 and above also will count toward this requirement, except as noted in the Course Catalog.
 - ii. 6 units selected from departments and courses listed within the Division of Fine Arts;
 - iii. 12 units selected from departments and courses listed within the Division of Social Sciences;
 - iv. 12 units selected from departments and courses listed within the Division of Natural Sciences, at least six units of which must be in a laboratory course in biology, chemistry, geology, or physics.
 - b. Diversity, in order to prepare students for a more global world and a more diverse America:
 - i. 6 units selected from courses designated as either emphasizing global and comparative perspectives on the world or focusing on areas outside Europe and the United States;
 - ii. 6 units selected from courses designated as focusing on dimensions of diversity, such as race, ethnicity, and gender, that are of particular importance in understanding contemporary society in the United States.
 - c. Competency, in order to improve and

reinforce those fundamental abilities central to a liberal arts education:

- i. 6 units selected from courses designated as writing intensive;
- ii. 6 units selected from courses designated as speaking intensive;
- iii. 6 units selected from courses designated as emphasizing mathematical reasoning or quantitative analysis;
- iv. 6 units in a foreign language taken from courses numbered 200 or above and taught primarily in a language other than English. This requirement may also be satisfied by attaining a score of 4 or 5 on an Advanced Placement examination in a foreign language or by passing a proficiency examination administered by a Lawrence University foreign language department.

Stipulations pertaining to the General Education Requirements

A single course may not be used to satisfy more than one requirement within categories (a) Distribution and (b) Diversity. A single course may be used to satisfy a requirement within category (c) Competency and a requirement within category (a) Distribution or (b) Diversity. No course will be designated as fulfilling more than one category (c) Competency requirement. Credits granted pursuant to university policy for advanced placement or for transfer work may be used to fulfill General Education Requirements.

4. Completion of a college major — departmental, interdisciplinary, or student-designed — exclusive of music, including all course and non-course requirements, such as departmental examinations, research projects and presentations, portfolios, etc. Students are required to declare a major by the beginning of the junior year.
5. Completion of music core requirements:
 - a. Music theory
 - i. MUTH 151, 161, 171 or MUTH 201, 211, 221
 - ii. MUTH 152, 162, 172 or MUTH 202, 212, 222
 - iii. MUTH 251, 261, and 271
 - iv. MUTH 252, 262, and 272
 - v. MUTH 301, 311, and 321
 - b. Music history

- i. MUHI 201 and 202
- ii. 6 units selected from courses in music history numbered 300 or above
- iii. 6 units selected from courses in music history numbered 400 or above
- c. Keyboard skills: MURP 201, 202, 203 or MURP 301, 302
- d. Applied music individual instruction as specified under requirements for the major and areas of emphasis
- e. Ensemble study: a minimum of 12 units. Students are required to participate in an ensemble every term in which they are attending classes on the Appleton campus. Requirements for specific types of ensemble study (MUEN) are specified under requirements for majors and areas of emphasis.
6. Completion of a major in music — performance, music education, theory/ composition, or student-designed — including all course and non-course requirements, such as recitals, qualifying examinations, etc. A student is expected to pass a qualifying examination for admission to the major after no more than six terms of study.
7. An academic record that meets the following standards:
 - a. A 2.000 grade-point average in all Lawrence courses.
 - b. A 2.000 grade-point average in the music major (all music courses and non-music courses required for the major) unless otherwise specified under the major requirements.
8. Completion of required terms and units in residence as specified by the university residence requirements (see page 26).

Cooperative degree programs

A liberal arts education provides excellent preparation for careers in a variety of professions. For this reason,

several professional schools have contracted with Lawrence for cooperative programs that enable students to build a foundation in the liberal arts and then acquire specific professional skills. These programs lead, in most cases, to the awarding of two degrees.

The Lawrence cooperative programs listed below generally provide for students to study at Lawrence for three years and then transfer to a professional school for two more years. To qualify for a Lawrence degree in these programs, students must earn 162 units and fulfill all other degree requirements that cannot be met in the professional school. Students must undertake careful planning with the professional advisors and with their own faculty advisors to make sure all requirements will be completed satisfactorily.

Allied Health Sciences

Program advisor: Ms. De Stasio

Lawrence has a program with Rush-Presbyterian-St. Luke's Medical Center in Chicago offering joint programs in the liberal arts and allied health sciences. These opportunities are available in both nursing and medical technology. In the 3-2 option, which leads to a B.A. degree from Lawrence and a B.S. degree with a major in nursing or medical technology from Rush, students take a broad program in the sciences, social sciences, and humanities as well as specific courses at Lawrence (noted below) during the first three years. In the two years at Rush, students undertake further coursework and the clinical training. A 2-2 program leads to a single B.S. degree from Rush. Many Lawrence students, however, pursue a 4-2 option earning the B.A. degree before enrolling for the two years in Rush to earn the B.S. degree.

Students pursuing the nursing program must complete Lawrence Biology 110 and 140 and 126, Chemistry 115 and 116 and 250, Psychology 100 and 260, Anthropology 110, Mathematics 107, one additional math course, and one additional social science and humanities course. Students in the medical technology program must complete Lawrence Biology 110 and 140, Chemistry 115, 116, 210, and 250, Mathematics 107, and one other biology course. The remainder of a student's curriculum should be in non-technical areas and following the basic tenets of a liberal arts curriculum. Students pursuing a 3-2 program must complete 162 units and all other requirements before leaving the Appleton

campus. (Biology and psychology majors can fulfill two departmental requirements at Rush.)

Representatives from Rush visit the campus periodically, and the medical center holds open houses twice each year to provide more complete information on these programs. Data sheets that place students on the Rush mailing list for information are available from the program advisor.

Engineering

Program advisor: Mr. Cook

Students wishing to combine a liberal arts program with professional training in engineering or computer science may want to choose the 3-2 program in engineering, which involves three years of study at Lawrence University and two years of study at an engineering school. Lawrence has formal affiliations with Columbia University (New York, New York), Rensselaer Polytechnic Institute (Troy, New York), and Washington University (St. Louis, Missouri), but students may transfer to any accredited engineering school with the agreement of the chosen institution. Upon satisfactory completion of the five-year program, these students will receive the Bachelor of Arts degree from Lawrence as well as a Bachelor of Engineering degree from the professional school they have attended. To prepare for the transfer to an engineering school, students must include among their courses basic mathematics (normally Mathematics 140, 150, 160, and 210), introductory chemistry (Chemistry 115 and 116), introductory physics with calculus (Physics 150, 160), and six courses (36 units) in humanities and social sciences. Many of these courses also will figure in the student's major at Lawrence. Because specific requirements vary slightly among the engineering schools, students contemplating the 3-2 program should consult early with the program advisor.

Forestry and Environmental Studies

Program advisor: Mr. Maravolo

The college offers a cooperative program with Duke University in the areas of environmental science and forestry. Upon satisfactory completion of this five-year program, spending three years at Lawrence and two at Duke's School of the Environment, the student will receive the B.A. degree from Lawrence and the professional degree Master of Forestry or Master of Environmental Management from Duke.

The major emphases at Duke are in forest resource production, resource ecology, resource policy and economics, water and air resources, and ecotoxicology. An undergraduate major in natural sciences, social sciences, or pre-engineering is good preparation for the programs at Duke, but a student with any undergraduate concentration will be considered for admission. The student must complete a total of 48 units at Duke, which generally takes four semesters. The student must complete 162 units at Lawrence and fulfill all other requirements that cannot be completed at Duke. All students contemplating this cooperative program should plan to take work in ecology, economics, and statistics at Lawrence before matriculating at Duke.

Some students may prefer to complete the bachelor's degree before undertaking graduate study at Duke. The master's degree requirements for these students are the same as those for students entering after the junior year, but the 48-unit requirements may be reduced for relevant, already completed undergraduate work of satisfactory quality. All credit reductions are determined individually and consider both the student's educational background and objectives.

Occupational Therapy

Program advisor: Mr. Metalsky

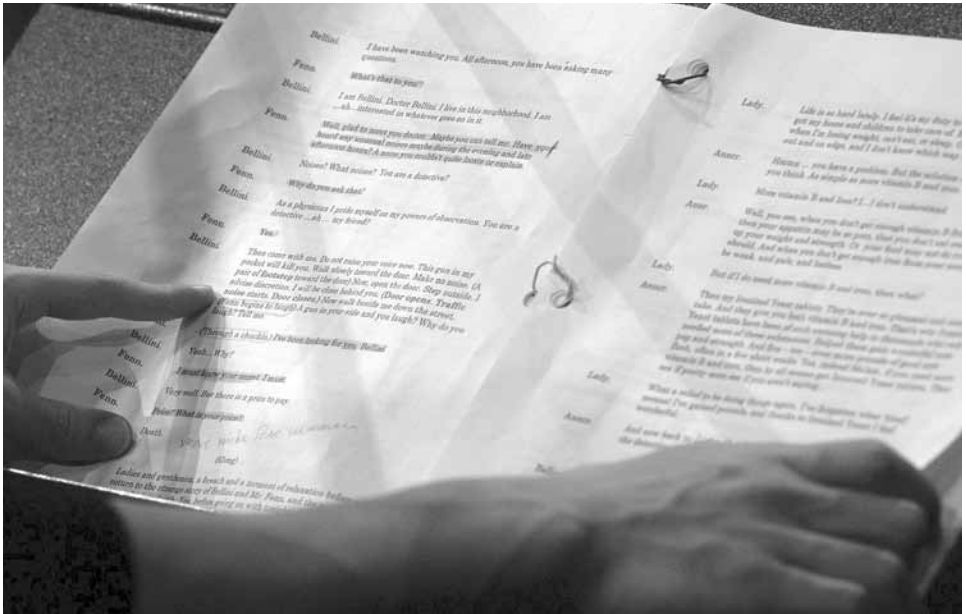
Lawrence offers a 3-2 program in occupational therapy in conjunction with the School of Medicine of Washington University, St. Louis. Students spend three years of study at Lawrence and then continue for five semesters and two summers in the occupational therapy program at Washington University. After two semesters of successful study at Washington University, Lawrence awards the Bachelor of Arts degree. The student then continues for three more semesters and two summers at Washington University to earn the Master of Science in Occupational Therapy degree. Students who complete this program are prepared to address the prevention and treatment of physical or mental dysfunctions that impair people's abilities to perform

activities of daily life. Occupational therapists focus on the methods that permit individuals to engage in meaningful life activities. They also assist in modifying environments that make it possible for individuals to function at home, at work, and in the community.

Lawrence students apply to the occupational therapy program of the School of Medicine, Washington University during the fall of the junior year and must meet the entrance requirements established by the occupational therapy program. The Washington University School of Medicine is one of the finest in the country, and the occupational therapy program is competitive. A 3.000 Lawrence grade-point average is a minimum requirement but does not guarantee admission. Students who are admitted may apply for financial aid provided by Washington University.

To complete the occupational therapy program, students must complete 162 units at Lawrence, meet General Education Requirements, and fulfill all requirements for a Lawrence major. Students also must fulfill the prerequisite course requirements for occupational therapy, as follows: Biology 110, 140, and 242; one additional biology course (6 units) numbered 200 or above; one additional science course (6 units) chosen from physics, chemistry, biology, or neuroscience; Psychology 250 and 260; one course (6 units) chosen from among Philosophy 100, Philosophy 120, Philosophy 320, Philosophy 440, Economics 290, or Government 495; two additional courses (12 units) chosen from the social sciences; and Mathematics 107. Completing Lawrence requirements and the prerequisite requirements will require careful planning, which must begin early in the Lawrence career. Students interested in this program should talk with their faculty advisors not later than the beginning of the sophomore year. Students should coordinate their plans with the program advisor as well.

COURSES OF STUDY



ANTHROPOLOGY

Professor: R. Mason (*emeritus*)

Associate professor: Peregrine (chair)

Assistant professors: Daughtry*, Walsh

Adjunct professor: C. Mason

Adjunct associate professor: Hemwall (dean of student academic services)

Adjunct assistant professor: Wickens

Anthropology is the study of humanity in all its cultural, biological, and historical variety. A synthesis of scientific and humanistic concerns and methods, it attempts to distinguish universal human characteristics from those unique to individual social groups.

The insights of anthropology are essential for a critical understanding of the problems of the contemporary world. Anthropology informs a public confronted with choices to be made in changing value systems, competing social goals, ethnic and race relations, environmental and cultural resources management, and international relations.

The anthropology program includes a range of courses and opportunities for guided independent study from the complementary perspectives of archaeology and ethnology. Faculty members provide expertise in a number of ethnographic areas, including Asia and North Africa, Latin America, North America, and Europe. Topical interests include cultural evolution, prehistory, race and racism, peasant societies, hunters and gatherers, gender and family, ecological anthropology, psychological anthropology, the anthropology of religion, the anthropology of education, language and culture, and economic development. The department maintains a well-equipped archaeological laboratory as well as collections of archaeological and ethnographic materials from many culture areas.

The anthropology major and minor

Anthropology is built around a shared core of culture theory, and two principal paths lead into the discipline, one via the social science orientation of ethnology and the other via the natural science

orientation of physical anthropology and prehistoric archaeology. Either of these two paths (Anthropology 110 or 140) serves as the foundation for most of the mid-level courses. Students wishing a general introduction to the entire field are encouraged to take both Anthropology 110 and 140. Majors and minors are required to do so.

Required for the anthropology major

1. Anthropology 110: *Cultural Anthropology*
Anthropology 140: *Biological Anthropology*
2. Mathematics 107 (any section): *Elementary Statistics* or Mathematics 117 or Mathematics 207: *Introduction to Probability and Statistics*
3. Anthropology 200: *History of Anthropological Ideas*
Anthropology 210: *Research Methods in Cultural Anthropology*
Anthropology 220: *Research Methods in Archaeology*
Students are expected to complete these courses during their sophomore year and no later than the end of their junior year.
4. Anthropology 600: *Senior Research Seminar*
5. Four six-unit elective courses in anthropology, including at least one upper-division seminar (courses numbered in the 500s). (Anthropology majors are urged to take several of these seminars in their junior and senior years.)

Required for the anthropology minor

1. Anthropology 110: *Cultural Anthropology*
Anthropology 140: *Biological Anthropology*
2. Three six-unit electives in anthropology, selected from courses numbered 200 and above, except Anthropology 600.
3. One six-unit upper-division seminar (courses numbered in the 500s)
4. C average in the minor

*On leave Term II

Courses

ANTH 110

Cultural Anthropology

An introduction to the nature of culture, the organization of social relations, and the relationships between values and behavior. Attention to the human use of culture in adapting to environments and to language, technology, kinship, and religion as cultural systems. Case studies of Western and non-Western peoples. 6 units.

Enrollment limit: 40

ANTH 120

World Prehistory

An introduction to the peoples and cultures of the world from 40,000 years ago to 2,000 years ago. Major events in world prehistory, such as the origins of agriculture, the rise of cities, and the spread of states, are examined and discussed. General trends in cultural evolution are proposed and evaluated. 6 units.

Enrollment limit: 40

ANTH 140

Biological Anthropology

An exploration of the human organism from an anthropological perspective. Points of emphasis include human use of the environment, human evolution, and the concept of race. 6 units.

Enrollment limit: 40

ANTH 200

History of Anthropological Ideas

A study of the development of anthropology as a scholarly discipline and a method of inquiry. Consideration of theoretical perspectives such as evolutionism, historical particularism, functionalism, cultural materialism, interpretive approaches, and also the significance of participant-observation and other field research strategies in shaping anthropological knowledge. 6 units.

Prerequisites: Anthropology 110 or 140; preferably both (non-anthropology majors must have instructor's approval to register)

Recommended for anthropology majors in the sophomore year; must be completed by the end of the junior year.

ANTH 210

Research Methods in Cultural Anthropology

An introduction to basic assumptions and methods of

research in sociocultural anthropology, including participant observation, ethnographic interview, focus groups, cognitive methods, survey, and census. Students gain hands-on experience in research. 6 units.

Enrollment limit: 20

Prerequisite: Anthropology 110 or 140, preferably both (non-anthropology majors must have instructor's approval to register)

Recommended for anthropology majors in the sophomore year; must be completed by the end of the junior year.

ANTH 220

Research Methods in Archaeology

Presents the research process in archaeology and offers an overview of essential data-collection and analysis techniques, including site survey and excavation, settlement pattern analysis, lithic analysis, and ceramic analysis. Students work with material from the Lawrence University collections and take part in field research. 6 units.

Also listed as Environmental Studies 260

Enrollment limit: 20

Prerequisites: Anthropology 110 and 140 and Mathematics 107 or 207 (non-anthropology majors must have instructor's approval to register)

Recommended for anthropology majors in the sophomore year; must be completed by the end of the junior year.

ANTH 302

The Family in Cross-Cultural Perspective

A study of the ways that family life varies cross-culturally. Attention to the relationships between family systems and human biology, ecology, and the symbolic and ideological aspects of culture. Case studies of family life in Western and non-Western societies. 6 units.

Enrollment limit: 30

Prerequisite: Anthropology 110 or 140

Not offered in 2003-04

ANTH 304

Ritual, Power, and Ecstasy

An introduction to classical and contemporary approaches to the interpretation of myth, ritual, belief, and religious experience. Though the course reviews a wide variety of religious forms, special

attention is paid to mystical and ecstatic experiences, spirit possession, and altered states of consciousness. Additional focus on the relationships among religion, power, and social hierarchies. 6 units.

Also listed as Religious Studies 340

Enrollment limit: 35

Prerequisite: One course in either anthropology or religious studies

Not offered in 2003-04

ANTH 306

Women and Men in Cross-Cultural Perspective

An anthropological approach to the study of gender, the sexual division of labor, marriage, and reproduction. Emphasis on biosocial and comparative/historical perspectives that emphasize universals and commonalities across cultures as well as the uniqueness of male/female experience cross-culturally. 6 units.

Also listed as Gender Studies 350

Enrollment limit: 35

Prerequisite: Anthropology 110 or Gender Studies 100

ANTH 308

Emotion, Identity, and Culture

Analysis of the ways that culture shapes the emotional life and identity of the individual. Attention to the development of a sense of self in childhood experience, to life cycle changes and rites of passage, and to the expression of emotion and identity in cultural poetics, gender concepts, religion, and everyday life. 6 units.

Enrollment limit: 35

Prerequisite: Anthropology 110 or 140

Not offered in 2003-04

ANTH 310

Ecological Anthropology

A study of relationships between human communities and their natural environments (*i.e.*, humans studied as members of ecosystems). Topics include the interactions between environment, human biology, and social organization and anthropological perspectives on global environmental problems. 6 units.

Also listed as Environmental Studies 265

Prerequisite: One anthropology course or consent of instructor

ANTH 312

Economy and Society

An examination, from a comparative and historical perspective, of economic institutions and behavior in market and non-market societies. The relationship among economy, society, and culture is explored through several different theoretical approaches. Topics include production, distribution, consumption, peasantry, and development. 6 units.

Enrollment limit: 35

Prerequisite: Sophomore standing or consent of instructor

Not offered in 2003-04

ANTH 320

Archaeology of Gender

An examination of the relationship between gender and material culture. Focus on how gender and gender roles are reflected in the archaeological record and on the problems in identifying and determining gender roles in prehistory. Readings include studies from both the Old and New Worlds and modern theoretical approaches. 6 units.

Also listed as Gender Studies 351

Prerequisite: Anthropology 110 or 140 or consent of instructor

Not offered in 2003-04

ANTH 324

Archaeology of the Prehistoric Aegean

A study of archaeological investigations in the Aegean region — Greece, Crete, the Cycladic Islands, and western Turkey. Emphasis on the evidence of cultural development from Palaeolithic hunter-gatherers and Neolithic farmers and herders through the development of the Bronze Age “palace” civilizations of the Minoans and Mycenaeans. 6 units.

Also listed as Classics 365

Not offered in 2003-04

ANTH 330

Language and Culture

An examination of language and other cultural symbolic systems used to formulate and communicate meanings. Attention to social factors in language use, including ethnicity, social class, gender, and the nation-state. Some consideration of the ways that language both reflects and influences people's ways of thinking. 6 units.

Also listed as Linguistics 330

Enrollment limit: 35

Prerequisite: Anthropology 110 or 140

ANTH 350

Indians of North America

A cultural study of the Indians of North America, including examination of the impact of European ideas and technology on Indian societies. Emphasis on environmental adaptations, levels of social and cultural complexity, problems of historical interpretation, and the methods and theories of ethnology and their applications to North American cultures.

6 units.

Also listed as Ethnic Studies 330

Enrollment limit: 25

Prerequisite: Anthropology 110

Not offered in 2003-04

ANTH 352

Ethnography of Latin America

An introduction to the ethnography of Mexico, the Caribbean, and Central and South America. Special attention to constructions of ethnicity, religion, gender, and nationalism and how these issues have shaped communities and nation-states. The course focuses on clashes over cultural practices as experienced and told by Latin Americans. 6 units.

Prerequisite: Anthropology 110 or consent of instructor

Not offered in 2003-04

ANTH 354

Anthropology of Mediterranean Europe

An examination of popular culture in 19th- and 20th-century Europe, concentrating on Spain, Italy, and Greece. Topics include gender and familial relationships; social stratification; religion, ritual, and belief; regional and ethnic identities; and relations between the city and the countryside. 6 units.

Prerequisite: Anthropology 110 or 140

Not offered in 2003-04

ANTH 358

Ethnography of the Middle East and North Africa

Introduction to the diversity of social organization and cultural practice in the Middle East and North Africa. Focus on contemporary Arab and Islamic

societies and their ethnic and religious minorities.

Topics include tribalism, colonialism, gender, religious practices, migration, and the politics of identity.

6 units.

Enrollment limit: 25

Prerequisite: Anthropology 110 or consent of instructor

Not offered in 2003-04

ANTH 360

Ethnography of India

Introduces the complexity of Indian society and culture through the study of ethnographies of religious life, kinship, social organization, and economy in the colonial and post-colonial periods. 6 units.

Enrollment limit: 35

Prerequisite: Anthropology 110 or 140

Not offered in 2003-04

ANTH 362

Ethnography of Sub-Saharan Africa

A comparative study of the societies and cultures of sub-Saharan Africa, with emphasis on Africa as a place where local histories are tied to the global economy. Topics include history, literature, ecological adaptation, social organization, and social change. 6 units.

Also listed as Ethnic Studies 230

Enrollment limit: 25

Prerequisites: Anthropology 110 or History 120 or History 125 or consent of instructor

Not offered in 2003-04

ANTH 364

Ethnography of China

An examination of ethnographies on "traditional" as well as contemporary China. Questions of social change and continuity, social organization (including kinship, religious and political structures), economic structures and change, gender, ethnicity and nationalism, and contemporary issues of over-population, migration, and social control are explored. 6 units.

Also listed as East Asian Languages and Cultures 364

Enrollment limit: 25

Prerequisite: Anthropology 110 or consent of instructor

ANTH 374

Identity and Place: Diaspora Experience in Comparative Perspective

An exploration of similarities and differences in diaspora experiences. Issues explored include the relationship between place and identity, memory and identity, notions of home and homeland, gender and class in diaspora communities, and assimilation versus resistance. Emphasis is given to African or black diaspora communities. 6 units.

Enrollment limit: 25

Prerequisites: Sophomore standing and one course in anthropology or consent of instructor

ANTH 406

Sexualities

An examination of how sexual desire, practice, and identity vary both within and between societies around the world. Explores topics such as homosexuality, the sex industry, sexual violence, and AIDS in both Western and non-Western contexts. Attention to the relationships between sexuality, race, class, and gender. 6 units.

Also listed as Gender Studies 550

Enrollment limit: 20

Prerequisites: Anthropology 110 or 306 or Gender Studies 100 or consent of instructor

Not offered in 2003-04

ANTH 420

Geoarchaeology

An exploration of depositional environments and burial processes associated with archaeological sites. Interpretation of paleoenvironments of buried soils and strata will be emphasized. 6 units.

Also listed as Geology 230

Prerequisites: Geology 110 and Anthropology 140

Not offered in 2003-04

ANTH 450

Senegalese Culture

A seminar that will take students to French-speaking West Africa for ten weeks. Study abroad will include both the French and Wolof languages, Senegalese history and culture, and African literature written in French. Varied excursions will help students to appreciate, discuss, and analyze cultural differences. 6 units.

Also listed as French 400

ANTH 500

Topics in Anthropology

An examination of a particular topic in contemporary anthropology. The specific topic investigated changes each year. Students are expected to carry out independent research on the topic, either through a review of relevant literature or through field or laboratory work. 6 units.

Enrollment limit: 10

Prerequisites: Junior standing and at least two courses in anthropology

Topic for 2003-04:

North American Indians on Film

The course examines the ways in which North American Indians have been depicted on film. Ethnographic, documentary, and feature films are examined and compared to understand how film has shaped our image of North American Indians.

ANTH 502

Ethnographic Writing

An examination of ethnographic writing as a disciplinary, social, and creative practice. Three themes are considered: dominant practices in ethnographic writing (both current and historical), genres and stylistic practices in ethnographic writing (e.g., journalism, travel writing, poetry, as well as formal anthropological accounts), and the experience of ethnographic writing (in which students compose their own ethnographies). 6 units.

Enrollment limit: 15

Prerequisites: Junior standing and at least two courses in anthropology

Not offered in 2003-04

ANTH 504

Fictions of Africa

An exploration of African culture and history through literature. Issues to be explored include gender, family and lineage, colonialism, religion, ethnicity, modernization, and development. Readings will consist mainly of English-language novels about Africa written by African authors. 6 units.

Enrollment limit: 15

Prerequisites: Junior standing and at least two other courses in the social sciences

Not offered in 2003-04

ANTH 506

Anthropology of Human Rights

An examination of human-rights issues from an anthropological perspective. Attention is paid to cultural relativism, changing notions of culture and agency, and universalist models of human rights. Issues such as female circumcision, abortion, child abuse, and indigenous rights are examined in larger global contexts with specific consideration of the varying notions of personhood, childhood, and gender they invoke. 6 units.

Enrollment limit: 15

Prerequisites: Junior or senior standing and at least two courses in the social sciences

Not offered in 2003-04

ANTH 510

Contemporary Debates in Anthropology

A consideration of current debates in anthropology on issues surrounding representation, ethics, research techniques, the nature of culture, and political positions. These issues are examined in relation to previous anthropological theory and current social scientific thought. 6 units.

Enrollment limit: 15

Prerequisites: Junior or senior standing and at least two courses in the social sciences

ANTH 520

Topics in Archaeology

An examination of a particular topic in contemporary archaeological research. The specific topic investigated changes each year. Students are expected to carry out independent research on the topic, either through a review of relevant literature or through field or laboratory work. 6 units.

Not offered in 2003-04

ANTH 600

Senior Research Seminar

A capstone experience for students in anthropology. Students choose a question of interest and develop a research program to investigate it. Students are expected to build a model and develop hypotheses, based on appropriate theory, for answering their question; select variables and operationalize them; design an appropriate data-collection strategy; and conduct a thorough literature search. Seminar meetings

will be spent discussing, as a group, problems and issues raised by individual students' projects, as well as issues currently under discussion by the field of anthropology as a whole. 6 units.

Prerequisites: Anthropology 200, 210, and 220 and senior standing (non-anthropology majors must have instructor's approval to register)

ANTH 190, 390, 590, 690

Tutorial Studies in Anthropology

Advanced study of selected topics. Obtain permission of instructor before registration. Variable credit.

Prerequisite: Junior or senior standing

ANTH 195, 395, 595, 695

Internship in Anthropology

Applied work in anthropology arranged and carried out under the direction of an instructor. Variable credit.

Prerequisite: Junior or senior standing

ANTH 199, 399, 599, 699

Independent Study in Anthropology

Advanced research. Students considering an honors project should register for this course, for one or more terms (see "Honors at Graduation," page 275). Obtain permission of advisor before registration. Variable credit.

Prerequisite: Junior or senior standing

Recent tutorial topics in anthropology

Myth, Symbolism, and Ritual

Women of Africa

Language Diversity and Language Policy in India

Ecological Feminism

Archaeology in Cultural Resource Management

Plagues

ART AND ART HISTORY

Professors: Lawton, Orr (chair)

Assistant professors: Boylan, D'Uva, Neilson

Instructors: Case, Lewis, Lindemann, Roenning, Shimon

An integral part of a liberal arts curriculum, the courses of the art and art history department encourage aesthetic awareness and appreciation by emphasizing the interdependence of art-making, art history, and other creative and intellectual fields. A major is offered in either studio art or art history, and certification for teaching K-12 is available in conjunction with the studio art major. A student may complete a double major in studio art and art history by fulfilling the requirements for each major. Students planning to major in studio art and/or art history should take the introductory courses required for the major (Art 100 and 110, Art History 100 and 102) in their freshman and sophomore years. Students may take a maximum of 126 units in the art department, provided that no more than 90 are in either studio art or art history.

Studio art

Art history requirements and courses, page 43

Required for the studio art major

1. *A minimum of eight studio art courses (48 units) to include:*
Art 100 and 110
One two-dimensional and one three-dimensional course (6 units each) at the 200 level
At least four courses (24 units) numbered 300 or above, of which at least one (6 units) must be numbered 500 or above
A grouping of works in the senior exhibition
2. *Three art history courses (18 units) to include:*
Art History 100 and 102
One art history course (6 units) with an emphasis on the 20th century: Art History 242, 272, or 550

Required for the studio art minor

1. *A minimum of six studio art courses (36 units) to include:*
Art 100 and 110
One course (6 units) numbered 500 or above
Three additional courses (18 units)
2. *C average in the minor*

Certification for teaching K-12

Studio art majors may enroll in a program for certification to teach art in grades K-12. Studio art course requirements for certification must be taken in conjunction with or in addition to the studio art major requirements. The required art courses for certification include Art 200, 220, 250, 310, 580, and 582.

It is highly recommended that studio majors planning for certification consider additional courses that expand their knowledge base of media and process. Recommended courses: Art 230, 260, 270, and 340.

Note: As of August 2004, candidates for licensure must pass a state-mandated test in art in order to complete the teacher education process and be licensed.

Education requirements: Education 180, 310, 340, 350, 550, 650.

A declaration to student teach must be made by the end of the sophomore year. Student teaching is always done in a 13th term. For other general regulations governing students seeking certification to teach, see the Department of Education, page 87.

Students intending to complete the program in art certification should declare their intention to the chairs of the Department of Art and Art History and the Department of Education as early as possible, preferably before the end of the sophomore year.

Studio art courses

ART 100

Introduction to Studio Art

An introduction to the basic elements of drawing,

design, and color theory through work in both two and three dimensions. 6 units.

Enrollment limit: 20

ART 110

Drawing

An introduction to drawing and the various media used in drawing. Emphasis on composition and analysis of forms. Principles explored include the spatial relationship of elements, linear perspective, line, value, shape, and volume. 6 units.

Enrollment limit: 20

ART 200

Painting

An introduction to painting as a means of visual expression. Topics include technical and formal principles of painting with an emphasis on basic color theory, color mixing, composition, and visual communication. 6 units.

Enrollment limit: 15

Prerequisite: Art 100 or 110

ART 220

Printmaking

An introduction to relief, lithography, and intaglio techniques in printmaking. Techniques include woodcut, linoleum cut, dry point, and planographic processes. 6 units.

Enrollment limit: 15

Prerequisite: Art 100 or 110

ART 230

Photography

An introduction to 35mm black and white photography. Camera operation and darkroom instruction, as well as lectures and discussions on the history and aesthetics of photography as a fine art. 6 units.

Enrollment limit: 10

Prerequisites: Art 100 and one 200-level studio art course

ART 250

Ceramics

An introduction to basic techniques in handbuilding, surface development, and glazing for sculptural ceramic forms. Slide lectures treat historical and contemporary approaches to expressive work in the ceramic medium. 6 units.

Enrollment limit: 10

Prerequisite: Art 100

ART 260

Metals

An introduction to various techniques in non-ferrous metalsmithing, including forming, soldering, cold connections, and patination. Discussions will focus on technical and conceptual developments. 6 units.

Enrollment limit: 10

Prerequisite: Art 100 or 110

ART 270

Sculpture

An introduction to the concepts and processes of sculpture, including work in clay, plaster casting and carving, woodworking, assemblage, and found object. Discussions will focus on contemporary sculpture and technical and conceptual development. 6 units.

Enrollment limit: 15

Prerequisite: Art 100 or 110

ART 300

Intermediate Painting

A continuation of Art 200, exploring more complex principles of visual expression. Emphasis on painting techniques, observation from life, pictorial structure, and formal and theoretical interactions with content. 6 units.

Enrollment limit: 10

Prerequisite: Art 200

ART 310

Figure Drawing

An introduction to figure drawing and continued study of principles introduced in Art 110. Emphasis on major factors and concepts in figure drawing, working from live models. Exploration of different drawing media and of the structural, anatomical, and expressive factors of figure drawing. 6 units.

Enrollment limit: 20

Prerequisite: Art 100 or 110

ART 320

Intermediate Printmaking

A continuation of Art 220, exploring traditional and contemporary approaches to intaglio and relief printing. Emphasis on technical and formal issues as well as printmaking as a form of visual expression. 6 units.

Enrollment limit: 10

Prerequisite: Art 220

ART 330

Seminar in Photography

A continuation of Art 230 with an introduction to the view camera and expanded darkroom instruction including historic photographic printing processes. Lectures and discussions will focus around contemporary issues, technical progress, and conceptual exploration. 6 units.

Enrollment limit: 10

Prerequisite: Art 230

ART 340

Beginning Digital Processes

An introduction to computer-assisted art, hardware, and software and an examination of their applicability to understanding art concepts and processes. Emphasis on elements and principles of design and computer applications with fine arts emphasis. 6 units.

Enrollment limit: 10

Prerequisites: Art 100, 110, and 200

ART 350

Intermediate Ceramics

A continuation of handbuilding techniques, glaze formulation, and an expanded survey of ceramics as a form of contemporary visual expression. 6 units.

Enrollment limit: 10

Prerequisites: Art 100 and 250

ART 360

Intermediate Metals

A continuation of Art 260 with an emphasis on metal forming and hollow construction. Discussions will focus around historical metalsmithing, contemporary issues, technical progress, and conceptual exploration. 6 units.

Enrollment limit: 6

Prerequisite: Art 260

ART 370

Intermediate Sculpture

A further development of concepts introduced in Art 270 and an introduction to steel-working processes. 6 units.

Enrollment limit: 10

Prerequisite: Art 270

ART 500

Advanced Painting

A continuation of Art 300. Advanced research into the technical, formal, and theoretical bases of painting media. 6 units.

Enrollment limit: 5

Prerequisite: Art 300

ART 520

Advanced Printmaking

Advanced research into multiple printmaking techniques, with exploration of formal, theoretical, and technical issues related to printmaking as an expressive art form. 6 units.

Enrollment limit: 5

Prerequisite: Art 320

ART 540

Advanced Digital Processes

A continuation of Art 340. Students will explore more advanced digital processes and concepts as they relate to the field and to contemporary art. 6 units.

Prerequisite: Art 340

ART 550

Advanced Ceramics

A continuation of Art 350. Students expand their technical skills and knowledge of ceramics and address issues in contemporary ceramic criticism. 6 units.

Enrollment limit: 5

Prerequisites: Art 350 and consent of instructor

ART 560

Advanced Metals

A continuation of Art 360. Students will explore alternative materials and concepts as they relate to the field and to contemporary art. 6 units.

Enrollment limit: 4

Prerequisite: Art 360

ART 570

Advanced Sculpture

An opportunity to advance skills developed in Art 270 and 370. Particular attention to contemporary, non-traditional forms of sculpture. 6 units.

Enrollment limit: 5

Prerequisites: Art 370 and consent of instructor

ART 190, 390, 590, 690**Tutorial in Studio Art**

Offered for intermediate and advanced study in studio art. Apply to the instructor at least one term in advance with a written proposal and a preliminary bibliography. Variable credit.

Prerequisites: The most advanced course offered in the medium in question and consent of instructor

ART 199, 399, 599, 699**Independent Study in Studio Art**

Advanced studio art for students preparing for the senior exhibition or doing honors projects (see Honors at Graduation, page 275). Variable credit.

Prerequisites: The most advanced course offered in the medium in question and consent of instructor.

Recent tutorial topics in studio art

Advanced Painting
Advanced Printmaking
Advanced Sculpture
Advanced Ceramics

Art education courses

Certification for teaching K-12, page 40

Note: Art education courses may not be used to satisfy requirements for the studio art major.

ART 580**Art in the Elementary School**

Art class observations, studio practice in both two- and three-dimensional disciplines, studio demonstrations/lectures, and selected readings and discussions relative to the visual expression of the primary and intermediate elementary school child. 6 units.

Prerequisites: Four studio art courses, Education 180 and 330, and two art history courses

ART 582**Art in the Secondary School**

Art class observations, studio practice in both two- and three-dimensional disciplines, studio demonstrations/lectures, and selected readings and discussions relative to the visual expression of the junior and senior high school student. 6 units.

Prerequisites: Four studio art courses, Education 180 and 330, and two art history courses

Art history

Studio art requirements and courses, page 40

Required for the art history major

1. *A minimum of ten art history courses (60 units) to include:*
Art History 100 and 102
One 200- or 300-level course (6 units each) in each of the following periods: Ancient, Medieval, Renaissance and Baroque, and Modern
One seminar numbered 500 or above (6 units)
2. *Two studio art courses (12 units) to include:*
Art 100
One course at the 200 level or above (6 units)

Required for the art history minor

1. *A minimum of six art history courses (36 units) to include:*
Art History 100 and 102
Three courses at the 200 or 300 level (6 units each) to be taken from at least two of the following periods: Ancient, Medieval, Renaissance and Baroque, and Modern
One course numbered 500 or above (6 units)
2. C average in the minor

Recommendations

Art history majors are urged to coordinate with their studies participation in one of Lawrence's international off-campus programs or the program at the Newberry Library in Chicago. Studio art majors are also encouraged to plan their studies to allow for participation in the international programs or in the Chicago Semester in the Arts (see "Off-Campus Programs," page 250).

Art history majors, particularly those considering graduate studies, are strongly encouraged to begin the study of German and/or French in the freshman or sophomore year.

Art history courses**ARHI 100****Survey of Western Art I: Ancient to Medieval**

An introductory survey of the art and architecture of the ancient Near East and of Europe from the Prehistoric through the Gothic periods and an introduction to methods of viewing art in its historical and cultural context. 6 units.

ARHI 102**Survey of Western Art II: Renaissance to Modern**

An introductory survey of the art and architecture of Europe and North America from the Renaissance to the Modern era. Particular emphasis on viewing works of art and architecture within their historical and cultural context. 6 units.

ARHI 200**Archaic and Classical Greek Art**

A study of Greek art and architecture to the end of the fourth century B.C. Topics include the great sanctuaries at Olympia, Delphi, and Athens; the development of mythological narrative in sculpture and vase painting; the political and propagandistic function of Greek art; and the beginning of portraiture. 6 units.

Also listed as Classics 340

Prerequisite: Art History 100 or sophomore standing

ARHI 202**From Alexander to Kleopatra: Art of the Hellenistic Age**

A study of Greek and Greek-influenced art from the time of Alexander the Great to the Roman conquest of Egypt in 31 B.C. Topics include portraiture and the royal iconography of the Hellenistic rulers, the development of regional styles in sculpture, and the influence of the Romans as patrons. 6 units.

Also listed as Classics 345

Prerequisite: Art History 100 or sophomore standing

ARHI 204**Roman Art**

A study of the art and architecture of the Etruscans and the Romans to the end of the Roman empire. Topics include the funerary arts of the Etruscans, the art and archaeology of Pompeii and Herculaneum, developments in imperial portraiture and historical relief, technological innovations in architecture, and the beginnings of Christian art. 6 units.

Also listed as Classics 350

Prerequisite: Art History 100 or sophomore standing

ARHI 210**Early Medieval Art and Architecture**

A survey of art and architecture in Europe and the eastern Mediterranean between the fourth and ninth centuries. Topics include Imperial-sponsored Christian art, the development of Byzantine art and architecture, the Celtic artistic tradition of northern Europe, and the

flowering of art under the Carolingian emperors. 6 units.

Prerequisite: Art History 100 or sophomore standing

ARHI 212**Later Medieval Art and Architecture**

A survey of art and architecture in western Europe during the Romanesque and Gothic periods. Topics include the art of the Pilgrimage Roads, the role of the monastic orders, regional styles, the birth of the Gothic style under the patronage of Abbot Suger, and the High Gothic cathedral. 6 units.

Prerequisite: Art History 100 or sophomore standing

ARHI 220**Art of the Italian Renaissance**

A study of the art and architecture of Italy from the late 13th century until the middle of the 16th century. Topics include patronage and the art market, the revival and influence of the antique, theories of perspective and design, and changes in the status of the artist. 6 units.

Prerequisite: Art History 102 or sophomore standing

ARHI 222**Northern Renaissance Art**

A study of the art of northern Europe during the 15th and 16th centuries. Issues addressed include changing attitudes toward naturalism, the development of portraiture, the impact of the new media of oil painting and printmaking, and the evolution of landscape painting. 6 units.

Prerequisite: Art History 102 or sophomore standing

ARHI 240**Art of the 19th Century**

A study of the development of 19th-century European and American art that traces the emergence of movements such as Neoclassicism, Romanticism, Impressionism, and Post-Impressionism. Readings and class discussion consider the impact of political instability, industrialization, imperialism, and the growth of popular culture on the production, style, and presentation of painting and sculpture. 6 units.

Prerequisite: Art History 102

ARHI 242**Art of the 20th Century**

A study of 20th-century European and American art that traces the emergence of movements such as Cubism, Surrealism, Abstract Expressionism, and Feminist Art. The

shifting meanings of art, artistic production, and the definition of the term “artist” are considered against the massive political and social changes of the 20th century. 6 units.

Enrollment limit: 35

Prerequisite: Art History 100 or 102

ARHI 244

American Art

An examination of American art, 1776-1940. This class considers the growth of landscape, genre, and history painting, as well as portraiture, in the context of changing ideas about nationalism, class, race, and gender. Architecture and sculpture are also discussed in terms of how visual culture shaped early ideas about nationhood. 6 units.

Enrollment limit: 35

Prerequisite: Art History 102

ARHI 270/271

Latin American Visual Art

The course introduces the cultures of Latin America through a survey of its major movements and artists from the early 19th century to the present. Image-based lectures will be accompanied by discussion of visual and thematically related texts (*i.e.*, biographies, letters, scholarly articles) and carefully selected fragments of videos. Taught in Spanish (271) and in English (270). 6 units.

Also listed as Spanish 575/576

Enrollment limit: 15

Prerequisite: When taught in Spanish, one 400-level Spanish course, its equivalent, or consent of instructor. When taught in English, for Spanish majors and minors, the same as when taught in Spanish; for everyone else, Art History 102, its equivalent, or consent of instructor.

ARHI 272

African-American Art

This course traces the artistic and social legacy of African-American art from the 18th century to the present day. Specifically, it focuses on the ways in which artists used creativity to confront, deny, or complicate understandings of racial identity and racism. 6 units.

Also listed as Ethnic Studies 290

Enrollment limit: 50

ARHI 300

The Art and History of Ancient Coinage

An introduction to the study of ancient coinage. Using the university's Ottilia Buerger Collection of Ancient and Byzantine Coins, this course will explore the history of ancient and Byzantine coinage and investigate the importance of coins as works of art and as historical and archaeological sources. 6 units.

Also listed as Classics 360

Enrollment limit: 15

Prerequisite: Art History 100 or consent of instructor; Art History 200 or 202 or 204 recommended.

ARHI 302

Women in Classical Antiquity

A course that examines the roles of women in ancient Greek, Hellenistic, and Roman societies, using historical, literary, art historical, and archaeological sources. Topics will include these cultures' constructions of gender and the ways in which they affected the relationship of women (and men) to social, religious, political, economic, and legal institutions. 6 units.

Also listed as Classics 355 and Gender Studies 215

Enrollment limit: 15

Prerequisite: Sophomore standing

ARHI 310

The Illuminated Book

A study of the development of the decorated, handmade book in western Europe from its earliest beginnings until the invention of printing. Topics include techniques of writing and illuminating, decorative programs of different types of books, Medieval and Renaissance calligraphy, changing relationships between text and image, and the role of the patron. 6 units.

Prerequisite: Art History 100 or consent of instructor; Art History 210 or 212 recommended

ARHI 500

Exhibition Seminar

A seminar that examines a particular topic in preparation for mounting an exhibition in the Wriston Art Center Galleries. The seminar combines lectures, reports, and discussions with instruction and firsthand experience in the preparation of the exhibition and its accompanying literature. The specific topic of the seminar changes each time the course is offered. 6 units.

Enrollment limit: 15

Prerequisite: Consent of instructor

ARHI 510**Seminar: Gothic Art and Architecture**

A seminar on the development of the Gothic cathedral in France. Topics include the origins of the Gothic architectural style, medieval building techniques and structural systems, the evolution of the High Gothic cathedral, and the architectural setting for sculpture and stained glass. 6 units.

Enrollment limit: 15

Prerequisite: Art History 210, 212 or consent of instructor

ARHI 541**Seminar: Impressionism**

This seminar focuses on the style and social commentary of French Impressionist paintings and sculpture. Topics include urbanization, gender representation, and evolving ideas about modernity. This class will also question the contemporary popularity of Impressionism and ask what that popularity means about the needs of current art audiences. 6 units.

Enrollment limit: 15

Prerequisite: One 200- or 300-level art history course

ARHI 550**Seminar: Portraiture**

A seminar exploring various definitions of portraiture, surveying the history of portraiture from antiquity to the present. Student reports and papers focus on such topics as the ruler portrait, the self-portrait, the group portrait, photography and portraiture, and portraiture and modernism. 6 units.

Enrollment limit: 15

Prerequisite: One 200- or 300-level art history course

ARHI 552**Seminar: Art and Propaganda**

A seminar examining the use of art as propaganda from antiquity to the present. The seminar will concentrate on a series of case studies in which art serves as a vehicle for state-sponsored political, social, and religious propaganda. Topics to be considered will include the Imperial image, Reformation and Counter-Reformation print propaganda, the form and function of the war memorial, and the politics of classical revival. 6 units.

Enrollment limit: 15

Prerequisite: One 200- or 300-level art history course

ARHI 580**Internship in Art Museum Practice**

Applied work in all aspects of art museum practice. Students will receive practical training, hands-on experience, and periodic lectures on the role of art museums and issues relating to museum governance, promotion, and education. Assessment will be based on weekly project performance, an end-of-term virtual exhibition, and a short paper. 6 units.

Prerequisites: Junior standing as an art history, studio art, or anthropology major, Art History 100 or 102 and at least one 200- or 300-level art history course, and consent of instructor

ARHI 190, 390, 590, 690**Tutorial Studies in Art History**

Tutorials for advanced students in art history. Apply to the instructor at least one term in advance with a written proposal and a preliminary bibliography. Variable credit.

Prerequisites: Art History 100 or 102 and the intermediate-level course in the area to be studied

ARHI 199, 399, 599, 699**Independent Study in Art History**

Advanced study for students doing honors projects in art history (see "Honors at Graduation," page 275). Variable credit.

Prerequisites: Art History 100 or 102, the 200- or 300-level course in the area to be studied, and consent of instructor

Recent tutorial topics in art history

Hellenistic Royal Portraiture

Women in Classical Athens

The Medieval Architecture of Cistercian Nunneries

Medieval and Renaissance Alchemical Illustrations

English Gothic Art and Architecture

The Nuremberg Chronicle

The Harlem Renaissance

BIOLOGY

Professors: Maravolo, Perreault, Rence

Associate professors: B. De Stasio (chair), E. De Stasio, Wall*

Assistant professor: Sedlock

Students come to Lawrence with varied interests in the life sciences. A pre-medical or pre-dental student may want preparation an oceanographer or forester does not need. A botanist is more excited about some experimental techniques than is a zoologist. Ecologists look at problems that a molecular biologist or a neurobiologist would find less appealing. One individual may wish to be specialized, another to be a generalist with a broader background. To accommodate this heterogeneity, the biology department has designed its program to provide as much flexibility as possible.

Philosophically, the department encourages an open-ended, original, experimental approach to life science. Beyond the introductory sequences in biology and chemistry, there is no prescribed program for students. This approach begins in Biology 110: *Principles of Biology*, in which all department faculty members participate. Students design, conduct, and interpret their own projects and present their results at a mock professional meeting at the end of the term.

Experimental work becomes progressively more sophisticated and creative in advanced courses. All courses are designed to develop students' insights and capacity to synthesize information through lectures, discussions, readings, field trips, and seminars in those areas most closely related to the competence of the faculty. Most courses feature intensive laboratory instruction where students use advanced research equipment and computer facilities to explore modern biological concepts.

All biology faculty members conduct active research programs and have employed students during the summer as assistants. Recent advances in biological research are presented in a series of talks by faculty and by scientists from other universities. Many students culminate their work in biology with

significant original research. In recent years, several papers with students and faculty as co-authors have been published in professional journals. Topics have included aquatic food chain energetics, physiology of aging, age effects on insect reproduction, and developmental changes during chick development.

Students who have strong secondary interests in chemistry, geology, or physics may construct majors involving biology and one of the other three natural sciences, using the interdisciplinary major in the natural sciences (see page 163).

A Health Careers Advisory Committee consisting of several faculty members assists undergraduates in planning individualized programs of study; in placing themselves with local health professionals for practical experience; and in gaining entrance to medical, dental, and other health-profession schools.

Students who wish to extend their classroom experiences off-campus may take advantage of the Marine Biology Term, sponsored by Lawrence, or one of several programs of the Associated Colleges of the Midwest (ACM), including a tropical ecology program in Costa Rica, and programs at the Oak Ridge National Laboratory, Woods Hole Laboratory, and Biosphere 2 (see "Off-Campus Programs," page 250).

Required for the biology major

1. Biology 110, 120, and 140
2. Chemistry 115 and 116† or 119
3. At least eight six-unit courses in biology numbered 200 or above, of which at least five must be laboratory courses
4. Participation in three terms of the Recent Advances in Biology lecture series during the senior year

Required for the biology minor

1. Biology 110, 120, and 140
2. At least four six-unit courses in biology numbered 200 or above, of which at least two must be laboratory courses.
3. C average in the minor

*On leave Term III

Required for the interdisciplinary major in the natural sciences in biology and a secondary discipline

1. Biology 110 and 120 or Biology 110 and 140
2. Physics 150 and 160 or, with the permission of the secondary department, Physics 120 and 130
3. Either
 - a. Chemistry 115 and 116 or Chemistry 119 or equivalent† or
 - b. Geology 110 (any section) and Geology 210, chosen to include the secondary discipline
4. At least ten six-unit courses in the natural sciences (biology, chemistry, geology, and physics) numbered 200 or above, with at least five in biology (of which at least three must be laboratory courses), and at least three in the secondary discipline in other departments
5. Participation in three terms of the Recent Advances in Biology lecture series during the senior year

† Under unusual circumstances students may petition the department for modification of this requirement.

Courses

BIOL 100

The Biology of Human Reproduction

An introductory lecture course focusing on human reproduction to demonstrate some basic biological principles. Discussion of aspects of molecular, cellular, and organismic phenomena related to the development of human biological complexity and consideration of current research and its impact on the individual and on society. 6 units.

Also listed as Gender Studies 180

Lecture only

Primarily for non-science majors; credit not applicable to the biology major

BIOL 103

Biotechnology and Society

An examination of basic biological principles underlying current biotechnology in the fields of human genetics and genetic engineering. Discussion of methods of basic scientific research, the impact of technology on society, and ethical problems in human and agricultural genetics. Credit not applicable to biology major. 6 units.

Not offered in 2003-04

BIOL 110

Principles of Biology

An introduction to the unified science of life. Emphasis on the experimental approach, to show the interrelationships of living things by examining their metabolism, growth and development, genetics, behavior, ecology, and evolution. 6 units.

Enrollment limit: 24 per laboratory section

BIOL 120

Introductory Botany

An introduction to the development, physiology, and evolution of plants, drawing illustrations from organisms throughout the taxon. 6 units.

Enrollment limit: 24 per laboratory section

Prerequisite: Biology 110

BIOL 140

General Zoology

An introduction to the biology of animals, including studies of the phylogeny, morphology, physiology, development, behavior, and ecology of representatives of the major phyla. 6 units.

Enrollment limit: 24 per laboratory section

Prerequisite: Biology 110

BIOL 200

Animal Behavior

A lecture and field-study course examining the principles and problems of animal behavior. Subjects include orientation, feeding, locomotion, communication, escape in time and space, biological rhythms, mate choice, and aspects of social behavior, examined from evolutionary, ontogenetic, physiological, ecological, and ethological perspectives. 6 units.

Also listed as Environmental Studies 210

Prerequisite: Biology 140

May be taken separately or as part of the Marine Biology Term

BIOL 210

Biodiversity

The influence of climate on global habitats is considered. Selected terrestrial life zones, including neotropical, paleotropical, montane, desert, cold temperate, and warm temperate, are analyzed and stresses produced by climate and habitat evaluated. Adaptive responses at the morphological and

physiological levels are investigated and scientific principles are applied to contemporary ethical issues including restoration and conservation ecology. 6 units.

Also listed as Environmental Studies 211

Lecture only

Enrollment limit: 24

BIOL 220

Invertebrate Zoology

A comprehensive introduction to 95 percent of the million or so animal species, those without backbones. Emphasis on the evolution, behavior, and ecology of the major phyla and the role of invertebrates in contemporary research programs. 6 units.

Prerequisite: Biology 140

Lecture only

Not offered in 2003-04

BIOL 230

General Ecology

An introduction to the interactions between organisms and the environment. Lectures and discussions will explore the role of physical, chemical, and biotic processes, including human activities, in determining the structure and function of populations, communities, and ecosystems. Topics will include resource availability, competition, predation, symbiosis, and natural and anthropogenic disturbances such as disease, biological invasions, pollution, and climate change. 6 units.

Also listed as Environmental Studies 220

Two lectures and one discussion session per week

Enrollment limit: 30

Prerequisites: Biology 110 and one other course in the natural sciences

Not offered in 2003-04

BIOL 231

Physiological Ecology

Biological stresses induced by environmental variables are described. Physiological and molecular responses associated with temperature extremes, drought, and nutrient and energy competition are discussed and investigated, using both field and laboratory experience. 6 units.

Also listed as Environmental Studies 212

Enrollment limit: 24

Prerequisite: Biology 110

Not offered in 2003-04

BIOL 235

Evolutionary Biology

A study of biological evolution, including natural selection, adaptation, the evolution of sex, speciation, extinction, and constraints on evolutionary change. Readings include classic and current literature. 6 units.

Also listed as Environmental Studies 213

Two lectures and one discussion per week

Enrollment limit: 14 per section

Prerequisite: Biology 120 or 140 or consent of instructor.

BIOL 237

General Endocrinology

An examination of the endocrine system, a major regulator of an animal's development, physiology, and behavior. Attention to both classic techniques and recent developments involving hormones and other chemical mediators such as neurohormones, neurotransmitters, pheromones, and chemical inductors. 6 units.

Lecture only

Prerequisite: Biology 140

BIOL 240

Morphogenesis of the Vertebrates

A modified "programmed self-instruction" course providing the materials and guidance necessary to gain an integrated concept of ontogenetic and evolutionary organogenesis. 6 units.

Lecture and laboratory

Enrollment limit: 24

Prerequisite: Biology 140

BIOL 241

Cell Physiology

The structure and organization of the eukaryotic cell are described and employed to understand functional interrelationships at the organelle and molecular levels. Major processes considered include external environmental control mechanisms, developmental events, the regulation of energy exchange, and membrane function. 6 units.

Lecture only

Enrollment limit: 24

Prerequisite: Biology 110

BIOL 242

Comparative Physiology

A comparative study of the variety of solutions and adaptations diverse animals can make to similar problems — obtaining and transporting oxygen, maintaining water and salt balance, utilizing food, movement, and nervous and hormonal integration. 6 units.

Enrollment limit: 12 per laboratory section

Prerequisite: Biology 140

BIOL 245

Conservation Biology

This course explores the scientific concepts related to the conservation and restoration of the Earth's biological diversity. Topics include patterns of species and ecosystem diversity, the relationship between biodiversity and ecosystem functioning, causes of extinction, assessing extinction risk, behavioral indicators, *in-situ* and *ex-situ* management strategies for endangered species, and ecosystem restoration. 6 units.

Also listed as Environmental Studies 245

Lecture only

Enrollment limit: 24

Prerequisites: Biology 110 and one other course in the natural sciences

BIOL 250

The Vegetation of Wisconsin

The principles of plant-environment interrelationships are developed through extensive field study of Wisconsin vegetation. Emphasis is placed on the manner in which physical and biological factors influence competition, adaptation, and structure in major local habitats. 6 units.

Also listed as Environmental Studies 214

Lecture and laboratory

Enrollment limit: 24

BIOL 270

Principles of Biochemistry

A course designed principally for students who do not intend to pursue careers in the molecular sciences (molecular biology, molecular genetics, developmental biology, biochemistry, or chemistry) but who, nevertheless, are curious about the chemistry and

chemical principles that underlie fundamental biological processes. Emphasis is on the structure and reactivity of biomolecules, from simple metabolites to complex enzymes. Energy production, biosynthesis, and the regulation of metabolism are considered in some detail. Student-selected topics on health, nutrition, drugs, and disease will be examined during the last week of the class. Students may not receive credit for both this course and Chemistry 340/Biology 444. 6 units.

Also listed as Chemistry 240

Lecture only

Prerequisites: Biology 110 and Chemistry 116

Not offered in 2003-04

BIOL 326

Microbiology

A study of bacteria, viruses, fungi, and algae, with particular emphasis on their physiology and the adaptations that allow them to exploit certain environments. Laboratory exercises develop skills in identification and safe handling of microorganisms. 6 units.

Enrollment limit: 24

Prerequisites: Biology 110 and Chemistry 116 or concurrent enrollment

BIOL 330

Aquatic Ecology

The principles of the ecology of fresh waters, developed through discussions, laboratory, and field investigations of the functional relationships and productivity of biotic communities as they are affected by the dynamics of physical, chemical, and biotic parameters. 6 units.

Also listed as Environmental Studies 310

Enrollment limit: 24

Prerequisite: Biology 120 or 140

BIOL 340

Topics in Neuroscience

A study of the nervous system from the perspectives of psychology and biology. Topics vary year to year and may include neuronal integration, neural development, and chemical aspects of psychoses. 6 units.

Also listed as Psychology 580

Prerequisites: Chemistry 116 or 119 and either Biology

140 and one course in psychology, or Psychology 360 and one course in biology, or consent of instructor.
May be repeated with consent of instructor

BIOL 345

Terrestrial Field Ecology

A hands-on course intended to demonstrate basic ecological principles using local terrestrial ecosystems. Field research projects will introduce students to methods in hypothesis development, experimental design, data collection, statistical analysis, and scientific writing and presentation. Research topics will include estimating population size, community structure, plant-animal interactions, and foraging behavior. 6 units.

Also listed as Environmental Studies 345

Enrollment limit: 20

Prerequisites: Biology 120 or 140 and sophomore standing

BIOL 351

Genetics

A lecture and laboratory study relating the principles of inheritance to modern concepts of the structure and chemistry of chromosomes and the molecular biology of the gene. 6 units.

Prerequisites: Sophomore standing, Biology 120 or 140, and Chemistry 115 or concurrent enrollment

BIOL 354

Molecular Biology

An interdisciplinary examination of regulatory mechanisms leading to differential gene expression. Main topics include transcription, translation, gene and protein structure. Further examination of the molecular basis of disease, including cancer, as well as the mechanisms by which viruses exploit a cell's molecular machinery. Laboratory work is experimental in approach. 6 units.

Enrollment limit: 20 per laboratory section

Prerequisites: Sophomore standing, Biology 110, and Chemistry 115

BIOL 434

Ecological Energetics

Field and laboratory experimental investigations of the transfer and transformation of energy or energy-containing materials between and within organisms and populations of aquatic ecosystems. Part of the Marine Biology Term 6 units.

Also listed as Environmental Studies 410

Prerequisites: Biology 330, concurrent enrollment in Biology 505 and 200, and consent of instructor

BIOL 444

Biochemistry

A study of biological processes at the molecular level. The course focuses principally on proteins — the workhorses of living systems — particularly their structure, function, and regulation as these relate to enzyme catalysis. A second focus is on biochemical transformations, the mechanisms whereby living systems transform simple chemicals into complex structures. 6 units.

Also listed as Chemistry 340; students may not receive credit for both this course and Chemistry 240/Biology 270

One afternoon-long laboratory per week

Prerequisite: Chemistry 252, concurrent enrollment, or consent of instructor

BIOL 453

Developmental Biology

An experimental approach to animal development with laboratory and lecture emphasis on the molecular and cellular level. Includes discussions of pattern formation, differentiation, cell interactions, gametogenesis, fertilization, and early embryogenesis. 6 units.

Prerequisites: Biology 140; concurrent enrollment in or completion of one of the following: Biology 241, 444 (or Chemistry 340), 351, or 354

BIOL 455

Advanced Biochemistry

An advanced course covering key areas of contemporary biochemistry. Topics include enzyme kinetics and the use of isotopes to establish enzyme mechanisms; protein structure, function, and folding; protein engineering; and recent advances in biochemical medicine. The course is divided between lecture and discussion, relying heavily on current biochemical literature. 6 units.

Also listed as Chemistry 440

No laboratory

Prerequisite: Chemistry 340, or Chemistry 240 and consent of instructor

BIOL 500

Biology Seminar

Seminars and readings designed to provide a better understanding of historical and modern aspects of biological problems.

BIOL 505

Coral Reef Environments

Examines the ecology of coral reef environments. Lecture, laboratory, and field components. 6 units.

Part of the Marine Biology Term.

Also listed as Environmental Studies 510

Prerequisites: Concurrent enrollment in Biology 200 and 434 and consent of instructor

BIOL 510

Modern Concepts of Embryogenesis

A broad-based study of recent advances in the field of developmental biology. Critical review of current literature on genetic, molecular, and functional studies elucidating the underlying mechanisms of embryogenesis. 6 units.

Lecture only

Prerequisites: Biology 241, 444, 351, or 354

Not offered in 2003-04

BIOL 190, 390, 590, 690

Tutorial Studies in Biology

Individual investigations of problems in biology. Variable credit.

Prerequisite: Consent of instructor

BIOL 199, 399, 599, 699

Independent Study in Biology

Individual, in-depth investigation of a specific biological problem. Students contemplating an honors project should register for this course (see "Honors at Graduation," page 275). Two or more terms may be taken. Variable credit.

Prerequisites: Senior standing and consent of instructor.

A multidisciplinary lecture series on modern biological theory and research. Biology faculty members and visiting scientists in biological and allied fields present biweekly seminars relating their research to the broader aspects of their disciplines. The topics discussed within any academic year provide a comprehensive exposure to the current frontiers of biological research. Participation for three terms required of all senior majors.

Recent tutorial topics in biology

Wolf Biology

Human Anatomy

Biostatistics

Plant Identification

Current Cancer Research

Human Genetics

Tropical Ecology

Marine Mammal Ecology

Electron Microscopy

Virology

Recent advances in biology lecture series

BIOMEDICAL ETHICS

Faculty advisors: Ansfield* (psychology),
Boleyn-Fitzgerald (philosophy), E. De Stasio
(biology), Finkler (economics)
Medical advisors: Clark H. Boren, M.D., Lee Vogel, M.D.,
and David Hathaway, M.D.

The interdisciplinary area in biomedical ethics is designed to coordinate a student's background and interests in biomedical ethics, health care public policy, and the biological sciences with a variety of more specialized approaches to the study and application of relevant principles, insights, and understandings gleaned from those backgrounds and interests. This interdisciplinary area has been designed to appeal to Lawrence students planning further work in medicine, nursing, genetic counseling, public health, and other areas of study in or related to health care.

Required for the interdisciplinary area in biomedical ethics

1. Completion of the following core courses:
 - a. Biomedical Ethics 120/Philosophy 120: *Applied Ethics: Introduction to Biomedical Ethics*
 - b. Biomedical Ethics 290/Economics 290: The Economics of Medical Care or Biomedical Ethics 495/Government 495: Health Policy
 - c. Biology 110: Principles of Biology or Biology 103: Biotechnology and Society
 - d. Biomedical Ethics 245/Psychology 245: Health Psychology
 - e. Biomedical Ethics 370/Philosophy 370: Advanced Studies in Bioethics
2. 18 additional units (but no more than 12 from any one department) from the courses listed below
3. The completion of an approved independent study project on some aspect of biomedical ethics or health policy

Independent study projects must be approved by the advisory committee. Possible contexts for projects include a Mielke, Kasel, or Hughes internship (page 57), a tutorial, an independent study course, or a health care-related project in conjunction with an

off-campus program.

Courses that fulfill requirement number 2

Anthropology 210: *Research Methods in Cultural Anthropology*
Biology 351: *Genetics*
Biology 354: *Molecular Biology*
Biology 453: *Developmental Biology*
Economics 270: *Public Sector Economics: Taxation*
Economics 275: *Public Sector Economics: Expenditures*
Economics 290: *The Economics of Medical Care*
Economics 400: *Industrial Organization*
Economics 440: *Public Expenditure*
Government 380: *Introduction to Public Policy*
Government 465: *Environmental Policy, Politics, and Justice*
Government 495: *Health Policy*
Philosophy 130: *Meditation and Virtue*
Philosophy 320: *Ethics*
Philosophy 360: *Environmental Ethics*
Philosophy 430: *Philosophy of Law*
Psychology 250: *Psychopathology*
Psychology 280 or 281: *Research Methods I and II* (only one term may count)
Psychology 450: *Clinical Psychology*
Biomedical Ethics 190, 390, 590, 690: *Tutorial Studies in Bioethics*
Biomedical Ethics 199, 399, 599, 699: *Independent Study in Bioethics*

Core courses

BIET 120

Applied Ethics: Introduction to Biomedical Ethics

The course will examine moral dilemmas created or intensified by recent advances in medical technology and study ways of analyzing those dilemmas to make them more tractable. We will focus on examples such as euthanasia and the right to die, abortion, behavior modification, allocation of scarce medical resources, *in vitro* fertilization, genetic screening and engineering, and human experimentation. 6 units.

Also listed as Philosophy 120

Enrollment limit: 35

*On leave Term I

Recommended for freshmen and sophomores

BIET 245

Health Psychology

This course explores the link between mind and body from various psychological perspectives such as social, clinical, and psychobiological. We will survey the role of stress, emotion, self-regulation, and individual differences as predictors of health and illness. We also will examine assessment, diagnostic, treatment, and ethical issues in psychophysiological disorders. 6 units.

Also listed as Psychology 245

Enrollment limit: 40

Prerequisite: Psychology 100 or sophomore standing

BIET 290

The Economics of Medical Care

An analysis of how the economic organization of medical care affects the health and well-being of the population. Topics include who is treated, how much the treatment costs, and who pays the bill. Particular emphasis given to the roles of insurance and various national health policies and reform proposals. 6 units.

Also listed as Economics 290

Prerequisite: Economics 100 or 120

BIET 370

Advanced Studies in Bioethics

A seminar examining one particular issue or set of issues in bioethics. 6 units.

Also listed as Philosophy 370

Prerequisite: Philosophy 120

BIET 495

Health Policy

A seminar addressing present and prospective health care policy in the United States. Emphasis on various contemporary health care problems, including high and rising costs, differences in access to medical service, and trade-offs between cost and quality. Specific topics include Medicare, Medicaid, medical malpractice, profit versus not-only-for-profit producers of care, and alternative delivery systems. 6 units.

Also listed as Government 495

Enrollment limit: 20

Prerequisite: Sophomore standing or consent of instructor

BIET 190, 390, 590, 690

Tutorial Studies in Bioethics

Variable credit.

BIET 199, 399, 599, 699

Independent Study in Bioethics

Variable credit.

BIOL 103

Biotechnology and Society

An examination of basic biological principles underlying current biotechnology in the fields of human genetics and genetic engineering. Discussion of methods of basic scientific research, the impact of technology on society, and ethical problems in human genetics. 6 units.

Credit not applicable to biology major

BIOL 110

Principles of Biology

An introduction to the unified science of life. Emphasis on the experimental approach, to show the interrelationships of living things by examining their metabolism, growth and development, genetics, behavior, ecology, and evolution. 6 units.

Prior registration with department required

Enrollment limit: 24 per laboratory section

Optional courses

ANTH 210

Research Methods in Cultural Anthropology

An introduction to basic assumptions and methods of research in sociocultural anthropology, including participant observation, ethnographic interview, focus groups, cognitive methods, survey, and census. Students gain hands-on experience in research. 6 units.

Enrollment limit: 20

Prerequisite: Anthropology 110 or 140, preferably both (non-anthropology majors must have instructor's permission to register)

Recommended for anthropology majors in the sophomore year; must be completed by the end of the junior year.

BIOL 351

Genetics

A lecture and laboratory study relating the principles of inheritance to modern concepts of the structure and chemistry of the chromosomes and the molecular biology of the gene. 6 units.

Prerequisite: Sophomore standing, Biology 120 or 140, and Chemistry 115 or concurrent enrollment

BIOL 354

Molecular Biology

An interdisciplinary examination of regulatory mechanisms leading to differential gene expression. Main topics include transcription, translation, gene and protein structure. Further examination of the molecular basis of disease, including cancer, as well as the mechanisms by which viruses exploit a cell's molecular machinery. Laboratory work is experimental in approach. 6 units.

Enrollment limit: 20 per laboratory section

Prerequisites: Sophomore standing, Biology 110, and Chemistry 115

BIOL 453

Developmental Biology

An experimental approach to animal development with laboratory and lecture concentration on molecular and cellular levels. Includes discussions of pattern formation, differentiation, cell interactions, gameto-genesis, fertilization, and early embryogeny. 6 units.

Prerequisites: Biology 140; concurrent enrollment in or completion of one of the following: Biology 241, 444 (or Chemistry 340), 351, or 354

ECON 270

Public Sector Economics: Taxation Analysis

An analysis of the effects of governmental taxation policies and expenditure programs on the allocation of resources and on the distribution of income. Considerable attention to analyzing the equity and efficiency implications of various tax instruments. 6 units.

Prerequisite: Economics 100 or consent of instructor

ECON 275

Public Sector Economics: Expenditure Analysis

This course examines market deficiencies including externalities and public goods as well as the policy responses to these deficiencies. Policy selection will be discussed in terms of voting behavior and public choice theory. The course also will address cost-benefit analysis, governmental subsidies, and specific government programs such as Social Security. 6 units.

Prerequisite: Economics 100

ECON 400

Industrial Organization

An analysis of behavior in industrial markets where firms' revenues or costs are interdependent. 6 units.

Prerequisite: Economics 300 or consent of instructor

ECON 440

Public Expenditure

A study of governmental expenditures in the American economy and of ways to evaluate their effects on economic efficiency and on the distribution of income. 6 units.

Prerequisite: Economics 300

Offered in 2004-05

GOVT 380

Introduction to Public Policy

A survey of public policy in the United States, analyzing issues such as welfare, environment, crime, civil rights, and others. Policy problems and case studies used to examine the theory of policy formation, decision-making, and implementation. 6 units.

Prerequisite: Government 110 or consent of instructor

GOVT 465

Environmental Policy, Politics, and Justice

This course examines aspects of America's environmental politics, policies, and justice. It will explore questions such as: Do acid rain, intractable urban smog, toxic wastes, and endangered spotted owls signify a march toward ecological disaster? Who has rights to nature, how are those rights specified, and what are the duties and responsibilities that accompany those rights? Who is setting the political agenda regarding America's environmental policies, and are they focusing on the most important priorities? How good a job are environmental policies and regulations doing, and can they balance economic concerns with environmental protection? Special attention will be given to the debates about environmental justice, by examining such questions as: Do poor and minority populations suffer disproportionately from exposure to toxic material — *i.e.*, environmental injustice? How pervasive is environmental racism? 6 units.

Also listed as Environmental Studies 470

Prerequisite: Government 110 and junior standing or consent of instructor

PHIL 130

Meditation and Virtue: Contemplative and Analytic Perspectives on Character

This course focuses on different theories of the good and of the virtues that lead to a good life. It covers a variety of readings that discuss the good and the good life and also critically examines a variety of meditations designed to cultivate moral virtues. Requirements for the class include writing two papers and undertaking a daily meditation practice. 6 units.

Enrollment limit: 35

Recommended for freshmen and sophomores

PHIL 320

Ethics

An examination of theories about how we should live. Issues include the role of rights, duties and virtues in decision making, the scope of morality, the limits of our obligations to others, and the foundations of morality. 6 units.

Prerequisite: One course in philosophy, junior standing, or consent of instructor

PHIL 360

Environmental Ethics

An examination of some ethical assumptions that might figure in discussions of environmental policy by economists, legal experts, philosophers, and policy scientists. 6 units.

Also listed as Environmental Studies 360

Enrollment limit: 30

Prerequisite: One course in economics, government, or philosophy; junior standing; or consent of instructor

PHIL 430

Philosophy of Law

An exploration of questions such as: To what extent may a decision in a legal controversy be deemed uniquely correct (as contrasted with an exercise of the judge's discretion)? What purposes and assumptions underlie branches of the law such as criminal law or torts? What are the functions of precedent? What are the various relationships between morality and the law? 6 units.

Prerequisite: One course in philosophy, junior standing, or consent of instructor

PSYC 250

Psychopathology

A study of the major psychological disorders. Theory and research into the origins of each disorder are examined from a variety of perspectives (psychoanalytic, physiological, cognitive, behavioral, and humanistic). 6 units.

Enrollment limit: 40

Prerequisite: Psychology 100 or sophomore standing

PSYC 280

Research Methods I

The first course in a two-term sequence designed to introduce psychology majors to the principles of research design, data collection, data analysis, and research report writing. This term focuses on philosophy of science, the role of theory in research, and research design. Students design an empirical project to be executed during *Research Methods II*. Sequence should be taken in the sophomore year and must be taken in consecutive terms. 6 units.

Enrollment limit: 40

Prerequisite: Sophomore standing and concurrent or previous enrollment in Mathematics 117 or Mathematics 207

PSYC 281

Research Methods II

The second course in a two-term sequence for psychology majors (see Psychology 280). This term focuses on the execution of empirical research projects, analysis of data, inferential and z of results. Students present both written and oral reports on their projects. Sequence should be taken in the sophomore year and in consecutive terms. 6 units.

Enrollment limit: 40

Prerequisite: Psychology 280

PSYC 450

Clinical Psychology

An examination of the major approaches to psychotherapy (e.g., psychodynamic, cognitive, behavioral, humanistic). Students also learn basic interviewing techniques and examine ethical and professional issues. 6 units.

Enrollment limit: 15

Prerequisites: Psychology 250, 280, 281, or consent of instructor

Internships

The Mielke Family Foundation, Inc., has endowed the program in biomedical ethics with funds for off-campus internships. Program advisors develop and maintain contacts for students in a variety of aspects of biomedical ethics. Students may, for example, choose to work with clinical geneticists on the production of advanced directives for parents of terminally ill infants, or they may work in a laboratory doing pre-natal or infant genetic screening. Students often work with health-care providers, insurers, or purchasing groups in the Fox Valley or other parts of Wisconsin. Topics might include how to ensure quality when contracting with a managed-care organization, services provided to the uninsured (the character of the safety net), and the effects of competition among managed-care organizations on costs and health outcomes. Often students use their experience in these internships as a basis for their independent-study work.

CHEMISTRY

Professors: Evans (director of information technology planning), Lokensgard (chair)
Associate Professor: Blackwell
Assistant Professors: Hall, Nordell*, Thompson

Chemistry, which has been called “the central science,” plays a crucial role in the search for solutions to many of society’s most pressing problems, including health care, pollution, resource recovery, energy production, and conservation. Indeed, the chemical industry and related health-care industry are among the major employers in the United States. Since chemistry lies at the heart of so many disciplines, a chemistry major or minor provides an ideal foundation for careers or advanced study not only in chemistry itself but in biology, geology, medicine, physics, engineering, or psychology, as well as in science education, business, or law. Building upon the broad reach of chemistry in science and society, the courses offered by the department cover all the major subdivisions of the field, allowing students to tailor their programs to fit their interests. Advanced courses and tutorials provide the chance to explore particular areas in considerable depth and detail, and the department actively sponsors independent research opportunities for majors and minors.

The purpose of the chemistry curriculum is threefold: to provide a thorough preparation in chemistry for advanced study leading to careers in research, teaching, medicine, or business and for the interdisciplinary competence increasingly needed in law, government, and environmental science; to provide the knowledge of chemistry that is pertinent to the study of other disciplines; and to provide an experience in science within the intellectual context of a liberal arts education. Students can begin at a variety of levels, depending on their backgrounds and interests. Non-scientists are welcome, both in the major sequence and in general-audience courses.

Laboratory work in courses frequently emphasizes independent projects. All of the department’s instruments and facilities are routinely

available to students; research opportunities for work with members of the faculty are available during the school year and, often, in the summer. Seniors are encouraged to participate in independent studies and research that may lead to an honors thesis and honors at graduation.

The chemistry major

Students major in chemistry for a variety of reasons and with a variety of career goals. Some are looking ahead to graduate work and careers in college or university teaching or research in academic, industrial, or government laboratory settings. Others find chemistry an excellent preparation for medical school and a career as a physician. Still others are interested in high school teaching, in management careers in the chemical industry, or in law (e.g., environmental or chemical patent practice).

The chemistry curriculum has at its core a set of courses that present the traditional subfields of chemistry (analytical, inorganic, organic, physical, and biochemistry). These courses — Chemistry 210, 250, 252, 320, 340, 370 — are intended primarily for students at the intermediate (sophomore and junior) levels and provide a solid foundation in the discipline. A number of advanced courses are also offered, some of which focus more deeply on these same subfields; others explore connections between subfields or between chemistry and other disciplines.

Although chemistry is often thought of in terms of these subfields, the requirements for the Lawrence chemistry major or minor (see following pages) are designed to emphasize common elements of these courses, not their differences. Thus, we recognize that several of the core courses share important concepts related to molecular structure, reactions and how they happen, and the challenges of designing and synthesizing new materials. Others of these courses share a focus on quantitative aspects of the discipline, from basic analytical questions (how much of some chemical is present in a sample) to highly sophisticated considerations of chemical energy, reaction rates, and equilibrium. Students can build their majors, then, by choosing combinations of

*On leave Term III

courses from these two major classifications, plus a few courses from a more advanced set. In this way, students can tailor their majors to some extent to fit their own interests and needs.

Though this provides some flexibility in the major or minor, it is still advantageous for students to complete most or all of the core courses mentioned above by the end of the junior year, if possible. Those who do so find themselves well-prepared for advanced chemistry electives, independent study, practice teaching, or participation in the Oak Ridge Science Semester in the senior year (see page 273).

Students who begin work toward the major in the sophomore year or choose to postpone some of the core courses until the senior year can still complete the requirements for the chemistry major, though they may be unable to meet all the prerequisites for some advanced electives and may be less well-prepared for independent study in some areas. It is possible to complete a chemistry major and also participate in the Oak Ridge program or one of Lawrence's other off-campus offerings. Recent majors have participated in the London Center program as well as other international programs (see "Off-Campus Programs," page 250).

Required for the chemistry major

1. *Introductory Principles*
Chemistry 115 and 116 or Chemistry 119 or the equivalent
Mathematics 140, 150, and 160 or the equivalent
Physics 150 and 160
2. Three courses from Group I, three courses from Group II, and two courses (of which at least one must be a laboratory course) from Group III
Note: No course can count in two different categories.
Group I: Structure, Properties, and Synthesis
Chemistry 220, 250, 252, 320, 340
Group II: Quantitative Chemistry
Chemistry 210, 370, 400, 410, 470, 475
Group III: Topics, Applications, and Additional Subdisciplines
Chemistry 320, 340, 400, 410, 440, 450, 470, 475
3. At least six units of credit earned in Chemistry Seminar courses numbered 380, 480, and 680

Entering students who intend to major in chemistry generally plan to complete the "Introductory

Principles" requirements in chemistry, physics, and mathematics by the end of the sophomore year, along with at least two courses from Group I and one from Group II. Typically, a third Group I course and two more from Group II are completed in the junior year, leaving the senior year for the advanced or special-topics courses and research. A student whose decision to major in chemistry is made later in the college career will find more courses pushed into the junior and senior years. Some students have completed the major even when only the introductory chemistry courses — 116 or 119 — were completed by the end of the sophomore year, but very careful planning is necessary in such cases.

The department will certify that a chemistry major's program meets the American Chemical Society's (ACS) expectations for membership if the student completes a specific program that includes a few additional courses beyond the minimum required for the Lawrence major. Specifically, such students should complete Chemistry 116 or 119, 210, 250, 252, 320, 340, 370, 410, 470, and 475, plus at least one additional course numbered 200 or above in chemistry, physics, mathematics, molecular biology, or geochemistry. A reading knowledge of a foreign language and proficiency in one computer language are also expected. There are some options for substitution on this list; interested students should consult the department chair about those on an individual basis. Students planning graduate work or teaching in chemistry are urged to consider a program that meets these ACS guidelines.

Required for the chemistry minor

A minimum of six chemistry courses to include:

1. *Introductory Principles*
Chemistry 115 and 116 or Chemistry 119 or the equivalent
2. Two courses from Group I, two courses from Group II, and one course from Group III, of which three courses must be laboratory courses and one must be numbered 400 or above

Note: No course can count in two different categories.

Group I: Structure, Properties, and Synthesis
Chemistry 220, 250, 252, 320, and 340
Group II: Quantitative Chemistry
Chemistry 210, 370, 400, 410, 470, 475

Group III: Topics, Applications, and Additional Subdisciplines

Chemistry 320, 340, 400, 410, 440, 450, 470, 475

3. At least three units of credit earned in Chemistry Seminar courses numbered 380, 480, and 680
4. C average in the minor

Required for the interdisciplinary major in the natural sciences in chemistry and a secondary discipline

Chemistry students who have strong secondary interests in biology, physics, or geology, including pre-medical or pre-professional students, may construct a major involving chemistry and one of the other three natural sciences, using the interdisciplinary major in the natural sciences (see page 163). The requirements for this major with chemistry as the primary discipline are:

1. Introductory course sequences in chemistry, physics, and either biology or geology, chosen to include the discipline of secondary interest. The introductory sequences are:

Biology 110 and 120 or Biology 110 and 140

Chemistry 115 and 116 or Chemistry 119

Geology 110 and 210

Physics 150 and 160

Advanced placement credit equivalent to any of the introductory courses may be applied to the introductory requirement.

2. Intermediate/Advanced Requirement: At least ten six-unit courses in the sciences (biology, chemistry, geology, physics), with at least five in chemistry and at least three in the secondary discipline.
3. At least six units of credit earned in Chemistry Seminar courses numbered 380, 480, and 680

Advanced placement

Students who have had the equivalent of a college general chemistry course are encouraged to take the Advanced Placement Examination in Chemistry administered by the Educational Testing Service. The department also administers an examination each September for students who have studied chemistry in high school for more than one year but who have not taken the Advanced Placement Examination. Students having sufficiently high scores on either examination may receive six units of college credit. The department also advises each student about

specific course choices, based on the examination score and the nature of the student's high school work. For example, those who receive advanced placement in chemistry may be advised to enroll in Chemistry 119 or in intermediate courses (Chemistry 210 or 320 or 250, 252).

Courses

CHEM 106

Nuclear Weapons: A History of the Science and Technology

Introduction to relevant portions of 20th-century physics and chemistry, providing students with the technical background necessary to consider policy questions related to nuclear weapons. 6 units.

Not offered in 2003-04

CHEM 111

Principles of Chemistry: Foundations

A gateway to the study of chemistry, for students with little or no high school chemistry who wish to consider a major in chemistry and/or the allied sciences or who need to review basic chemical principles. Study of basic atomic and molecular models, physical and chemical changes, mathematical relationships and manipulations, and introduction to the chemical elements and their behavior and properties. Short laboratory exercises provide skills and methods for evaluating and interpreting laboratory data and practice in qualitative and quantitative reasoning. 6 units.

Not offered in 2003-04

CHEM 115

Principles of Chemistry: Structure and Reactivity

Introduction to the study of chemistry, emphasizing structures of chemical species — atoms, ions, and molecules — and relationships between structure and chemical reactivity. Major topics may include models for atomic and molecular structure and bonding, empirical approaches to thermochemistry and equilibrium, acids and bases, descriptive chemistry of the main group elements, and solutions. 6 units.

One three-hour laboratory per week

Prerequisites: High school chemistry or Chemistry 111 strongly recommended

CHEM 116

Principles of Chemistry: Energetics and Dynamics

Introduction to the study of chemistry, emphasizing quantitative models of chemical behavior, especially those based on energy relationships. Major topics may include covalent bonding, introduction to thermodynamics, equilibrium, reaction rates, electrochemistry, nuclear chemistry, and descriptive chemistry of the transition metals and their complexes. 6 units.

One three-hour laboratory per week

Prerequisite: Chemistry 115 or the equivalent

CHEM 119

Accelerated General Chemistry

A one-term treatment of general chemistry designed primarily for freshmen with strong high school backgrounds who are considering a major emphasizing chemistry, biochemistry, or molecular biology; premedical studies; or a 3-2 chemical engineering program. 6 credits.

Three lectures and two laboratory/workshop sessions per week

Enrollment is determined by placement exam and consent of instructor

CHEM 210

Analytical Chemistry

A course in the fundamental principles of quantitative analysis, stressing both chemical and instrumental techniques. Emphasis on application of analytical chemistry to practical problems, including environmental issues, food science, biochemical systems, and industrial processes. Opportunities for individually designed projects. 6 units.

Also listed as Environmental Studies 250

Two three-hour laboratories per week

Prerequisite: Chemistry 116 or 119 or consent of instructor

CHEM 220

Introduction to Materials Science

A chemically oriented exploration of materials, emphasizing the interdependence of function, properties, structure, and composition. Materials synthesis, processing, and fabrication techniques are explored, together with their effects on the characteristics and performance of materials. Metals, ceramics, polymers, semiconductors, superconductors, and composites are considered. 6 units.

Prerequisite: Chemistry 116 or 119 or consent of instructor

Not offered in 2003-04

CHEM 240

Principles of Biochemistry

A course designed principally for students who do not intend to pursue careers in the molecular sciences (molecular biology, molecular genetics, developmental biology, biochemistry, or chemistry) but who, nevertheless, are curious about the chemistry and chemical principles that underlie fundamental biological processes. Emphasis is on the structure and reactivity of biomolecules, from simple metabolites to complex enzymes. Energy production, biosynthesis, and the regulation of metabolism are considered in some detail. Student-selected topics on health, nutrition, drugs, and disease will be examined during the last week of the class. 6 units.

Also listed as Biology 270; students may not receive credit for both this course and Chemistry 340/Biology 444

No laboratory

Prerequisite: Chemistry 116 or 119 or consent of instructor

Not offered in 2003-04

CHEM 250

Organic Chemistry I

A study of carbon compounds, with hydrocarbons discussed in detail and some of the major functional groups introduced. One six-hour laboratory per week, directed toward the synthesis and analysis of organic compounds and the elucidation of reaction mechanisms. 6 units.

Prerequisite: Chemistry 116 or 119 or consent of instructor

CHEM 252

Organic Chemistry II

A continuation of the study of carbon compounds, including additional functional groups and polyfunctional compounds. One six-hour laboratory per week, directed toward more advanced synthetic and analytic problems. 6 units.

Prerequisite: Chemistry 250

CHEM 320

Inorganic Chemistry

A survey of structures, properties, reactivities, and

interrelationships of chemical elements and their compounds. Topics include unifying principles and concepts that enable the interpretation of experimental data associated with materials. Emphasis on multidisciplinary aspects of inorganic chemistry. Laboratory projects involve synthesis and studies of compounds using a variety of experimental methods. 6 units.

Prerequisite: Chemistry 116 or 119 or consent of instructor

CHEM 340 **Biochemistry**

A study of biological processes at the molecular level. The course focuses principally on proteins — the workhorses of living systems — particularly their structure, function, and regulation as these relate to enzyme catalysis. A second focus is on biochemical transformations, the mechanisms whereby living systems transform simple chemicals into complex structures. 6 units.

One afternoon-long laboratory per week

Also listed as Biology 444; students may not receive credit for both this course and Chemistry 240/Biology 270

Prerequisite: Chemistry 252, concurrent enrollment therein, or consent of instructor

CHEM 370 **Chemical Dynamics**

Develops and explores theoretical descriptions of chemical systems: physical states, the laws of thermodynamics as applied to chemical and physical equilibria, chemical reaction kinetics, and spectroscopy. 6 units.

Prerequisites: Mathematics 120 or 140; one of the following courses: Physics 120, Physics 150, Chemistry 210, or Chemistry 252; or consent of instructor

CHEM 380 **Seminar: Perspectives on Chemistry**

A series of presentations by visiting chemists and Lawrence students, faculty, and staff, featuring current issues in chemistry, important applications of chemistry, and professional development topics appropriate to chemistry majors or minors. Approximately one meeting per week. Two or more short "reaction papers" (a short seminar critique or summary) required of each student. 1 unit, S/U only. May be repeated for credit.

Prerequisite: Sophomore standing

Offered annually in the Fall Term

CHEM 400 **Advanced Topics in Chemistry**

Studies that extend and apply concepts and skills from lower-level courses, addressing more specialized chemical problems within particular subdisciplines of chemistry, seeking answers to broader questions bridging these areas or exploring current developments in the discipline. 6 units.

Not offered in 2003-04

CHEM 410 **Instrumental Analysis**

An advanced course in instrumental methods of compound identification and analysis. Emphasis divided between instrument design and operating principles and interpretation of instrumental data. Discussion of spectroscopic, chromatographic, and electrochemical techniques. Illustrative experiments drawn from various fields of chemistry, with an emphasis on natural systems and environmental issues. 6 units.

One laboratory per week

Prerequisites: Chemistry 210, 252, and 370 or consent of instructor

CHEM 440 **Advanced Biochemistry**

An advanced course covering key areas of contemporary biochemistry. Topics include enzyme kinetics and the use of isotopes to establish enzyme mechanisms; protein structure, function, and folding; protein engineering; and recent advances in biochemical medicine. The course is divided between lecture and discussion, relying heavily on current biochemical literature. 6 units.

No laboratory

Also listed as Biology 455

Prerequisite: Chemistry 340 or Chemistry 240 and consent of instructor

CHEM 450 **Advanced Organic Chemistry**

A study of modern topics in organic chemistry, emphasizing current literature. Topics vary year to year and may include organic structure, reaction mechanisms, and synthetic methods. 6 units.

No formal laboratory; lab exercises may occasionally

substitute for lectures

Prerequisites: Chemistry 252 and 370 or consent of instructor

CHEM 470

Quantum Chemistry and Statistical Mechanics

Develops and explores theoretical descriptions of macroscopic chemical systems and their relation to the microscopic point of view: equations of state for macroscopic systems of gases, liquids, and solids at equilibrium; the microscopic quantum description of atoms and molecules in such systems; statistical methods that link the macroscopic and microscopic levels of description; and the treatment of deviations from equilibrium. 6 units.

Prerequisites: Chemistry 370, Mathematics 160, and Physics 160 or consent of instructor

CHEM 475

Spectroscopy

A study of the theory and practice of spectroscopy. Theoretical topics may include energy quantization, selection rules, and group theory. Experimental topics may include infrared, Raman, ultraviolet/visible, electron spin resonance, or nuclear magnetic resonance spectroscopies and their applications. 6 units.

Two lectures and six hours of laboratory per week

Prerequisites: Chemistry 370 or Chemistry 470

CHEM 480

Seminar: Chemical Literature

A seminar course intended primarily for junior majors and minors; department faculty and students read and discuss a series of key articles from the chemical literature. Each student writes a critical synopsis of, and leads discussion on, one paper. At least one class meeting per week. 2 units, S/U only. Senior majors may repeat the course, at a lower participation level, for 1 unit. The lower participation level involves reading the articles, participating in the discussions, and writing short "reaction papers" on two articles after the discussions.

Offered annually in Winter Term

CHEM 680

Seminar: Senior Seminar

A seminar course for senior majors, featuring two components: a) an intensive study of the work of a single distinguished chemist, culminating whenever

possible in a campus visit by that chemist, and b) individual seminar presentations by senior majors. 3 units, S/U only.

Offered annually in the Spring Term

CHEM 190, 390, 590, 690

Tutorial Studies in Chemistry

Advanced reading and/or laboratory work in chemistry on topics not covered in regular offerings. One or more terms may be elected. Available to both majors and non-majors. Variable credit.

Prerequisite: Consent of instructor

CHEM 195, 395, 595, 695

Internship in Chemistry

An opportunity to connect work experiences in industry, government, or the non-profit sector to the academic program in chemistry. Internships, either summer activities or full- or part-time work experiences during the academic year, are arranged by students in consultation with a Lawrence instructor. In each case, the academic credit (and grading) is based on related readings, discussion with the instructor, and a summary report, plus a presentation on campus, usually in the chemistry seminar series. Advance consultation and application is required, normally by the fifth week of the previous term. Variable credit.

Offered on demand

CHEM 199, 399, 599, 699

Independent Study in Chemistry

Original experimental or theoretical research in cooperation with a faculty member. Seniors considering an honors project should register for this course for one or more terms (see "Honors at Graduation," page 275). Available to both majors and non-majors. Variable credit.

Prerequisite: Consent of instructor

Recent tutorial topics in chemistry

Electron Transfer Processes in Materials Synthesis
Theory and Applications of Two-Dimensional NMR
Methods

Polymer Chemistry

Fractals in Chemistry

Geochemical Techniques

Forensic Chemistry

Mechanisms of Antibiotic Resistance

CLASSICS

Professor: Taylor (chair)
Assistant Professor: McNeill*

Classics is a quintessentially interdisciplinary field of intellectual inquiry and academic endeavor. The program of the classics department emphasizes both ancient history and the careful reading and critical study of selected Greek and Latin texts, together with formal study of the languages themselves, as a basis for further study of classical literature, art, history, linguistics, mythology, culture, and civilization.

The classics department accordingly offers three related but distinct concentrations. The traditional concentration in *classical languages* produces potential scholars well trained in both Greek and Latin and well versed in classical philology and literature and also prepares students for teaching certification in Latin. The concentration in *classical civilization* combines a modicum of Greek or Latin with the study of classical culture, ancient history, and classical art for students who desire to engage the classical world broadly and as humanistically as possible. The concentration in *classical linguistics* is designed for students of a more scientific bent, who wish to acquire a knowledge of Greek and Latin at the same time as they essay the formal, rigorous study of language science.

Placement

Students with four years of high school Latin may enroll in any Latin course numbered 400 or above; students with three years may also enroll in any Latin course numbered 400 or above but may prefer to review by enrolling in Classics 110; those with one or two years of high school Latin, would be best advised to begin anew in Classics 100. Students who have studied Greek in high school should consult with the department chair before enrolling in a Greek course.

Required for the classics major

Students may elect to fulfill the requirements of their classics major by concentrating in classical languages

(I), classical civilization (II), or classical linguistics (III), depending on their intellectual interests and postgraduate plans.

I. Classical Languages

Classics 110 and 225 or their equivalents, plus seven advanced courses, tutorials, or independent studies in Greek and/or Latin. Students who anticipate doing graduate work in classics should choose this concentration.

II. Classical Civilization

1. Classics 110 or 225, or its equivalent
2. Two courses from each of the following three sets of courses:
 - a. Classics 150, 160, 300, 310
 - b. Classics 250, 260, 270, 320, 355, Philosophy 200
 - c. Classics 340, 345, 350, 360, 365
3. Three more courses selected either from those listed in a., b., and c. above and/or from other courses or tutorials in classics

III. Classical Linguistics

Classics 110 and 225, or their equivalents, and Linguistics 150, plus three advanced courses or tutorials in classical languages and three more courses or tutorials in linguistics (Linguistics 320, 340, and 510 are especially recommended).

Required for the Greek and Latin minors

1. *Greek*: Five advanced language courses plus a tutorial in the history of Greek literature
Latin: Five advanced language courses plus a tutorial in the history of Latin literature
2. C average in the minor

International study

The curriculum at the "Centro" in Rome is considered to be an integral part of the classics department's program (see "Intercollegiate Center for Classical Studies in Rome," page 257). Consult the department chair for more details.

*On leave Term I

Foreign language requirement

Students may fulfill the university's foreign language requirement by taking any 400-level Latin literature course (prerequisites: Classics 100 and/or 110, *Beginning and Intermediate Latin*, respectively) or by taking Classics 225, *Intermediate Greek Reading* (prerequisite: Classics 125: *Intensive Elementary Greek*).

Humanities requirement

Students may fulfill the university's humanities requirement by taking any classics course taught in English or any 400-level course in Greek or Latin literature.

Courses in Latin and Greek

CLAS 100

Beginning Latin

An introductory course for both those with no background in Latin and those who seek a better understanding of the forms and basic syntax of the language. 6 units.

CLAS 110

Intermediate Latin

A continuation of Classics 100 with readings to develop experience with connected literary discourse. Selections include classical and post-classical prose and poetry. 6 units.

Prerequisite: Classics 100 or two years of high school Latin

CLAS 125

Intensive Elementary Greek

An accelerated introductory course emphasizing the basic systematic structure of Greek. Classics 125 and 225 provide students with the ability to read both classical and New Testament Greek. 6 units.

CLAS 225

Intermediate Greek Reading

A continuation of Classics 125, conducted at a similar pace. Readings from a variety of texts. 6 units.

Successful completion fulfills Lawrence's foreign language requirement.

Prerequisite: Classics 125 or its equivalent

The following courses in Latin literature have as a prerequisite either Classics 110 (or its equivalent) or three or four years of high school Latin. Successful completion of any one of these courses satisfies Lawrence's foreign language and humanities requirements.

CLAS 400

Roman Comedy

Close reading of two plays by Plautus and/or Terence, selected from the following: *Amphitryo*, *Casina*, *Menaechmi*, *Rudens*, *Andria*, *Eunuch*, *Phormio*, and *Adelphoe*. 6 units.

Also listed as Theatre Arts 274

CLAS 405

Mediaeval Latin

Reading selections include both prose and poetry, emphasize ecclesiastical and intellectual history, and document continuity and change within the Latin language. 6 units.

CLAS 410

Ovid

A study of Ovid's poetics as represented in a book of the *Metamorphoses* or the *Ars Amatoria*. 6 units.

CLAS 415

Roman Historians

A study of selections from several Roman historians, chosen to emphasize specific historical events and persons depicted on Roman coins in the university's Ottilia Buerger Collection of Ancient and Byzantine Coins. 6 units.

CLAS 420

Latin Popular Literature

Readings vary from year to year; past texts have included Augustine's *Confessions* and the *Cena Trimalchionis* of Petronius. 6 units.

CLAS 425

Horace and Catullus

Careful reading and concentrated study of selected Horatian odes and Catullan lyrics. 6 units.

The following courses in Greek literature have as a prerequisite Classics 225 or its equivalent. Successful completion of any one of these courses satisfies Lawrence's humanities requirement.

CLAS 450

New Testament Greek

Careful reading of the Gospel of John and parallel

passages in other Gospels, with special attention to variant manuscript readings. 6 units.

CLAS 455

Homer

Readings from the *Iliad* and/or *Odyssey*. 6 units.

CLAS 460

Plato

Close reading of one dialogue in Greek, such as the *Meno*, *Symposium*, or *Crito*, and of others in translation. 6 units.

CLAS 465

Greek Tragedy

A study of selected dramas such as Aeschylus' *Prometheus Bound*, the *Oedipus Tyrannus* and *Antigone* of Sophocles, and Euripides' *Bacchae* and *Medea*. 6 units.

Also listed as Theatre Arts 276

CLAS 470

Greek Lyric Poetry

A study of poems by Archilochus, Anacreon, Theognis, Sappho, Alcaeus, *et al.*, with emphasis on literary dialects and meter. 6 units.

CLAS 475

Lysias and Greek Rhetoric

Careful reading and study of Lysias' *Against Eratosthenes*, with emphasis on grammatical structures and rhetorical figures. 6 units.

Courses in classical civilization taught in English

Knowledge of Greek and Latin is not required for the following courses, which are taught in English and which therefore satisfy Lawrence's humanities requirement but not, obviously, the foreign language requirement.

CLAS 150

Survey of Greek History

A study of ancient Greek history from the Bronze Age to 146 B.C. Emphasis on the rise and fall of the Greek city-state as a political, societal, and cultural model. Readings include the historians Herodotus and Thucydides. 6 units.

Also listed as History 180

CLAS 160

Survey of Roman History

A study of the history of Rome from its origins through the Republic and Empire to 410 A.D. Emphasis on political and cultural developments and the acquisition of empire. Readings may include Livy, Tacitus, Suetonius, and the *Historia Augusta*. 6 units.

Also listed as History 185

CLAS 250

Classical Mythology

An examination of myths, legends, and folk tales selected from Greek and Roman literature and emphasizing differences in species (human/animal), gender (male/female), and nationality (Greek or Roman/barbarian). 6 units.

CLAS 260

Classical Literature in Translation

A study of several specific literary texts selected from the corpus of ancient Greek and Latin prose and poetry, read in English translation. Selections vary year to year. Most recently the topic was Greek drama. 6 units.

CLAS 270

Athletes and Heroes in Ancient Greece

A study of the "agonal drive," the competitive spirit that dominated ancient Greek culture and civilization. Emphasis on the Olympic Games and the Athenian dramatic competitions at the Festival of Dionysus. Utilizes computer-assisted instruction in addition to lectures and discussions, and videocassettes as well as texts. 6 units.

Enrollment limit: 15

CLAS 300

Periclean Athens

A study of the history of Athens from the end of the Persian Wars to the execution of Socrates. A wide range of material and topics will be considered: social and political developments, warfare, empire, diplomacy, intellectual and cultural life. Emphasis on the revolution in ideas and visions of humanity that defined the golden age of classical Greece. 6 units.

Also listed as History 235

Prerequisite: Sophomore standing or consent of instructor

CLAS 310

Augustan Rome

An introduction to ancient Rome and Roman civilization, focusing on the Age of Augustus in all its aspects: art, literature, politics, empire, law, entertainment, and society. Emphasis on the political and cultural changes that took place during this revolutionary period. 6 units.

Also listed as History 240

Prerequisite: Sophomore standing or consent of instructor

CLAS 320

Slaves and Barbarians in Greece and Rome

An examination of the cultural role of slaves and barbarians in the societies of ancient Greece and Rome. Topics to be considered include: representations in literature and art; legal and social status; and issues of labor, war, and trade. Emphasis on questions of power, identity, and assumptions of cultural superiority. 6 units.

Also listed as History 230

Enrollment limit: 15

Prerequisite: Sophomore standing

CLAS 340

Archaic and Classical Greek Art

A study of Greek art and architecture to the end of the fourth century B.C. Topics include the great sanctuaries at Olympia, Delphi, and Athens; the development of mythological narrative in sculpture and vase painting; the political and propagandistic function of Greek art; and the beginning of portraiture. 6 units.

Also listed as Art History 200

Prerequisite: Art History 100 or sophomore standing

CLAS 345

From Alexander to Kleopatra: Art of the Hellenistic Age

A study of Greek and Greek-influenced art from the time of Alexander the Great to the Roman conquest of Egypt in 31 B.C. Topics include portraiture and the royal iconography of the Hellenistic rulers, the development of regional styles in sculpture, and the influence of the Romans as patrons. 6 units.

Also listed as Art History 202

Prerequisite: Art History 100 or sophomore standing

CLAS 350

Roman Art

A study of the art and architecture of the Etruscans

and the Romans to the end of the Roman empire. Topics include the funerary arts of the Etruscans, the art and archaeology of Pompeii and Herculaneum, developments in imperial portraiture and historical relief, technological innovations in architecture, and the beginnings of Christian art. 6 units.

Also listed as Art History 204

Prerequisite: Art History 100 or sophomore standing

CLAS 355

Women in Classical Antiquity

This course examines the roles of women in ancient Greek, Hellenistic, and Roman societies, using historical, literary, art historical, and archaeological sources. We discuss these cultures' constructions of gender and the ways in which they affected the relationship of women (and men) to the social, religious, political, economic, and legal institutions. 6 units.

Also listed as Art History 302 and Gender Studies 215

Enrollment limit: 15

Prerequisite: Sophomore standing

CLAS 360

The Art and History of Ancient Coinage

An introduction to the study of ancient coinage. Using the university's Ottilia Buerger Collection of Ancient and Byzantine Coins, this course will explore the history of ancient and Byzantine coinage and investigate the importance of coins as works of art and as historical and archaeological sources. 6 units.

Also listed as Art History 300

Prerequisite: Art History 100 or permission of instructor; Art History 200, 202, or 204 recommended.

CLAS 365

Archaeology of the Prehistoric Aegean

A study of archaeological investigations in the Aegean area — Greece, Crete, the Cycladic islands, and western Turkey. Emphasis on the evidence of cultural development from Paleolithic hunter-gatherers and Neolithic farmers and herders through the development of the Bronze Age "palace" civilizations of the Minoans and Mycenaeans. 6 units.

Also listed as Anthropology 324

CLAS 500

Medical Language: Origins and Etymologies

An introduction to the origins of medical arts and

medical vocabulary in classical antiquity and to the etymological principles governing the history and derivation of medical terminology. Emphasis on specific episodes in the history of medicine and on the Greek and Latin linguistic elements in medical discourse. 6 units.

Prerequisite: Sophomore standing

CLAS 510

The Origins of War

A study of the concerns that lead states to war through analysis of the strategic and diplomatic crises that precipitated two great historical conflicts: the Peloponnesian War in 431 B.C. and the First World War in 1914. Students will regard themselves as diplomats assigned to report on the developing situations. 6 units.

Also listed as History 510

Enrollment limit: 15

Prerequisite: Junior standing or consent of instructor

CLAS 520

The Romance Languages and Their Histories

An introduction to the development of Romance languages from Latin. Emphasis on a comparative study of the structures of the modern Romance languages. Taught in English. 6 units.

Also listed as Linguistics 510 and Spanish 560

Prerequisite: Knowledge of Latin or a Romance language beyond the intermediate level or consent of instructor

CLAS 190, 390, 590, 690

Tutorial Studies in Classics

Advanced study of Greek, Latin, ancient history, classical civilization, and/or linguistics, arranged and carried out in cooperation with an instructor. Variable credit.

CLAS 199, 399, 599, 699

Independent Study in Classics

Advanced study of Greek, Latin, ancient history, classical civilization, and/or linguistics, arranged in consultation with the department. Students considering an honors project should register for this course, for one or more terms (see "Honors at Graduation," page 275). Variable credit.

Recent tutorial topics in classics

Aristotle's Poetics

Comparative Phonology of Greek and Latin

Ovid and Art

Sappho and Alcaeus

Vergil's *Aeneid*

COGNITIVE SCIENCE

Faculty advisors: Gregg (mathematics), Krebsbach (computer science), Rew-Gottfried (psychology), Ryckman (philosophy)

Cognitive science is a developing area of interdisciplinary study that investigates the nature and representation of knowledge, the structure and function of intelligence (natural and artificial), and the relation of mind to brain and machine. In studying cognitive science, students are encouraged to acquaint themselves with insights and methods from a variety of disciplines, including psychology, computer science, linguistics, philosophy, anthropology, and neuroscience.

The interdisciplinary minor in cognitive science is particularly relevant for students interested in experimental psychology, computer science, linguistics, or philosophy. Students interested in other disciplines, such as anthropology, economics, political science, neuroscience, or music theory, may also find cognitive science an important perspective from which to consider their work.

Requirements for the minor in cognitive science

1. The following three core courses:
 - a. Computer Science 470: *Artificial Intelligence* or Computer Science 100: *Exploring Computer Science*, and
 - b. Philosophy 410: *Philosophy of Mind*, and
 - c. Psychology 340: *Cognitive Psychology*
2. Five additional courses from the following (three of these courses should be in departments other than the student's major):
 - Anthropology 330/Linguistics 330: *Language and Culture*
 - Computer Science 515/Mathematics 515: *Theory of Computation*
 - Economics 410: *Game Theory and Applications*
 - Education 180: *Psychology of Learning*
 - Linguistics 150: *Introduction to Linguistics*
 - Linguistics 340: *Introduction to Syntax*
 - Linguistics 350: *Introduction to Phonology*
 - Linguistics 440: *Comparative Syntax*
 - Philosophy 300: *Epistemology*

Philosophy 400/Linguistics 400: *Philosophy of Language*

Psychology 260/265: *Developmental Psychology*

Psychology 360: *Brain and Behavior I*

Psychology 370: *Perception*

Psychology 540/Linguistics 450: *Topics in Psycholinguistics*

University Course 250/251: *Self Interest and Social Behavior* (both terms must be taken for one course toward cognitive science)

Courses

ANTH 330

Language and Culture

An examination of language and other cultural symbolic systems used to formulate and communicate meanings. Attention to social factors in language use, including ethnicity, social class, gender, and the nation-state. Some consideration of the ways that language both reflects and influences people's ways of thinking. 6 units.

Also listed as Linguistics 330

Enrollment limit: 35

Prerequisite: Anthropology 110 or 140

CMSC 100

Exploring Computer Science

An overview of computer science as a broadly based discipline. Emphasis on development of skills in algorithmic thinking, implemented in a subset of a suitable programming language. Brief coverage of selected advanced topics from computer science, applications of computing in other disciplines, and impacts of computing on society. 6 units.

Not intended as preparation for Computer Science 250 or 270

Enrollment limit: 24 per section

CMSC 470

Artificial Intelligence

Principles and programming techniques of artificial intelligence using the LISP language. Topics include computational methods and models of search, game playing, theorem proving, heuristics as a means of

improving problem-solving, and adaptive systems. 6 units.

Prerequisite: Computer Science 200

CMSC 515

Theory of Computation

A study of programming in the abstract, leading to an understanding of the precise nature and limitations of computing machines. Topics include decidable and undecidable predicates, regular and push-down automata, regular and context-free grammars, and Turing machines. 6 units.

Also listed as Mathematics 515

Prerequisites: Mathematics 300 and Computer Science 200

ECON 410

Game Theory and Applications

This course develops game theory, the mathematics of interdependent individuals seeking to promote their self interest, and focuses on applying it within economics, political science, biology, psychology, and philosophy. 6 units.

Prerequisites: Economics 300 and either Economics 400, 450, 490 or University Course 250. Credit cannot be earned for both University Course 251 and Economics 410.

Offered in 2004-05

EDUC 180

Psychology of Learning

An investigation of how people learn. Emphasis on examining modern learning principles and theories (e.g., behavioral, humanistic, cognitive, constructivist) and their implications for the educational process in schools. The nature and design of formal learning environments conducive to the emotional growth and cognitive development of children and adolescents will be considered. Approaches to instruction that promote meaningful learning and deep understanding will be explored. Practicum of 25 hours required. 6 units.

LING 150

Introduction to Linguistics

Introduction to theory and methods of linguistics: universal properties of human language; phonetic, phonological, morphological, syntactic, and semantic structures and analysis; nature and form of grammar. 6 units.

LING 340

Introduction to Syntax

An introduction to descriptive analysis of morphological and syntactic structures in natural languages with an emphasis on gaining insight into the nature of such structures, rather than on linguistic formalization. Topics include levels of representation, X-bar theory, case theory, thematic roles, the lexicon, grammatical function-changing rules, and head-complement relations. 6 units.

Prerequisite: Linguistics 150 or consent of instructor

Offered in alternate years

LING 350

Introduction to Phonology

An introduction to the formal study of phonetics, phonemics, and phonological analysis and theory. Topics include stress, syllable structure, tones, metrics, phonotactics, and links between phonology and morphology/syntax; exercises on familiar and unfamiliar languages. 6 units.

Prerequisite: Linguistics 150 or consent of instructor

LING 440

Comparative Syntax

A comparative, formal study of morphological and syntactic structures in Indo-European languages (focusing on Romance and Germanic) and non-Indo-European languages (focusing on East Asian languages). Contrastive analysis allows students to acquire linguistic insights into individual languages in light of universal grammar. 6 units.

PHIL 300

Epistemology

An examination of some basic questions concerning the nature and extent of human knowledge, focusing on the topics of skepticism, justification, certainty, the *a priori* and the *a posteriori*, and analyses of knowledge. 6 units.

Prerequisite: One course in philosophy, junior standing, or consent of instructor

PHIL 400

Philosophy of Language

An examination of major theories of meaning, reference, and cognitive content, and an attempt to understand how language functions to relate "internal" psychological states to things in the "external" world. Contemporary philosophers are emphasized. 6 units.

Also listed as Linguistics 400

Prerequisite: One course in philosophy, junior standing, or consent of instructor

Philosophy 150 recommended

PHIL 410

Philosophy of Mind

An examination of our common sense conception of mental states and processes and of attempts to answer the question, "Is our common sense conception of mental states and processes compatible with the methods and assumptions of cognitive science?" 6 units.

Prerequisite: One course in philosophy, Psychology 340, junior standing, or consent of instructor

PSYC 260

Developmental Psychology

A study of the development of behavior and mental processes from conception through middle childhood. Topics include prenatal development, attachment, children's language skills, and social and cognitive development. A variety of theoretical perspectives are covered. 6 units.

Enrollment limit: 40

Prerequisite: Psychology 100 or sophomore standing

PSYC 265

Developmental Psychology

Identical in content to Psychology 260, but requiring a weekly three-hour laboratory that involves systematic work with children to learn and apply assessment techniques and experimental methodologies for the study of development. 6 units.

Enrollment limit: 20

Prerequisite: Psychology 100 or sophomore standing

PSYC 340

Cognitive Psychology

An investigation of the mental processes involved in the acquisition, organization, and use of knowledge. Information-processing and other approaches are used to study pattern recognition, attention, memory, imagery, problem-solving, and related topics. One laboratory per week involving class demonstrations and experiments. 6 units.

Enrollment limit: 30

Prerequisite: Psychology 100 or sophomore standing

PSYC 360

Brain and Behavior I

An introduction to the structure and function of the nervous system and its relationship to behavior. Topics include cellular physiology, neuroanatomy, sensory processes, and neuropharmacology. No laboratory. 6 units.

Enrollment limit: 50

Prerequisite: Psychology 100 or sophomore standing. At least one biology course recommended

PSYC 370

Perception

An introduction to the physiological and psychological processes by which we receive, transform, and use the information from the world acquired through our senses. Special emphasis on visual and auditory perception to allow a more in-depth study of two perceptual systems and to provide information useful to those interested in the visual arts and music. 6 units.

Enrollment limit: 40

Prerequisite: Psychology 100 or sophomore standing

PSYC 540

Topics in Psycholinguistics

An examination of the nature and structure of language, integrating knowledge from linguistics, psychology, neurophysiology, and sociology. Focus on the psychological theories and experimental evidence about language production and perception. 6 units.

Also listed as Linguistics 450

Enrollment limit: 15

Prerequisite: Psychology 340, Linguistics 150, or consent of instructor

Not offered in 2003-04

UNIC 250

Self Interest and Social Behavior I

An introduction to models of individuals furthering their own self interest and to applications of these models over all areas of social behavior, whether the concern is competition versus cooperation or the use of money, sex, violence, or power. These models from decision theory and game theory are applied to rational choice or evolution within the fields of cognitive science, economics, psychology, biology, political science, philosophy, and anthropology. This course focuses on applications of models from

decision theory and of static games. 6 units.

Prerequisites: Mathematics 120 or 140

Offered in 2004-05

UNIC 251

Self Interest and Social Behavior II

A continuation of UNIC 250. This course continues with applications of static games and then focuses on applications of dynamic games. 6 units.

Prerequisite: UNIC 250. Credit cannot be earned for both University Course 251 and Economics 410.

Offered in 2004-05

COMPUTER SCIENCE

Professors: Evans (computer science), director of information technology planning, Parks* (mathematics)

Associate professors: Gregg (mathematics), Krebsbach (computer science), Sanerib (mathematics)

The mathematics department, together with other members of the faculty, coordinates computer science at Lawrence. The interdisciplinary mathematics-computer science major offers students an opportunity to combine these two disciplines, enriching both.

Computer science combines an empirical aspect — which involves implementing specific algorithms — with a theoretical aspect — which involves analysis of abstract processes using methods of applied mathematics. Both aspects of the discipline contribute to understanding what problems are amenable to computer solution and what methods are optimal.

Today, computing importantly serves academic research no less than commercial enterprise. Moreover, a disciplined exposure to computer science within the context of studies in liberal arts and sciences fosters in the student the development of clarity and precision in analysis, logic, and expression.

Prospective engineers will find that entry to computer engineering curricula can be coordinated through Lawrence's cooperative 3-2 program with engineering schools, usually with a Lawrence major in physics, mathematics, or mathematics-computer science (see "Cooperative Degree Programs," page 31).

Academic computing facilities on campus are abundant and diverse. The university's computer systems provide central computing facilities accessible from all parts of the campus and offer worldwide communication via the Internet. Data connections are possible from student rooms in residence halls. The department employs several systems dedicated to computer science instruction: DEC Alpha systems running the UNIX or Linux operating systems and a classroom equipped with high-end Intel computers. This

variety of machines offers students the opportunity to work with major operating systems and major programming languages.

Required for the interdisciplinary mathematics-computer science major

1. The core sequence: Mathematics 140, 150, 160, and Computer Science 150, 250, and 270
2. Mathematics 220 and 300
3. Computer Science 460, 510, and 515
4. 12 additional units in mathematics courses selected from among Mathematics 310, 420, 525, or 540
5. 6 additional units in a computer science course numbered 400 or above
6. Completion of an independent study project in at least one term of the senior year

In choosing electives: Mathematics 420 and 525 are recommended. Computer Science 430 or 440 is recommended for students considering a technical career or graduate study in computer science. Computer Science 410 is recommended for those considering careers in management information science. Physics 220 is recommended for students considering pre-engineering.

Required for the computer science minor

1. Mathematics 210 or 220
2. Computer Science 150 and 270
3. 18 additional units in computer science courses numbered 250 or above, one of which must be numbered 400 or above
4. C average in the minor

Tutorials

No tutorials are given for courses routinely offered, and the department does not normally permit a tutorial to satisfy a major or minor requirement for graduation.

Placement

Advanced placement and six units of Lawrence credit (for Computer Science 150) may be obtained by

*On leave Term I

scoring 4 or 5 on the A or AB computer science exam administered by the College Board. Consult the department for details and proper placement.

Courses

CMSC 100

Exploring Computer Science

An overview of computer science as a broadly based discipline. Emphasis on development of skills in algorithmic thinking, implemented in a subset of a suitable programming language. Brief coverage of selected advanced topics from computer science, applications of computing in other disciplines, and impacts of computing on society. 6 units.

Not intended as preparation for Computer Science 250 or 270

Enrollment limit: 24 per section

CMSC 150

Introduction to Computer Science

An introduction to computer programming for potential mathematics/computer science majors and other students with a strong interest in computing. Topics include elementary programming constructs, design and implementation of algorithms, and object-oriented programming. Introductory instruction in the Java language. 6 units.

Enrollment limit: 24 per section

CMSC 170

Special Topics in Computer Languages

Essential programming techniques in a specified language. Offered only on a write-for-credit S/U basis. 3 units.

Prerequisite: Computer Science 100 or 150

CMSC 250

Intermediate Programming Concepts

A study of more advanced programming techniques in the Java language, with emphasis on skills required for implementation of larger software projects. Topics include graphical user interfaces, exception-handling, multithreading, I/O streams, networking, and event-driven programming. 6 units.

Enrollment limit: 24

Prerequisite: Computer Science 150

CMSC 270

Introduction to Data Structures

A study of advanced programming and an

introduction to data structures. Topics focus on programming skills needed for the design and implementation of standard data structures such as lists, trees, and graphs and their associated algorithms. Additional topics include recursion, analysis of algorithms, and advanced aspects of object-oriented programming in the C++ language. 6 units.

Enrollment limit: 24

Prerequisite: Computer Science 150

CMSC 410

Systems Analysis and Design

An introduction to techniques for analyzing and modeling systems for implementation as computer programs. Topics include a survey of modeling methodologies for structured and object-oriented systems and case studies of system development. Also, applications of analysis and design methods to database design and design of distributed systems. 6 units.

Prerequisite: Computer Science 250

CMSC 420

Computer Graphics

The fundamentals of computer graphics and their applications in visualizing a variety of scientific phenomena. Topics include graphics primitives, two- and three-dimensional transformations, three-dimensional viewing techniques, spline curves, surface patches, hidden line algorithms, ray tracing, radiosity, texture-mapping, and fractals. 6 units.

Prerequisites: Mathematics 140 and Computer Science 270

CMSC 430

Hardware Organization

The structure and function of computers from a perspective midway between that of the electronic circuit designer (see Physics 220) and that of the assembly language programmer (see Computer Science 440). Topics include elementary digital logic, data storage devices, data flow pathways, and examples of central processor organization that illustrate micro-programming, pipelining, parallelism, and reduced instruction sets. 6 units.

Prerequisite: Computer Science 270 or consent of instructor

Physics 120 or 150 recommended

CMSC 440**Computer Architecture**

A study of computers and their system software at the level of abstraction of an architecture defined by an assembly language. Topics include instruction sets, addressing techniques, and program control mechanisms; subroutines, procedures, and macros; representation and manipulation of numeric and string data; assemblers, linkers, run-time libraries, and debugging aids. 6 units.

Prerequisite: Computer Science 270 or consent of instructor

Mathematics 220 recommended

CMSC 450**Operating Systems**

The basic principles of operating systems: implementation of multitasking systems; control and coordination of concurrent tasks, deadlocks, synchronization, mutual exclusion; storage management, segmentation, paging, virtual memory, protection, sharing, access control, file systems; resource management; evaluation and prediction of performance by both theoretical and experimental means. 6 units.

Prerequisite: Computer Science 270 or consent of instructor

CMSC 460**Programming Languages**

Current algorithmic paradigms, their implementation in programming languages, and the translation of such languages into machine operations. Topics include object-oriented programming, functional programming, logic programming, parsing theory, and the implementation of programming language constructs in terms of fundamental machine operations. 6 units.

Prerequisite: Computer Science 270

CMSC 470**Artificial Intelligence**

Principles and programming techniques of artificial intelligence using the LISP language. Topics include computational methods and models of search, game playing, theorem proving, heuristics as a means of improving problem-solving, and adaptive systems. 6 units.

Prerequisite: Computer Science 270

CMSC 510**Data Structures and Algorithm Analysis**

Advanced data structures and the time and space efficiency of the algorithms that manipulate such structures. Topics include string search algorithms, sparse matrices, union-find problems, recursion, internal and external sorting, optimized tree structures, graphs, networks, path-finding algorithms, hashing, memory-management techniques, and parallelism. 6 units.

Prerequisites: Computer Science 270 and Mathematics 220

CMSC 515**Theory of Computation**

A study of programming in the abstract, leading to an understanding of the precise nature and limitations of computing machines. Topics include decidable and undecidable predicates, regular and push-down automata, regular and context-free grammars, and Turing machines. 6 units.

Also listed as Mathematics 515

Prerequisites: Mathematics 300 and Computer Science 150

CMSC 190, 390, 590, 690**Tutorial Studies in Computer Science**

Variable credit.

CMSC 199, 399, 599, 699**Independent Study in Computer Science**

Variable credit.

Recent tutorial topics in computer science

Distributed Databases

Robotics

Parallel Algorithms

Compiler Design

Advanced Rendering Techniques

EAST ASIAN LANGUAGES AND CULTURES

Professor: Doeringer

Associate professors: Sung (chair), Yang

Assistant professor: Yamagata

The East Asian languages and cultures department provides students with a coherent study of a cultural region. This region primarily encompasses China, Korea, and Japan — countries that spring from a common historical experience and share many common values and traditions. Though language forms an important part of this study, the focus of the curriculum and major remains as much cultural as linguistic. Courses are thus taught in English as well as in East Asian languages.

Required for the East Asian languages and cultures major

All majors must develop competency in one of the two major languages spoken in East Asia. They are, therefore, required to achieve intermediate-high language proficiency either by completing three courses in Mandarin Chinese beyond EALC 203: EALC 301, 401, and 402, or by completing the equivalent of three advanced courses in Japanese, two taken abroad and one taken on campus. Participation in the off-campus Associated Colleges in China Program or the ACM program in Japan is also strongly recommended (see pages 255, 258).

Parallel with language study, EALC majors must take coursework in the history, literature, and religions of the area that illuminates its larger cultural context. They are thus required to take a minimum of five non-language courses, including the East Asian Civilization sequence EALC 140 and 150, two courses from the literary offerings EALC 260, 340, 350, or 520 and any one of the following: EALC 210, 220, 230, 265, 270, 320, 335, 410, 420, or 510.

A typical major will then include:

1. Completion of EALC 101, 102, 201, 202, 203, 301, 401, and 402 or 111, 112, 211, 212, and 213 and study in Japan and an advanced tutorial
2. EALC 140 and 150
3. Two courses from EALC 260, 340, 350, or 520

4. One course from EALC 210, 220, 230, 265, 310, 320, 365, 410, or 510

Required for the Chinese language minor

1. Completion of beginning and intermediate Chinese language courses: EALC 101, 102, 201, 202, 203, and 301 or the equivalent
2. One advanced language course
3. An exit proficiency interview
4. C average in the minor

Required for the Japanese language minor

1. Completion of beginning and intermediate Japanese language courses: EALC 111, 112, 211, 212, and 213
2. One course from EALC 265, 310, or the equivalent
3. One advanced tutorial in the Japanese language
4. An exit proficiency interview
5. C average in the minor

Required for the East Asian studies minor

1. Five courses, as follows: two civilization courses, EALC 140 and 150; one literature course from EALC 260, 340, 350, or 520; one course from EALC 210, 220, 230, 265, 310, 320, or 510; one contemporary history course, EALC 365, 410, or 420 or the equivalent
2. One additional course from the above list
3. One independent study in area of interest
4. C average in the minor

Advanced placement

Students who have studied Chinese or Japanese in high school should consult with the department chair in order to ensure their proper placement in language classes.

International study

Opportunities exist to study in both Chinese- and Japanese-speaking areas through a long-established ACM program in Tokyo and through the Associated Colleges in China Program in Beijing in the People's Republic of China (see "Off-Campus Programs," page 250).

Chinese language courses

EALC 101

Beginning Chinese I

An introduction to elementary Mandarin Chinese. Emphasis on the acquisition of basic language skills of listening, speaking, reading, and writing, with discussions to practice pronunciation, grammar, and vocabulary. Five class meetings per week. 6 units.

Enrollment limit: 20

EALC 102

Beginning Chinese II

A continuation of EALC 101 with further practice in basic language skills. Five class meetings per week. 6 units.

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 101

EALC 201

Beginning Intermediate Chinese

A course to help students attain minimal fluency in conversational Chinese and begin to read and write beyond the elementary level. Five class meetings per week. 6 units.

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 102

EALC 202

Intermediate Chinese I

Intermediate-level Chinese with further practice in conversational fluency and exposure to more difficult levels of reading and writing. Five class meetings per week. 6 units.

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 201

EALC 203

Intermediate Chinese II

Continued intermediate-level work in Chinese. Focus on developing more sustained use of Mandarin Chinese in conversation, reading, and writing. Five class meetings per week. 6 units.

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 202

EALC 301

Advanced Intermediate Chinese

An advanced Chinese course for students who want

to develop their language skills. Extensive use of contemporary print and media materials to emphasize written as well as oral proficiency while providing students with a basic cultural understanding of today's China. 6 units.

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 203 or consent of instructor

EALC 325

Destination China

A required course for students who plan to study in China on the Associated Colleges in China (ACC) Program or an equivalent program. Students will be asked to participate in weekly meetings on various topics related to contemporary China. 2 units.

EALC 401

Advanced Communicative Chinese

An advanced course, taught in Chinese, designed to strengthen the language proficiency of upper-level students, especially those returning from studying abroad in the Associated Colleges in China program. Students gain intensive practice in all communicative skills through extensive oral discussion, preparation of written reports on various social topics, and exposure to current academic essays, short stories, and films. 6 units.

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 301 and consent of the instructor

EALC 402

Advanced Readings in Chinese

An advanced course in Chinese that introduces students to texts in classical and documentary style. During the first half of the course, students review the basic grammar and vocabulary of classical Chinese through short readings in traditional classical texts. The second half builds upon this base to introduce students to contemporary readings in literature and documents, which draw heavily upon classical elements. 6 units.

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 203 or consent of the instructor

Japanese language courses

EALC 111

Beginning Japanese I

An introduction to beginning Japanese. Emphasis on the acquisition of basic language skills of listening, speaking, reading, and writing, with discussions to practice pronunciation, grammar, and vocabulary. Five class meetings per week. 6 units.

Enrollment limit: 20

EALC 112

Beginning Japanese II

A continuation of EALC 111 with further practice in basic language skills. Five class meetings per week. 6 units.

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 111

EALC 211

Beginning Intermediate Japanese

A course to help students attain minimal proficiency in conversational Japanese and begin to read and write beyond the elementary level. Five class meetings per week. 6 units.

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 112

EALC 212

Intermediate Japanese I

Intermediate-level Japanese with further practice in conversational fluency and exposure to more difficult levels of reading and writing. Five class meetings per week. 6 units.

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 211 or consent of instructor

EALC 213

Intermediate Japanese II

Intermediate-level Japanese with further practice in all four skills. A continuation of EALC 212. Five class meetings per week. 6 units.

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 212 or consent of instructor

EALC 411

Advanced Communicative Japanese

An advanced course, taught in Japanese, designed to

strengthen the language proficiency of upper-level students, especially those returning from studying in Japan. 6 units.

Enrollment limit: 20

Prerequisite: Consent of instructor

Cultural courses

EALC 140

Traditional East Asian Civilization

An introductory survey of East Asia from the dawn of indigenous civilization to the 16th century. Focus on the growth of a Sinitic center and its interaction with the sedentary and nomadic peoples on its Inner Asian and Pacific rims. Emphasis on the diverse peoples and societies of the area and the historical processes that bound them together through a common tradition. 6 units.

Also listed as History 160 and Ethnic Studies 121

EALC 150

Modern East Asian Civilization

An introductory survey of the modern history of East Asia, examining the efforts of traditional states, particularly China and Japan, to respond to Western intrusion into the region after 1600. Focus on social and cultural problems created by attempts to modernize yet defend tradition and on the differing results of Chinese and Japanese approaches. 6 units.

Also listed as History 165

EALC 210

East Asian Religious Traditions

A survey of the major religious traditions of China and Japan (ancient Chinese spirit worship, Taoism, Confucianism, Shinto, and Buddhism). Attention centers on the religious experience, patterns of ritual, world views, philosophy, and ethical insights of the traditions. 6 units.

Also listed as Religious Studies 200

EALC 220

Buddhism

A study of the development of Buddhist thought, focusing on both the Theravada and Mahayana traditions. Attention to the evolution of key religious and philosophical ideas and their impact on Buddhist practices and institutions from India to Eastern Asia. Readings include selections from the *Tripitaka*, or canonical works, as well as allied literary and

philosophical works. 6 units.

Also listed as Religious Studies 220

Prerequisite: Sophomore standing

East Asian Languages and Cultures 140 or 210 recommended

EALC 230

Taoism and Confucianism

An exploration of the development of Taoism and Confucianism, the dominant religious and intellectual traditions of China. Focus on literary and philosophical texts, including such classics as the *Dao De Jing* and *Analects*, to discern the beliefs, and thus the larger world views or perspectives, of each tradition. 6 units.

Also listed as Religious Studies 230

Prerequisite: Sophomore standing

East Asian Languages and Cultures 140 or 210 recommended

EALC 260

East Asian Classics in Translation

This introductory course explores encounters with nature in East Asian texts through close reading of primary texts in English translation — Taoist philosophy, lyric poetry, personal memoirs, and fiction — from the traditional periods of China and Japan, ending with a contemporary Japanese novel from the mid-1990s. Particular attention is paid to literary form, voice, aesthetic concerns, and issues relating to humans' relationship with nature. 6 units.

Also listed as Environmental Studies 206

Prerequisite: Sophomore standing

East Asian Languages and Cultures 140 recommended.

Offered in 2004-05

EALC 265

Introduction to Japanese Language and Culture

A survey introducing major characteristics of Japanese language with reference to the structure of Japanese society. Topics include honorifics, use of pronouns, loan words, age and gender differences in the language. The course will also familiarize students with various aspects of traditional and contemporary Japanese culture. 6 units.

Also listed as Linguistics 265

EALC 270

Southeast Asian Politics

This course serves as an introduction to the politics of Southeast Asia, a region of substantial cultural, religious, ethnic, and political diversity. Through an examination of particular states in the region, this course addresses issues of nation-state formation and national identity, political institutions and legacies, economic development, and regional inter-state cooperation. 6 units.

Also listed as Government 265

Prerequisite: Government 110 or consent of instructor

EALC 310

Introduction to East Asian Linguistics

Survey of genetic, regional, and typological classification of East Asian languages; writing systems for Chinese, Japanese, Korean, and Tibetan languages; descriptive and comparative analyses of phonological, morphological, and syntactic structures of East Asian languages. More than one language may be investigated in detail. 6 units.

Also listed as Linguistics 310

EALC 320

Readings in Asian Religious Texts

Close reading (in translation) and discussion of major primary texts from Asian religious traditions. Texts include selections from Hinduism, Buddhism, Taoism, and Confucianism in India, Tibet, China, and Japan. The course emphasizes analysis of each text as a means to a more detailed understanding of the larger tradition. 6 units.

Also listed as Religious Studies 320

Prerequisites: Religious Studies 200 or 210 or consent of instructor

EALC 335

Political Economy of East Asia

This course examines the policies and politics associated with the emergence and continued dynamism of the East Asian economies. The course will cover various debates over the roles of the state, culture, and market institutions in explaining the region's rapid economic development and the viability of current development models in a global economy. 6 units.

Also listed as Government 335

Prerequisite: Government 110 or consent of instructor

EALC 340

Classical Chinese Poetry in Translation

An introduction to different genres of classical Chinese poetry from the *Shi Jing* (Book of Poetry) ca. 1000 B.C. to 12th century Song Dynasty lyrics. Emphasis on a close reading and analysis of the original poetic texts by way of word-by-word annotations, attention to prosodic rules for each genre, and discussion of the translators' renditions. Knowledge of Chinese not required. 6 units.

East Asian Languages and Cultures 140 recommended

Offered in 2004-05

EALC 350

Modern Chinese Literature and Cinema in Translation

A survey of 20th-century Chinese fiction and cinema. Iconoclastic works of modern Chinese vernacular fiction from 1919 through the post-Cultural Revolution (1966-1976) will be juxtaposed alongside films dealing with the same period, such as *Yellow Earth* (1984) and *Farewell, My Concubine* (1992) made by the so-called Fifth Generation of film directors (born after 1949, when the People's Republic was founded). Class conducted in English. No knowledge of Chinese required. 6 units.

East Asian Languages and Cultures 150 recommended

EALC 364

Ethnography of China

An examination of ethnographies on "traditional" as well as contemporary China. Questions of social change and continuity, social organization (including kinship, religious and political structures), economic structures and change, gender, ethnicity and nationalism, and contemporary issues of over-population, migration, and social control are explored. 6 units.

Also listed as Anthropology 364

Enrollment limit: 25

Prerequisite: Anthropology 110 or consent of instructor

EALC 365

Modern Japanese History, 1868-2000

A discussion course on modern Japanese history from the Meiji Restoration of 1868 to the present. This course focuses on Japanese efforts to build a new, westernized state and society compatible with Japan's traditional "national polity" and to find a new role in

modern East Asia and the world. 6 units.

Also listed as History 365

Prerequisite: History 165

EALC 410

Chinese Government and Politics

This course explores the political development, political institutions, forms of political participation, and policymaking process in the People's Republic of China. Coverage includes the Chinese Revolution, Maoist China, and contemporary China, with an emphasis on economic reforms and political changes in recent decades. 6 units.

Also listed as Government 445

East Asian Languages and Cultures 150 or Government 110 recommended

EALC 420

Contemporary China

A discussion course on selected issues in the social and cultural history of modern China. Literature, films, documents, and historical studies are examined to explore the intimate side of personal, family, and social life and the nature and impact of social and cultural changes in 20th-century China. 6 units.

Also listed as History 360

Prerequisite: Sophomore standing or consent of instructor

East Asian Languages and Cultures 150 (also listed as History 165) recommended

EALC 510

Seminar on Zen Buddhism

Zen Buddhism is perhaps the most widely known form of Buddhism in the West — and also the most widely misunderstood. This course provides a detailed look at the history and doctrines of Zen Buddhism in China and Japan. Combining the use of original source materials (in translation) with an emphasis on intellectual history, the course covers specific doctrines that have differentiated the major schools of Zen. 6 units.

Also listed as Religious Studies 510

Prerequisite: Religious Studies 220 or consent of instructor

EALC 520

Seminar in Chinese Literature

An introduction to some of China's greatest literary

texts of a single genre, period, author, or theme. Issues addressed include gender relations, responses to traditional roles, and the development of fiction in China. Knowledge of Chinese not required. 6 units. Advanced students of Chinese language may take concurrently EALC 190, for three units, and work with the instructor to read excerpts in the original Chinese.

Topic for 2003-04: Dream of the Red Chamber

EALC 190, 390, 590, 690

Tutorial Studies in East Asian Languages and Cultures

Individualized advanced study under regular staff direction on topics not covered in lower-level courses. Variable credit.

Prerequisite: Appropriate prior courses and consent of instructor directing the study

EALC 195, 395, 595, 695

Internship in Chinese

An opportunity for students to apply their Chinese language skills in business, government, and the non-profit sector on the regional, national, and international levels. Arranged in collaboration with and supervised by a member of the department. Includes discussion, report, and/or portfolio. Advance consultation and application required. 3 units, repeatable for up to 6 units.

Prerequisite: Study abroad at the third-year level or East Asian Languages and Cultures 401 and 402

Offered on demand

EALC 199, 399, 599, 699

Independent Study in East Asian Languages and Cultures

Individualized advanced research under staff guidance to prepare a substantial paper, usually for submission for honors (see "Honors at Graduation," page 275). Variable credit.

Prerequisites: Junior standing and consent of instructor guiding the work.

Recent tutorial topics in East Asian languages and cultures

The Chinese Novel *Dream of the Red Chamber*

Topics in Chinese Linguistics

Advanced Communicative Chinese

Elites in Modern Vietnamese History

Readings in Chinese Buddhism

Contemporary Fiction

German Imperialism in Qingdao

ECONOMICS

Professors: Dana (*emeritus*), Finkler (chair)

Associate professor: Alger

Assistant professors: Higgins, Nagase

Lecturer: Raunio

Almost all choices, whether of individuals, groups, organizations, or societies, involve evaluating tradeoffs. Tradeoffs exist for managers of corporations facing bankruptcy risks, non-profit organizations facing public apathy, governmental agencies facing voter interests and bureaucratic constraints, and households facing family crises. Economics is the study of tradeoffs, especially as they arise from human desires, limitations, opportunities, and incentives. Training in economics is useful whether you want to change the world, become rich, or obtain a better understanding of human behavior.

Students of economics at Lawrence first acquire a basic knowledge of economic theories, principles, and techniques of analysis. They then apply them to a wide range of problems, from poverty and discrimination to macroeconomic stabilization policy and even to environmental degradation. Students learn early on that modern economics is an application of mathematical modeling to human behavior.

The interdisciplinary mathematics-economics major is a mathematics-rich major designed as a strong foundation for graduate work in economics. The professional economist needs a strong foundation in mathematics. It has also been well-received in technical business careers, such as investment banking, management consulting, and finance.

Required for the economics major

1. Economics 100 or 120
2. Mathematics 140 or both Mathematics 120 and 130; Mathematics 207
3. Intermediate Theory
 - a. Economics 300
 - b. Economics 320
 - c. Economics 380(Majors must take all three courses prior to completion of the junior year. The department

must approve any exception.)

4. Five additional courses numbered 200 or higher, three of which must be numbered 400-599† (Only one tutorial or independent study may count as one of these five courses.)
5. The grade-point average for the major will be computed from economics courses and from required mathematics courses.

† Students who take UNIC 250 and UNIC 251: *Self-Interest and Social Behavior* (page 209) can count that pair of courses as one of the five numbered 200 or higher.

Required for the interdisciplinary mathematics-economics major

The mathematics component of the major is:

1. Mathematics 140, 150, 160, 207, 300, and 310
2. Either Mathematics 435 or 445 and 6 units in a mathematics course numbered 400 or above, with 400, 415, and especially 435, 440, 445, or 560 recommended

The economics component of the major is:

1. Economics 100 or 120
2. Economics 300, 320, and 380
3. Any three six-unit courses numbered between 400 and 500 with Economics 500, 520, and 540 recommended

The interdisciplinary component of the major is:

1. Completion of an independent study project that has been approved by both departments.
2. A major must have an advisor in each department.

Required for the economics minor

1. Economics 100 or 120
2. Mathematics 120 or 140
3. Economics 300 and 320
4. Three more economics courses numbered 200 or higher (Only one tutorial or independent study may count as one of these three courses.)
5. C average in the minor

Recommendations

For the student intending one course

Economics 120 is especially appropriate for the student who intends to take only one economics course.

For the student interested in taking more than one course, especially if considering a degree in economics
Economics 100 is the appropriate starting point.

For the economics minor

1. Take Mathematics 140 (preferred) or both 120 and 130 as soon as possible. Also take one course in statistics.
2. Take Economics 100, a 200-level economics course, and then Economics 300.
3. Take one economics course numbered 400 or higher.

For the economics or mathematics-economics major

1. Adopt an advisor in the Department of Economics as soon as possible and speak to your advisor about the selection of a coherent set of electives.
2. Take Mathematics 140 or 120 and 130 as soon as possible. Mathematics 150 and 160 are also recommended.
3. Take Economics 100, a 200-level economics course, and then Economics 300.
4. Take Economics 300 early if you have done well in its prerequisites.
5. Students preparing for a Ph.D. in economics, public policy, or business or those preparing for an M.B.A. in a quantitative field should plan to take a number of mathematics courses and should consult the economics faculty for advice. The mathematics-economics major is particularly well-suited for these students.
6. Economics majors anticipating a career in secondary-school teaching should check state certification requirements (see the Department of Education listing on page 87).

Course structure and numbering

The 100-level introductory courses are theory courses. Economics 100 is the best preparation for taking other economics courses, and most courses at the 200 level require only Economics 100. Economics 120 is an alternative to Economics 100, but it is not an adequate preparation for some 200-level courses.

The 200-level courses apply basic theory to particular fields of inquiry. Contingent on basic 100-level preparation, the economics department strives to make the 200-level courses accessible to as many students as possible.

The 300-level courses are intermediate theory courses geared toward economics majors and minors, while the 400-level courses are advanced applications classes. The 500-level courses are graduate-school preparatory courses.

Courses

ECON 100

Introductory Microeconomics

A study of the principles, concepts, and methods of economic analysis, with a theoretical focus on the behaviors of consumers and firms. Practical applications of the theories cover the free trade debate, market responses to environmental damage, earnings inequality, antitrust legislation, and many other topics. Especially appropriate for those who intend to take additional economics courses. 6 units.

ECON 120

Introductory Macroeconomics

A study of the principles, concepts, and methods of economic analysis, with a theoretical focus on the determination of national income. Special attention given to governmental expenditure and taxation, monetary policy, inflation, and unemployment. Especially appropriate for those who only want to take one economics course. 6 units.

ECON 170

Financial Accounting

A study of accounting principles and procedures, leading to a review of financial statements and to an understanding of how accounting data are used to control and evaluate business and economic activities. 6 units.

Prerequisite: Sophomore standing

ECON 200

Economic Development

Economic analysis of particular situations and policy questions faced by developing countries. Topics include economic growth and inequality, poverty, demographics, rural-urban transitions, factor and financial markets, and trade policies. 6 units.

Prerequisites: Economics 100 or 120, and sophomore

standing

ECON 220

Corporate Finance

An analysis of financial decisions made by the firm. Topics include capital budgeting decisions under certainty and risk, financing decisions and capital market efficiency, and dividend policy and capital structure. 6 units.

Prerequisites: Economics 100 and sophomore standing

ECON 230

Labor Economics

A survey of labor economics that covers wage determination, minimum wages, employment and welfare policies, education and on-the-job training, earnings inequality, and worker migration and turnover. 6 units.

Prerequisite: Economics 100 or 120

ECON 235

Economics of Homosexuality, Heterosexual Marriage, and Gender

Begins with an economic analysis of heterosexual marriage and the differing roles of men and women in the United States, then extensively analyzes the choices, opportunities, treatment, and outcomes of individuals who are identifiably sexually oriented to others of the same gender. Uses labor economics, statistics, and information economics. 6 units.

Also listed as Gender Studies 235 and Ethnic Studies 311

Prerequisite: At least one of Economics 100, Economics 120, a calculus course, or a statistics course

ECON 240

Government Regulation of Business

An introduction to the political economy of economic regulation, which includes an analysis of both the economic incentives of those people being regulated and the political incentives of those people doing the regulating. In addition to an overview of this field, this course focuses on developing a common case study whose topic changes from year to year. 6 units.

Prerequisite: Economics 100 or 120

Credit cannot be earned for both Economics 240 and Economics 424

ECON 250

Urban Economics

A study of the development of the urban economy focusing on the interaction among business, household, and governmental decisions that affect the allocation of land. Each offering will apply microeconomic economic analysis to one or more public policy topics, such as urban sprawl, urban economic growth, housing, education, transportation, or crime. 6 units.

Prerequisite: Economics 100 or 120

ECON 270

Public Sector Economics: Taxation Analysis

An analysis of the effects of governmental taxation policies on the allocation of resources and on the distribution of income. Considerable attention to analyzing the equity and efficiency implications of various tax instruments. 6 units.

Prerequisite: Economics 100 or 120

Offered in 2004-05

ECON 275

Public Sector Economics: Expenditure Analysis

This course examines market deficiencies, including externalities and public goods, as well as the policy responses to these deficiencies. Policy selection will be discussed in terms of voting behavior and public choice theory. The course also will address cost-benefit analysis, governmental subsidies, and specific government programs such as Social Security. 6 units.

Prerequisite: Economics 100 or 120

ECON 280

Environmental Economics

An analysis of the problems associated with market and governmental allocation of natural and environmental resources. The course explores the use of externalities, cost-benefit analysis, and various governmental policy tools to analyze actual effects (efficiency and equity implications) of environmental policies on our economy. The course includes extensive analyses of ongoing environmental issues through a group project. 6 units.

Also listed as Environmental Studies 280

Prerequisite: Economics 100 and sophomore standing

ECON 290

The Economics of Medical Care

An analysis of how the economic organization of medical care affects the health and well-being of the

population. Topics include who is treated, how much the treatment costs, and who pays the bill. Particular emphasis given to the roles of insurance and various national health policies and reform proposals. 6 units.

Also listed as Biomedical Ethics 290

Prerequisite: Economics 100 or 120

ECON 300

Microeconomic Theory

A study of the microeconomic foundations of economics. The course focuses on gaining a strong understanding of consumers, firms, and the equilibria in a perfectly competitive economy, with an introduction to microeconomic models that feature market power, externalities, and asymmetric information, the most significant deviations from perfect competition. 6 units.

Prerequisite: Economics 100 and Mathematics 140 (recommended) or both Mathematics 120 and 130

ECON 320

Macroeconomic Theory

An exploration of contemporary theories of employment, income, inflation, and stabilization as regards the United States and other industrialized countries. Emphasis on the application of models to foster understanding of macroeconomic policy. 6 units.

Prerequisites: Economics 100 or 120 and Mathematics 140 (recommended) or both Mathematics 120 and 130
Economics 300 recommended

ECON 380

Econometrics

Statistical techniques and statistical problems applicable to economics, focusing on ordinary least squares regression, classical inference, and detections of and adjustments for violations of the Classical Assumptions. A research paper is a central part of the course. 6 units.

Prerequisites: Mathematics 207, Economics 100 or 120, plus at least one other applied economics course at the 200 level or higher. Students must be in attendance from the first day of class.

ECON 400

Industrial Organization

An analysis of behavior in industrial markets where firms' revenues or costs are interdependent.

Introduces game theory, the mathematics of interdependent choices. 6 units.

Prerequisite: Economics 300

ECON 410

Game Theory and Applications

This course develops game theory, the mathematics of interdependent individuals seeking to promote their self interest, and focuses on applying it within economics, political science, biology, psychology, and philosophy. 6 units.

Prerequisites: Economics 300 and either Economics 400, 450, 490 or University Course 250. Credit cannot be earned for both University Course 251 and Economics 410.

Offered in 2004-05

ECON 420

Monetary Theory and Policy

An examination of the role of money in market economies and its influence on the performance of such economies. This course emphasizes the role of central banks, financial institutions, and global capital flows. 6 units.

Prerequisite: Economics 320

ECON 430

Capital and Growth

An examination of the determinants of long-term economic growth and productivity. Particular attention given to the role of capital, international competitiveness, savings, tangible investment, and the role of public policy in all such areas. 6 units.

Prerequisites: Economics 300 and 320

Offered in 2004-05

ECON 440

Public Expenditure

A study of governmental expenditures in the American economy and of ways to evaluate their effects on economic efficiency and on the distribution of income. 6 units.

Prerequisite: Economics 300

Offered in 2004-05

ECON 450

Economics of the Firm

An analysis of the economic incentives coming from within the firm to determine their effect on individual behavior and the firm's resulting performance. These

incentives may come from an individual's personal goals, transactions costs, compensation schemes, legal requirements, or other sources. Introduces game theory, the mathematics of interdependent choices. 6 units.

Prerequisite: Economics 300

Offered in 2004-05

ECON 460

International Economics

An inquiry into the historical and theoretical foundations of international trade, leading to a critical analysis of contemporary problems and policies. 6 units.

Prerequisites: Economics 300 and 320

ECON 480

Advanced Environmental Economics

Course content incorporates the substantive topics raised in Economics 280 but with more analytical breadth and depth. Students use microeconomic tools to understand the existing academic literature and to address the efficient use of natural and environmental resources. 6 units.

Also listed as Environmental Studies 480

Prerequisite: Economics 300

ECON 490

Law and Economics

Along with an introduction to legal analysis, a study of the political economy of four core areas of the law: property, contracts, torts, and crime and punishment. Applies rational-choice theories to both economic and political decisions involving the law. Introduces game theory, the mathematics of interdependent choices. 6 units.

Prerequisite: Economics 300

ECON 500

Advanced Microeconomics

Advanced study of the theory of the firm, the theory of consumer behavior, and market equilibrium. 6 units.

Prerequisites: Economics 300 and junior standing

ECON 520

Advanced Macroeconomics

A course in two parts. The first half is an analysis of contemporary economic models, with an emphasis on explaining income, employment, and inflation. The second half is a seminar on such topics as stabilization policy, disinflation, and forecasting. 6 units.

Prerequisites: Economics 300, 320, and 380

ECON 190, 390, 590, 690

Tutorial Studies in Economics

Readings, discussions, and essays in economic problems of special interest to the student. One or more terms may be elected. Variable credit.

Prerequisites: Junior standing and consent of instructor

ECON 199, 399, 599, 699

Independent Study in Economics

Advanced research on a topic of the student's choice, organized in consultation with an instructor. Students considering an honors project should register for this course (see "Honors at Graduation," page 275). Variable credit.

Prerequisites: Junior standing and consent of instructor

Recent tutorial topics in economics

Advanced Topics in Economic Growth
Investment Theory and Portfolio Analysis
East Asian Economic Development
Topics in Health Care Policy
Entrepreneurship
The Economics of Information
Trade and Development
Economics of Sports
Economics of Advertising

EDUCATION

Professor: Sager (*emeritus*)

Associate professor: Purkey (chair)

Instructors: Clementi, Engman, Marinac

Lecturer: Wiese

Teacher certification for undergraduates

While Lawrence does not offer a major in education, the education department introduces students to the study of education as an academic discipline within the liberal arts and prepares students professionally to become licensed teachers in the public schools.

The department also offers tutorial and independent-study opportunities for students interested in education policy, history of education, educational anthropology and psychology, and the practical application of education methodology.

Students who seek certification to teach at the secondary level (middle and senior high, grades 6-12) may choose from nearly all majors, including the social sciences, history, the natural sciences, mathematics, mathematics-computer science, computer science, theatre arts, philosophy, English, English as a second language, and environmental studies.

For certification in social studies and the natural sciences, students elect a single discipline as their major — for example, history or chemistry — and may also pursue an interdisciplinary “broad fields” course of study.

Students who want to teach art or foreign language (Latin, Chinese, Japanese, French, German, Russian, and Spanish) receive special-field certification for teaching grades K-12. Certification to teach music — choral 6-12, general K-12, or instrumental K-12 — is also available through the conservatory and education department. In all subject areas, certification requires completing a Lawrence major or its equivalent with a minimum GPA of 2.75 in the major. Specific requirements are given under “Major Subject Area Requirements” (page 90).

Students who wish to qualify for a teaching license should plan their schedule with the chair of the education department as early as possible in their Lawrence career. Students who enter Lawrence knowing that they want to become certified to teach

can do so within the four-year undergraduate program. Before student teaching, which must occur in the senior year (or in a 13th term), students must be admitted to the teacher education program.

A few academic subjects (English, for example) permit a “minor” for certification purposes, thereby affording the student both major and minor teaching opportunities in the schools. No more than 42 units in education courses can be included in the university’s 216-unit graduation requirement.

Generally, all education courses except Education 180 require sophomore standing. Education 180 and 340 normally should be taken in different years. Education 560, methods of teaching, must be taken during the Term III that precedes student teaching. Education 550 should be taken during student teaching (Education 650).

For Wisconsin certification, social science majors need to take *Cooperatives*, which is an adjunct to 560. Natural science and social studies candidates are required to take an environmental studies course.

Student teaching assignments for public and private school semesters are contracted with local Fox Valley schools or the Associated Colleges of the Midwest (ACM) Urban Education program in Chicago (see department chair for information about the latter option).

A 13th term of student teaching, tuition-free (\$750 fee), is available for Lawrence undergraduates who have completed all graduation requirements except the student teaching cluster of courses and wish to be certified. Ask the department chair for details and for information on additional requirements. This term must immediately follow the 12th term.

Certification for graduates

For special (non-degree-seeking) students who have graduated from college, a separate tuition and fee schedule is in effect for the certification program at Lawrence.

Tuition for courses required for certification outside the degree-seeking student program is set at 75 percent of the current year’s tuition rate. A

separate fee is charged for the student-teaching portion of the program, for which the student earns 18 units of credit.

Tuition for Lawrence graduates participating in this program is set at 50 percent of the current year's tuition rate, and the student teaching fee is adjusted by 50 percent.

General requirements, all subject areas

In addition to the required education courses, all students seeking certification must complete a major (or its equivalent) in the subject they plan to teach. To receive a minor endorsement, students must complete a department-approved minor or seven courses in the discipline. As of Term I, 2004, students seeking licensure must complete the new Lawrence University General Education Requirements, including a course in a non-Western history or culture, a course in a physical science, and a course in a biological or life science. (Students seeking licensure prior to 2004 should consult the education department chair.)

Students who want to become licensed must be admitted to Lawrence's teacher education program. Please see the department chair or the department's administrative assistant for the application form and list of requirements. Students seeking licensure should also consult the *Teacher Certification at Lawrence University* handbook for further information and requirements.

Before student teaching, candidates for certification must take and pass a Pre-Professional Skills Test involving reading, writing, and mathematics. Beginning in 2004, students seeking licensure in Wisconsin must pass a state-designed test in their subject area. A passing score on this content-area test is required for program completion and certification for licensure.

Students should also be aware that certification requirements are subject to revision. New state requirements, some of which are reflected in this catalog, will apply to students who will be applying for licensure in 2004. It is the student's responsibility to confirm requirements with the chair of the education department.

Required education courses for certification in all academic areas at the middle, junior, and senior high school levels and for elementary art and foreign language certification

(See additional course requirements on page 90; for music education, see also page 217)

	(a)	(b)
Education 180		
Psychology of Learning	6	4
Education 310		
Cognitive Diversity in Education	6	4
Education 340		
Social Foundations of Education	6	4
Education 350		
Multicultural Education	6	4
Education 413		
Reading and Language Arts	3	3
Education 550		
Reading in School Content Areas	3	3
Education 560		
Methods in Middle and Secondary Teaching	6	4
Education 563		
† Elementary and Secondary Foreign Language Methods	6	4
Education 650		
Student Teaching	18	12
Art 580		
†† Art in the Elementary School	6	4
Art 582		
†† Art in the Secondary School	6	4

(a) = Lawrence course credit, in units

(b) = Certification semester hours

† Required for K-12 foreign language certification

†† Required for K-12 art certification

Courses

EDUC 180

Psychology of Learning

An investigation of how people learn. Emphasis on examining modern learning principles and theories (e.g., behavioral, humanistic, cognitive, constructivist) and their implications for the educational process in schools. The nature and design of formal learning environments conducive to the emotional growth and cognitive development of children and

adolescents will be considered. Approaches to instruction that promote meaningful learning and deep understanding will be explored. Practicum of 25 hours required. 6 units.

EDUC 210

Applied Psychology: Peer Education

Applied work in community psychology, carried out in conjunction with Counseling Services, in preparation toward becoming a Peer Educator. Focus is on learning strategies for assessing and developing community, group process, and communication. Students investigate topics such as interpersonal decision-making, sexual assault, and substance abuse. Through assigned readings, class discussions, presentations, and guest speakers, students will develop interpersonal facilitation skills, learn aspects of community and campus culture, and collaborate in the planning of educational programs. 3 units.

Also listed as Psychology 210

Enrollment limit: 10

EDUC 260

Second Language Acquisition and Language Teaching

Study of language learning and teaching from both a theoretical and a practical perspective. This course provides an overview of the history of language teaching in the United States and current practices, with an emphasis on the relationship between theory and practice. Readings, discussions, and practical application through the design of mini-lessons. Taught in English. 6 units.

Also listed as Linguistics 260

Prerequisite: Four terms of a foreign language or the equivalent

EDUC 310

Cognitive Diversity in Education

This course will explore various exceptionalities (*e.g.*, learning, behavioral, and emotional) and the ways in which ethnicity, social class, and gender affect students with these exceptionalities. Topics covered will also include societal obstacles confronted by individuals with disabilities; increased inclusion in educational, social, and leisure activities; and procedures for promoting positive social interactions among people with diverse learning and behavioral characteristics. The course will investigate relevant litigation, legislation, philosophies of service delivery,

and significant historical events and trends in the school arrangements for students with disabilities. Practicum of 25 hours required. 6 units.

Prerequisite: Junior standing or consent of instructor

EDUC 340

Social Foundations of Education

An examination of the social foundations of education in the United States with particular attention paid to the cultural, political, and economic functions of education in modern society and to the relationship between school and students' families and communities. The reproductive function of schooling in a society divided along lines of race/ethnicity and class, and schools as sites of cultural production will also be explored. Other topics discussed include the effects of class, gender, and ethnicity on educational achievement and attainment and the historical tension in the U.S. between "equality" and "excellence" in education. Practicum of 25 hours required. 6 units.

Also listed as Ethnic Studies 240

Prerequisite: Sophomore standing

EDUC 350

Multicultural Education

A study of the experience of children and adolescents from different ethnic, cultural, economic, and gender groups. Emphasis on understanding the social consequences of these differences and how such differences affect students' learning and educational opportunity. The sources and educational effects of racism, sexism, and other forms of prejudice and discrimination will also be examined. Practicum of 25 hours required. 6 units.

Also listed as Ethnic Studies 241

Prerequisite: Sophomore standing

EDUC 400

The Environment, Community, and Education

A study of education, the creation and maintenance of community, and the development of ecological intelligence. Emphasis on how schools respond to their surroundings, the extent to which modern forms of education "fit" students to live in local communities, and the idea of community as a sense of place. Emphasis will also be placed on cultural assumptions about the environment implicit within the curriculum, the effect of schooling on students' understanding of and relationship to the environment,

and the role of education in promoting ecological and social sustainability. 6 units.

Also listed as Environmental Studies 460

Prerequisite: Sophomore standing

EDUC 550

Reading in School Content Areas

A seminar on developmental reading issues and the adolescent. Taken while student teaching. Practicum required. 3 units.

Prerequisite: Consent of instructor

EDUC 560

Methods in Middle and Secondary Teaching

A seminar on methods and organization of teaching particular subjects in the middle and secondary school, including English, foreign language, social studies, mathematics, science, and theatre. Practicum of 25 hours required. 6 units.

Prerequisite: Junior standing and consent of instructor

EDUC 563

Elementary and Secondary Foreign Language

Methods

A seminar on teaching foreign languages in the elementary, middle, and secondary school. Emphasis on curriculum planning, methods of instruction, and assessment of learning. Issues related to classroom management and organization will be addressed. Practicum of 25 hours required. 6 units.

Prerequisite: Junior standing and consent of instructor

EDUC 650

Student Teaching (Middle and Secondary Schools)

Student teaching is normally taken during Term I, coinciding with the public school fall semester. A weekly seminar at Lawrence is required as part of this course. See department chair for prerequisites and for exceptions to the Term I requirement. 18 units. May be taken S/U only.

Prerequisite: Senior standing and consent of instructor

EDUC 190, 390, 590, 690

Tutorial Studies in Education

Tutorial studies in the fields of education policy, history of education, and educational anthropology and on various societal and personal topics in which education plays a pragmatic role. Variable credit.

EDUC 199, 399, 599, 699

Independent Study in Education

Advanced study arranged in consultation with the department. Students considering a senior honors project should register for this course (see Honors at Graduation, page 275). Variable credit.

Major subject area requirements

Art

A major consists of the 11 courses required for a studio art major, plus ART 580 and 582. See "Certification for Teaching K-12" (page 40) for further information regarding studio requirements and recommendations for art education certification.

ART 580 and 582 should be taken in the same year, immediately prior to student teaching (EDUC 650). Generally, studio art majors will student teach in a 13th term.

English

A major consists of a minimum of ten courses. In addition to demonstrating a familiarity with contemporary literature of world scope, students must submit evidence of coursework in composition, linguistics or history of the English language, literature for adolescents, and literature of minority groups in America.

Adolescent literature may be fulfilled by taking three units of tutorial study in education (Education 190, 390, 590, 690) devoted to literature for adolescents. A minor is available.

English as a second language

A minor endorsement is available. Students may add ESL certification to certification in any of the other majors. The following four courses are required: Linguistics 105 or 150 and three courses taken during a summer term at the Urban Education Program (*Theoretical Foundations of Teaching ESL, Methods and Materials for Teaching ESL, and Assessment – Oral and Literacy Skills Development*). Anthropology 330 is recommended. Student teaching in ESL and in the major discipline may be done at Lawrence in the Fox Valley or through the Urban Education Program in Chicago.

Foreign languages

A major in Chinese, Classics, French, German, Japanese, Russian, or Spanish consists of ten courses.

Seven courses make up the minor option, except in Russian, in which there is no minor. It is required that students spend a term in a country studying its native language.

Mathematics-computer science; computer science

A major consists of ten courses.

Mathematics

A major consists of ten courses; a minor is available.

Music

See page 217 for requirements.

Natural sciences

Beginning in 2004, natural science and environmental science license categories in Wisconsin will be revised. Students will be licensed in physical science (chemistry and/or physics), earth and space science (geology), or life and environmental science (biology and/or environmental science). Students should complete a Lawrence major in one science (e.g., biology) and take at least one course from each of the other sciences. Please see the department chair for further information.

Biology A major consists of ten courses, plus courses in other science subjects.

Chemistry A major consists of ten courses, plus courses in other science subjects.

Earth science A major consists of ten courses, including astronomy and oceanography, plus courses in other science subjects.

Physics A major consists of ten courses, plus courses in other science subjects.

Broad fields science

Students seeking certification after 2003-04 should see the education department chair to obtain the new requirements.

For students eligible for certification in 2003-04, the requirements are: Sixteen courses, including four courses in each of two of the following: biology, chemistry, earth science, and physics, and two each in the remaining two sciences, plus three courses from among biology, chemistry, earth science, physics, history of science, and philosophy of science, plus

two courses in mathematics.

To receive this license, students must complete a science major and at least seven additional science courses outside the major. Students who elect to pursue broad fields science should consult the education department chair.

Environmental science

A major consists of ten courses, plus courses in the other science subjects; a minor is available. Students must take Education/Environmental Studies 400 and should fulfill the science-track requirements of the environmental studies major. (Students are urged to major in one of the other sciences and minor in environmental studies if they plan to teach at the secondary level.)

Social studies

Beginning in 2004, all social science licenses in Wisconsin will be grouped within the broad category of social studies. Students should complete a Lawrence major in any social science, including history, and take one course in each of the remaining social sciences (including history). An environmental studies course is also required.

Anthropology A major consists of ten courses; a minor is available. (Note: Wisconsin will not offer separate licensure in anthropology as of 2004.)

Economics A major consists of ten courses; a minor is available.

History A major consists of ten courses; a minor is available.

Political science A major consists of ten courses; a minor is available.

Psychology A major consists of ten courses; a minor is available.

Broad fields social studies This license category will be revised in Wisconsin effective in 2004.

Until 2003-04, students may choose one of the following plans: Plan I – ten courses in one of the following subject areas: anthropology, economics, history, political science, and psychology, plus six

EDUCATION

courses distributed over two of the other subjects; Plan II – seven courses in one of the listed disciplines and ten courses distributed over three of the remaining subjects. Instruction in consumer cooperatives and conservation is incorporated into the methodology course Education 560.

Theatre arts

A major consists of ten courses; a minor of seven courses is available.

Recent tutorial topics in education

Educational Psychology: Motivation and Achievement
Feminist Theory and Education
Education and the Environment
Comparative Education: Japan and the U.S.
Educational Policy
Sociology of Sport: Athletics and Secondary Education

ENGLISH

Professors: Dintenfass*, Goldgar*
Associate professor: Spurgin (chair)
Assistant professors: Barrett, Bloom, Hoffmann, Hollis

The core of the department's curriculum is literary history, the study of the acknowledged masterpieces of British and American prose and poetry. Closely related to that core are courses in the English language; courses in composition and the writing of fiction and verse; and courses in special forms of literature — satire, for example. Also available to upperclass students are tutorials and independent study with faculty members whose interests cover a wide range of topics. *Note:* Tutorials and independent study require both an instructor's consent and a 3.25 GPA; the latter may be waived at the instructor's discretion.

Required for the English major

1. English 150 or its equivalent
2. Eight six-unit courses beyond English 150, as follows:
 - a. Two courses from the following intermediate group: English 230, 240, and 250
 - b. One course in Shakespeare, normally English 425
 - c. Two courses from group (i) and one each from groups (ii) and (iii):
 - i. English 420, 430, 435, 440, 445, 450
 - ii. English 455, 460, 465, 470
 - iii. English 480, 485, 490, 495
 - d. One additional course in English

Required for the English minor

Six six-unit courses in English, distributed as follows:

1. Two courses from the following introductory and intermediate group: English 150, 230, 240, 250
2. One course from the following group: English 420, 425, 430, 435, 440, 445, 450
3. One course from the following group: English 455, 460, 465, 470
4. One course from the following group: English 480, 485, 490, 495

5. One additional course in English
6. C average in the minor

Graduate school

Students considering graduate work in English are advised that, for the master's degree, most graduate schools require demonstrated proficiency in at least one modern foreign language, normally French or German. For the doctor's degree, the usual requirement is demonstrated proficiency in two modern foreign languages, normally French and German, and, in some cases, Latin. College work leading toward graduate study should be planned with these requirements in mind.

Certification for secondary teaching in English

Students preparing to teach English in secondary schools should bear in mind that they must have from 30 to 40 semester hours of preparation in English for certification. Freshman Studies and *Literary Analysis* (English 150) count toward certification.

Requirements for the major satisfy requirements for certification in Wisconsin, except that the student seeking certification must satisfactorily complete at least one course in advanced composition (*e.g.*, English 350, 360, or 370); at least one course in linguistics or the English language (*e.g.*, Linguistics 105 or 150); and either English 260 or 500 or a tutorial in the literatures of minority groups in America.

(Please refer to the Department of Education listing, page 87, for more detailed information on preparation for teacher certification.)

Departmental advisors

When students officially declare themselves English majors, they should choose a departmental advisor who will be responsible for guiding them in planning and completing their major course of study. Questions about the advising of English majors should be addressed to the department chair.

*On leave Term I

Advanced placement

All students who have earned a 4 or better in the Advanced Placement Examinations in English of the College Entrance Examination Board will be given credit for one course in English. Those who have earned a 4 or 5 in the examination in literature also will be given advanced placement in courses at the intermediate level (English 230, 240, 250). Questions about exemption and placement should be addressed to the department chair.

Courses

ENG 100

Expository Writing

A study of the principles of clear and effective exposition as they apply to the needs and goals of students enrolled in the course. Extensive practice in writing and revising. 6 units

Enrollment limit: 20

Students needing assistance with the most basic techniques of essay writing should apply to the Lawrence Center for Teaching and Learning.

ENG 150

Literary Analysis

An introduction to the techniques of literary analysis through the detailed study of individual texts. 6 units.

Enrollment limit: 25 per section

ENG 230

Major British Writers I

Intensive study of five or six major British authors from Chaucer to Swift. Emphasis on close reading and critical writing. 6 units.

Enrollment limit: 30

Prerequisite: English 150 or its equivalent or sophomore standing

ENG 240

Major British Writers II

Intensive study of five or six major British authors from Wordsworth to Yeats. Emphasis on close reading and critical writing. 6 units.

Enrollment limit: 30

Prerequisite: English 150 or its equivalent or sophomore standing

ENG 250

Major American Writers

Intensive study of major American authors from Cooper to Wallace Stevens. Emphasis on close reading and critical writing. 6 units.

Enrollment limit: 30

Prerequisite: English 150 or its equivalent or sophomore standing

ENG 260

Survey of African American Literature

A survey of African American literature from slave narratives through contemporary literature. Readings include works by Harriet Jacobs, Frederick Douglass, Langston Hughes, Zora Neale Hurston, Richard Wright, Amiri Baraka, Audre Lorde, and Toni Morrison. 6 units.

Also listed as Ethnic Studies 360

Enrollment limit: 20

Prerequisite: English 150 or its equivalent or sophomore standing

ENG 350

Literary Composition: Non-Fiction

Practice in writing non-fictional prose. 6 units.

Enrollment limit: 18

Prerequisite: Junior standing or consent of instructor

ENG 360

Literary Composition: Fiction

Practice in the writing of short fiction. 6 units.

Enrollment limit: 18

Prerequisite: Consent of instructor

ENG 370

Literary Composition: Verse

Practice in the writing of poetry. 6 units.

Enrollment limit: 18

Prerequisite: Consent of instructor

ENG 400

Satire

A study of the theory and practice of satiric writing. Readings in Aristophanes, Pope, Swift, Gay, Byron, Waugh, West, Orwell, Heller, and others. 6 units.

Prerequisite: Junior standing or consent of instructor

ENG 420

Studies in Medieval Literature

A study of Middle English literature and culture, focusing especially on the oral and performative

dimensions of literature produced between 1300 and 1550. 6 units.

Prerequisite: Junior standing, English 230, or consent of instructor

ENG 425

Shakespeare

An introduction to Shakespeare's plays and their literary, historical, and theatrical context. 6 units.

Also listed as Theatre Arts 432

Enrollment limit: 20

Prerequisite: Junior standing, English 230, or consent of instructor

ENG 430

Renaissance Literature

A study of selected poetry, prose, and drama in relation to Renaissance thought and literary art. Emphasis on the poetry of Sidney, Spenser, Shakespeare, Marlowe, and Ben Jonson. 6 units.

Prerequisite: Junior standing, English 230, or consent of instructor

ENG 435

Renaissance Drama

A study of eight to ten plays from the early modern period. Readings drawn from Beaumont, Jonson, Fletcher, Ford, Marston, Middleton, and Webster. Topic will vary. 6 units.

Enrollment limit: 25

Prerequisite: Junior standing, English 230, or consent of instructor

ENG 440

Milton and the 17th Century

A study of Donne and the metaphysical poets, the poetry and prose of Milton, and the poetry of Dryden. Emphasis on Milton. 6 units.

Prerequisite: Junior standing, English 230, or consent of instructor

ENG 445

Restoration and 18th-Century Comedy

A study of English comedies as reflections of changing taste and thought in the period 1660-1800. Authors include Wycherley, Etherege, Congreve, Farquhar, Steele, Fielding, Goldsmith, and Sheridan. 6 units.

Also listed as Theatre Arts 434

Prerequisite: Junior standing, English 230, or consent of instructor

ENG 450

18th-Century Literature

A study of major works in satire, poetry, and fiction as reflections of 18th-century thought and taste. Readings in Swift, Defoe, Pope, Fielding, Samuel Johnson, and others. 6 units.

Prerequisite: Junior standing, English 230, or consent of instructor

ENG 455

Romanticism

A study of the period from 1790 to 1830, focusing on the development and elaboration of what we now call Romanticism. Readings in the major authors of the period: Blake, Wordsworth, Coleridge, Byron, Keats, Percy Shelley, and Mary Shelley. 6 units.

Prerequisite: Junior standing, English 240, or consent of instructor

ENG 460

The Victorian Age

A study of the period from 1830 to 1900, focusing on poetry, fiction, and critical prose. Readings range widely, including selections from Carlyle, Tennyson, the Brownings, the Rossettis, and Oscar Wilde. 6 units.

Prerequisite: Junior standing, English 240, or consent of instructor

ENG 465

The English Novel

A study of English fiction from 1740 to 1900. Readings include novels by Richardson, Sterne, Austen, Dickens, Eliot, and Hardy. 6 units.

Prerequisite: Junior standing, English 240, or consent of instructor

ENG 470

American Literature to the Civil War

A study of the ways early writers of America attempted to adapt "Old World" forms and styles to the "New World" — as they sought initially to compose and sustain themselves and gradually to constitute the United States of America in literary terms. Selected readings from the 17th and 18th centuries, followed by readings in Emerson, Poe, Hawthorne, and Melville. 6 units.

Prerequisite: Junior standing, English 230, or consent of instructor

ENG 472

American Literature and the Civil War

A study of American literature of the Civil War era, including readings from the abolition movement as well as the texts, photography, and painting produced in response to the war. Selected readings from Douglass, Jacobs, Grant, Stowe, and Chesnutt, as well as poets such as Whitman, Melville, Dickinson, and Harper. 6 units.

Prerequisite: Junior standing, an intermediate course in English, or consent of instructor

ENG 480

Modern British Fiction

A study of selected works of British fiction in relation to early 20th-century thought. Authors include Conrad, Lawrence, Joyce, Mansfield, Forster, Woolf, and others. 6 units.

Prerequisite: Junior standing, English 240, or consent of instructor.

ENG 482

Virginia Woolf and the Bloomsbury Group

A study focused on the literature and art produced by the Bloomsbury Group, an early 20th-century London-based network of novelists, painters, economists, and philosophers that includes Virginia Woolf, E. M. Forster, Lytton Strachey, Bertrand Russell, J. M. Keynes, and the painters Vanessa Bell and Duncan Grant. 6 units.

Also listed as Gender Studies 440

Prerequisite: Junior standing, an intermediate course in English, or consent of instructor

ENG 485

Modern Poetry

Consideration of principal tendencies in 20th-century poetry as illustrated in the work of representative authors, including Yeats, Eliot, H. D., Stevens, Williams, Moore, and others. 6 units.

Prerequisite: Junior standing, English 240, or consent of instructor

ENG 490

Modern Drama

Studies in some of the major playwrights in Europe, England, and America from the time of Ibsen to the present. 6 units.

Also listed as Theatre Arts 440

Prerequisite: Junior standing, an intermediate course in

English, or consent of instructor

ENG 495

Modern American Fiction

Studies in major American writers from the 1920s to the 1960s. 6 units.

Prerequisite: Junior standing, English 250, or consent of instructor

ENG 500

Contemporary American Fiction

A study of selected American novels and short stories from the 1960s to the present. Readings include the work of Marilynne Robinson, Raymond Carver, Louise Erdrich, Toni Morrison, Tim O'Brien, Lorrie Moore, and Julia Alvarez. 6 units.

Prerequisite: Junior standing, English 250, or consent of instructor

ENG 505

Contemporary American and British Poetry

Examination of selected works by post-war American and British poets, considering both their responses to poetic tradition and their individual voices and visions. Authors include Ammons, Ashbery, Dove, Graham, Heaney, Mahon, Merrill, and Simic. 6 units.

Prerequisite: Junior standing, English 240, or consent of instructor

ENG 507

Contemporary British and Post-Colonial Fiction

A survey of contemporary fiction in Britain, with an emphasis on the impact of post-colonial and multicultural writers and perspectives. Authors may include Chinua Achebe, Angela Carter, Keri Hulme, Hanif Kureishi, Patrick McCabe, V. S. Naipaul, Jean Rhys, Salman Rushdie, Amos Tutuola, and Irvine Welsh. 6 units.

Also listed as Ethnic Studies 560

Prerequisite: Junior standing, English 240, or consent of instructor

ENG 510

Literature of the Harlem Renaissance

A study of poetry, fiction, and essays by African American writers from the era of World War I through the 1930s. Authors include Langston Hughes, Zora Neale Hurston, Claude McKay, Nella Larsen, W.E.B. Du Bois, and others. 6 units.

Also listed as Ethnic Studies 561

Prerequisite: Junior standing, an intermediate course in English or Ethnic Studies, or consent of instructor

ENG 515

Gender and Modernist British/American Literature

A study of the construction of gender in early 20th-century fiction and poetry. Authors include Cather, Woolf, Lawrence, Hemingway, Sassoon, and others.

6 units.

Also listed as Gender Studies 445

Prerequisite: Junior standing, an intermediate course in English or Gender Studies, or consent of instructor

ENG 520

Seminar in Literary Criticism

A seminar on the history of literary criticism from Aristotle to the present day, with emphasis on the major critics who have written in English. 6 units.

Prerequisite: Junior standing, an advanced course in English literature, or consent of instructor

ENG 525

Contemporary Critical Theory

A survey of important movements. Among the readings are selections by Derrida, Foucault, and Bakhtin as well as selections from more recent figures, such as Judith Butler, Eve Sedgwick, Henry Louis Gates Jr., Cornel West, and bell hooks. 6 units.

Prerequisite: Junior standing or consent of instructor

ENG 530

The English Language

A study of the historical background of English and the sounds and structure of modern English. 6 units.

Prerequisite: Linguistics 105 or 150 or consent of instructor

ENG 560

Advanced Fiction Writing

A workshop for students with previous fiction writing experience. 6 units.

Prerequisite: English 360 or consent of instructor

ENG 565

Advanced Poetry Writing

A workshop for students with previous poetry writing experience. 6 units.

Prerequisite: English 370 or consent of instructor

ENG 190, 390, 590, 690

Tutorial Studies in English

Tutorial study in the literature of various periods, English and American, and in literary forms and composition.

Intended primarily for juniors and seniors.

Arrangements should be discussed with the department chair. Variable credit.

ENG 199, 399, 599, 699

Independent Study in English

Advanced study, arranged in consultation with the department chair. One or more terms may be elected. Students considering an honors project should register for this course (see "Honors at Graduation," page 275). Variable credit.

Recent tutorial topics in English

Contemporary American Essays

Studies in Spenser's *Faerie Queen*

George Eliot and Feminist Criticism

Verse Composition

Fiction Writing

Nature Writing

ENVIRONMENTAL STUDIES

Faculty advisors: Bjørnerud (geology, director), Blackwell (chemistry), Clark (geology), B. De Stasio (biology), Dreher* (philosophy), Hixon (government), Jordan (statistics), Knudsen (geology), Nordell* (chemistry), Nagase (economics), Peregrine (anthropology), Purkey (education), Richards (library), Sedlock (biology), Skran (government), Stoneking (physics)

The field of environmental studies addresses some of the most critical and complicated issues of our time: those regarding environmental change and the future of humanity. The systems that make up planet Earth are simultaneously comprehensible and complex, predictable and chaotic, robust and fragile. Changes in one part of this system of systems may have far-reaching implications for other parts. As citizens of Earth, we cannot afford to remain ignorant of the global environmental consequences of our daily activities.

A degree in environmental studies prepares students for a wide spectrum of careers, including environmental law, consulting, policy making, technical innovation, teaching, and research. Students in the major select one of two tracks: environmental science or environmental policy. The tracks share a common core sequence.

Environmental science integrates the principles and methods of the natural sciences (biology, chemistry, geology, and physics) in order to understand Earth systems and the impact of human activities on them. To be a responsible environmental scientist, one must have some awareness of environmental policy issues.

Environmental policy focuses on how human economic, social, and governmental systems influence human interactions with the environment. Programs in environmental policy prepare students to work in a variety of public- and private-sector settings, including the Environmental Protection Agency, Department of Energy, regional planning commissions, community-development programs, legal firms, private consulting and planning firms, etc. To be a responsible environmental policy maker, one must have some

background in the science of the environment.

The environmental policy track has a strong international emphasis, and there are opportunities to combine language studies with analysis of environmental issues in countries where Lawrence has off-campus programs — e.g., Russia, Senegal.

The minor in environmental studies is designed to complement a major in any field.

Required for the environmental studies major

Required core courses

1. Environmental Studies 150: *Introduction to Environmental Science*
2. Environmental Studies 300: *Symposium on Environmental Topics*
3. Environmental Studies 650: *Environmental Studies Senior Seminar*
4. Mathematics 107 or 117: *Elementary Statistics* or Mathematics 207: *Introduction to Probability and Statistics*
5. Economics 100: *Introductory Economics: Microeconomic Emphasis* or Economics 300: *Microeconomic Theory*
6. Economics 280: *Environmental Economics* or Economics 480: *Advanced Environmental Economics*
7. Government 380: *Introduction to Public Policy*
8. One of the following:
Environmental Studies 270/Government 270: *Global Environmental Politics*
Environmental Studies 360/Philosophy 360: *Environmental Ethics*
Environmental Studies 365/Anthropology 310: *Ecological Anthropology*
Environmental Studies 460/Education 400: *The Environment, Community, and Education*
Environmental Studies 470/Government 465: *Environmental Policy, Politics, and Justice* [or Biosphere 2 course on politics and economics of global change]
9. One Environmental Studies cross-listed course [may include independent study]
10. Field experience (not necessarily for credit; documentation must be submitted to advisor)

*On leave Term III

Environmental Policy Track

1. Two of the following introductory science courses, from two different departments:
 Biology 110: *Principles of Biology*
 Geology 110: *Introductory Geology*
 Chemistry 115: *Principles of Chemistry: Structure and Reactivity*, Chemistry 116: *Principles of Chemistry: Energetics and Dynamics*, or
 Chemistry 119: *Accelerated General Chemistry*
 Physics 120: *Foundations of Physics I* or Physics 150: *Principles of Classical Physics*
2. Three additional six-unit courses numbered above 200 from the economics department or three additional six-unit courses numbered above 200 from the government department (not including courses taken to complete another category)

Environmental Science Track

1. Three of the following introductory science courses, from three different departments:
 Biology 110: *Principles of Biology*
 Geology 110: *Introductory Geology*
 Chemistry 115: *Principles of Chemistry: Structure and Reactivity*, Chemistry 116: *Principles of Chemistry: Energetics and Dynamics*, or
 Chemistry 119: *Accelerated General Chemistry*
 Physics 120: *Foundations of Physics I* or
 Physics 150: *Principles of Classical Physics*
2. Three additional courses numbered above 200, within one science department

Required for the environmental studies minor

Required core courses

1. Environmental studies courses
 Environmental Studies 150: *Introduction to Environmental Science*
 Environmental Studies 300: *Symposium on Environmental Topics*
2. Foundation courses in natural sciences
 Choose two of the following:
 Geology 110: *Introductory Geology*
 Biology 110: *Introductory Biology*
 Chemistry 115: *Principles of Chemistry: Structure and Reactivity*, Chemistry 116: *Principles of Chemistry: Energetics and Dynamics*, or
 Chemistry 119: *Accelerated General Chemistry*
 Physics 120: *Foundations of Physics I* or Physics

- 150: *Principles of Classical Physics*
3. Foundation courses in social sciences
 Economics 100: *Elements of Economics: Microeconomic Emphasis* or Environmental Studies 280: *Environmental Economics*
 Government 380: *Public Policy* or Environmental Studies 470: *Environmental Policy, Politics, and Justice* or Environmental Studies 270: *Global Environmental Politics*
4. C average in the minor

Courses with significant emphasis on environmental topics

Any two environmental studies cross-listed courses. Environmental studies courses taken through Lawrence-sponsored off-campus programs, such as the *Semester in Environmental Science* or *Biosphere 2: Earth Semester* (see pages 254, 252), may also fulfill this requirement, with approval of the Environmental Studies Steering Committee.

Special note: No more than three courses may be applied simultaneously toward completion of this minor and a student's major.

Courses

ENST 115

Energy Technology, Society, and the Environment

Treats topics selected for the non-scientist who wants one term of physics. In 2003-04, this course will explore the physics of energy production, storage, and usage as they currently are practiced. Certain emerging technologies will also be addressed. Environmental and socio-economic impact will be discussed in the context of limitations imposed by the laws of physics. No laboratory. 6 units.

Also listed as Physics 115

Enrollment limit: 20

ENST 150

Environmental Science

Presents principles of biology, chemistry, and geology that relate to such environmental issues as resource limitation, pollution, and environmental degradation. Designed to foster understanding of scientific measures of environmental quality. Four class meetings per week, including one discussion session. 6 units.

Also listed as Geology 150

Enrollment limit: 60

ENST 205

Readings in Nature

A course in reading and writing about the natural world. Readings will be of complete texts and may include such works as Wendell Berry's *The Memory of Old Jack*, Barry Lopez's *Crossing Open Ground*, and Gretel Erlich's *The Solace of Open Spaces*. Discussion and analysis of texts will be combined with written reflections upon natural, urban-natural, or urban landscapes and individuals. 6 units.

Enrollment limit: 20

Prerequisite: Sophomore standing

ENST 206

East Asian Classics in Translation

This introductory course explores encounters with nature in East Asian texts through close reading of primary texts in English translation — Taoist philosophy, lyric poetry, personal memoirs, and fiction — from the traditional periods of China and Japan, ending with a contemporary Japanese novel from the mid-1990s. Particular attention is paid to literary form, voice, aesthetic concerns, and issues relating to humans' relationship with nature. 6 units.

Also listed as East Asian Languages and Cultures 260

Prerequisite: Sophomore standing

East Asian Languages and Cultures 140 recommended.

Offered in 2004-05

ENST 210

Animal Behavior

A lecture and field-study course examining the principles and problems of animal behavior. Subjects include orientation, feeding, locomotion, communication, escape in time and space, biological rhythms, mate choice, and aspects of social behavior, examined from evolutionary, ontogenetic, physiological, ecological, and ethological perspectives. 6 units.

Also listed as Biology 200

Prerequisite: Biology 140

May be taken separately or as part of the Marine Biology Term

ENST 211

Biodiversity

The influence of climate on global habitats is

considered. Selected terrestrial life zones, including neotropical, paleotropical, montane, desert, cold temperate, and warm temperate, are analyzed and stresses produced by climate and habitat evaluated. Adaptive responses at the morphological and physiological levels are investigated and scientific principles are applied to contemporary ethical issues including restoration and conservation ecology. 6 units.

Also listed as Biology 210

Lecture only

Enrollment limit: 20

ENST 212

Physiological Ecology

Biological stresses induced by environmental variables are described. Physiological and molecular responses associated with temperature extremes, drought, and nutrient and energy competition are discussed and investigated, using both field and laboratory experience. 6 units.

Also listed as Biology 231

Enrollment limit: 24

Prerequisite: Biology 110

Not offered in 2003-04

ENST 213

Evolutionary Biology

A study of biological evolution primarily from the perspectives of population and molecular genetics. Topics include natural selection, adaptation, the evolution of sex, speciation, extinction, constraints on evolutionary change, and such controversial issues as the rate of evolution and units of selection, all discussed from both historical and current perspectives. 6 units.

Also listed as Biology 235

Two lectures and one discussion per week

Prerequisite: Biology 120 or 140 or consent of instructor.

ENST 214

The Vegetation of Wisconsin

The principles of plant-environment interrelationships are developed through extensive field study of Wisconsin vegetation. Emphasis is placed on the manner in which physical and biological factors influence competition, adaptation, and structure in major local habitats. 6 units.

Lecture and laboratory

Also listed as Biology 250

Enrollment limit: 24

ENST 220

General Ecology

An introduction to the interactions between organisms and the environment. Lectures and discussions will explore the role of physical, chemical, and biotic processes, including human activities, in determining the structure and function of populations, communities, and ecosystems. Topics will include resource availability, competition, predation, symbiosis, and natural and anthropogenic disturbances such as disease, biological invasions, pollution, and climate change. 6 units.

Also listed as Biology 230

Two lectures and one discussion session per week

Enrollment limit: 30

Prerequisites: Biology 110 and one other course in the natural sciences

Not offered in 2003-04

ENST 230

History of the Earth and Life

A study of the physical, chemical, and organic evolution of the Earth since its origin 4.5 billion years ago, with emphasis on times of change and crisis. The course also examines the evolution of ideas about Earth's history, illustrating how science and culture are inherently entangled. 6 units.

Also listed as Geology 210

Prerequisite: Geology 110

ENST 235

Weather, Climate, and Climate Change

A study of basic meteorologic principles and climate patterns. These phenomena will be discussed in relation to evidence of past climate change and implications of global warming on future climate. 6 units.

Also listed as Geology 214

Prerequisite: Geology 110

ENST 237

Remote Sensing of the Environment

Fundamentals of electromagnetic radiation and the interaction of radiation with matter are introduced as the basis of remote sensing. Interpretation and

manipulation of remotely sensed images are used to demonstrate the wealth of information remote sensing provides. Applications and case studies from geology, environmental science, ecology, agronomy, and urban planning will be explored. 6 units.

Also listed as Geology 220

Prerequisite: Geology 110

High school physics recommended

ENST 240

Chemistry of the Earth: Low-Temperature Environments

A detailed introduction to properties of geologically and environmentally important minerals. Emphasis is placed on mineral properties, tools of mineral identification, mineral associations, and chemical reactivity of minerals in earth surface and near-surface environments. 6 units.

Also listed as Geology 240

One lab per week

Prerequisites: Geology 110 and Chemistry 115

ENST 245

Conservation Biology

This course explores the scientific concepts related to the conservation and restoration of the Earth's biological diversity. Topics include patterns of species and ecosystem diversity, the relationship between biodiversity and ecosystem functioning, causes of extinction, assessing extinction risk, behavioral indicators, *in-situ* and *ex-situ* management strategies for endangered species, and ecosystem restoration. 6 units.

Also listed as Biology 245

Enrollment limit: 24

Prerequisites: Biology 110 and one other course in the natural sciences

ENST 250

Analytical Chemistry

A course in the fundamental principles of quantitative analysis, stressing both chemical and instrumental techniques. Emphasis on application of analytical chemistry to practical problems, including environmental issues, food science, biochemical systems, and industrial processes. Opportunities for individually designed projects. 6 units.

Also listed as Chemistry 210

Two three-hour laboratories per week

Prerequisite: Chemistry 116 or 119 or consent of instructor

ENST 260

Research Methods in Archaeology

Presents the research process in archaeology and offers an overview of essential data-collection and analysis techniques, including site survey and excavation, settlement pattern analysis, lithic analysis, and ceramic analysis. Students work with material from the Lawrence University collections and take part in field research. 6 units.

Also listed as Anthropology 220

Enrollment limit: 15

Prerequisites: Anthropology 110 and 140 (non-anthropology majors must have instructor's approval to register)

Recommended for anthropology majors in the sophomore year

ENST 270

Global Environmental Politics

An examination of the environment as an issue in world politics. Emphasis will be placed on the role of both state and non-state actors (*i.e.*, the UN, NGOs) in global environmental regimes that are designed to deal with global warming, ozone depletion, and other environmental issues. Particular attention will be paid to the position taken by both developed and developing countries. As part of the course, students will participate in a simulation of an international negotiation about an environmental problem. 6 units.

Also listed as Government 270

Prerequisite: Sophomore standing or Environmental Studies 150 or Government 110

ENST 280

Environmental Economics

An analysis of the problems associated with market and government allocation of natural and environmental resources. The concepts of property rights, externalities, imperfect information, and uncertainty will be examined in their relationship to natural-resource and environmental issues. 6 units.

Also listed as Economics 280

Prerequisite: Economics 100 or consent of instructor

ENST 300

Symposium on Environmental Topics

The heart of this course is an annual symposium organized around a well-defined topic with both scientific and policy components — *e.g.*, nuclear waste disposal, global warming. Each year, two or three nationally recognized experts on the selected topic are brought to campus. In the weeks before a visit by one of the major speakers, students, together with environmental studies faculty instructors from at least two different disciplines, read and discuss papers suggested by the speaker. The speakers meet with students in the seminar following their public lecture, providing students with an opportunity to interact directly with scientists and policy makers at the forefront of environmental issues. 6 units.

Enrollment limit: 20

Prerequisite: Environmental Studies 150, sophomore standing

ENST 302

Introduction to Environmental Law

This course presents an overview of the major environmental laws of the State of Wisconsin and the United States, their interaction, and insights into their practical application. Specific emphasis will be on laws related to water regulations, endangered resources, air pollution, water quality, waste management, fish and wildlife management, environmental impact, and forestry. It is designed to have value for those aspiring to have careers in law, environmental management and protection, or public policy or those individuals wishing to have a general background in the subject. There are class opportunities to interact with environmental professionals in the private and public sectors. 6 units.

Also listed as Government 206

ENST 306

Environmental Policy and Groundwater Politics

This course explores the theory and the actual practice of how environmental policy is developed. The prime examples will be the regulation of groundwater quality and quantity in Wisconsin and specifically the highly controversial Perrier bottled water facility in Central Wisconsin. Guest lecturers involved in successful and unsuccessful groundwater policy developments will share their practical expertise. 6 units.

Also listed as Government 306

Prerequisite: Sophomore standing or consent of instructor

ENST 310

Aquatic Ecology

The principles of the ecology of fresh waters, developed through discussions, laboratory, and field investigations of the functional relationships and productivity of biotic communities as they are affected by the dynamics of physical, chemical, and biotic parameters. 6 units.

Also listed as Biology 330

Enrollment limit: 24

Prerequisite: Biology 120 or 140

ENST 330

Advanced Geochemistry

Overview of the chemistry of geological processes in aqueous environments. Includes review of thermodynamics, chemical kinetics, phase equilibria, mineral solubility, redox reactions, and stable isotopes with geologic examples. 6 units.

Also listed as Geology 340

Prerequisites: Geology 240 and Chemistry 115, or consent of instructor

Chemistry 116 recommended

ENST 335

Physics of the Earth: Surface Environments

This course studies the movement of water, solute, and sediment through the landscape and the resulting properties and distribution of surficial earth materials and landforms. Topics include climate; weathering; soil development; runoff; mass movement; river, glacial, and coastal processes; and deposition in sedimentary environments. 6 units.

One lab per week

Also listed as Geology 360

Prerequisites: Geology 110 and 240 or consent of instructor

Physics 120 recommended

ENST 345

Terrestrial Field Ecology

A hands-on course intended to demonstrate basic ecological principles using local terrestrial ecosystems. Field research projects will introduce students to methods in hypothesis development, experimental design, data collection, statistical analysis, and

scientific writing and presentation. Research topics will include estimating population size, community structure, plant-animal interactions, and foraging behavior. 6 units.

Also listed as Biology 345

Enrollment limit: 20

Prerequisites: Biology 120 or 140 and Mathematics 117 or concurrent enrollment

ENST 355

History of the American Environment

North Americans have transformed the environment while being shaped by nature in turn. This course surveys the changing relationships between Americans and their physical environment in historical context from the 17th century to the present. Topics include the "Columbian exchange," agriculture, urbanization, conservation, and the emergence of contemporary environmentalism. 6 units.

Also listed as History 355

Prerequisite: Sophomore standing

ENST 360

Environmental Ethics

An examination of some ethical assumptions that might figure in discussions of environmental policy by economists, legal experts, philosophers, and policy scientists. 6 units.

Also listed as Philosophy 360

Enrollment limit: 30

Prerequisite: One course in economics, government, or philosophy; junior standing; or consent of instructor

ENST 365

Ecological Anthropology

A study of relationships between human communities and their natural environments (*i.e.*, humans studied as members of eco-systems). Topics include the interactions between environment, human biology, and social organization and anthropological perspectives on global environmental problems such as African famine, destruction of tropical rain forests, industrial pollution, and "overpopulation." 6 units.

Also listed as Anthropology 310

Prerequisite: One anthropology course or consent of instructor

ENST 410

Ecological Energetics

Field and laboratory experimental investigations of the transfer and transformation of energy or energy-containing materials between and within organisms and populations of aquatic ecosystems. Part of the Marine Biology Term. 6 units.

Also listed as Biology 434

Prerequisites: Biology 330, concurrent enrollment in Biology 200 and 505, and consent of instructor

ENST 430

Watershed Hydrology

An introduction to the basic components of the hydrologic cycle, focusing on surface water and groundwater systems. Measurement and analysis of hydrologic data are emphasized. Application to contemporary issues such as flooding, watershed development, and groundwater contamination will be discussed. 6 units.

One lab per week

Also listed as Geology 430

Prerequisite: Geology 110

ENST 435

Contaminant Transport and Fate

Hydrology and chemistry of dissolved contaminants in surface waters, groundwaters, and their associated media. Introduction to principles of reactive transport modeling and use of current computer models with relevant examples. 6 units.

Also listed as Geology 440

Prerequisites: Geology 240 and Mathematics 120 or 140 or consent of instructor

ENST 449/450

Nature and the Environment in German Literature

This course examines the literary, philosophical, and sociological history of ecological issues in Germany. Students investigate the formulation of the specifically German concept of nature and study the roles of Romanticism and of the early 20th-century youth movement in shaping contemporary environmental debates. 6 units.

Also listed as German 449/450

Taught in English (449) or German (450). When in English, German majors and minors may participate in a two-unit tutorial in which discussions and some courses readings will be in German.

Prerequisite: When taught in German, German 312 or consent of instructor. When taught in English, none

ENST 460

The Environment, Community, and Education

A study of education, the creation and maintenance of community, and the development of ecological intelligence. Emphasis on how schools respond to their surroundings, the extent to which modern forms of education "fit" students to live in local communities, and the idea of community as a sense of place. Emphasis will also be placed on cultural assumptions about the environment implicit within the curriculum, the effect of schooling on students' understanding of and relationship to the environment, and the role of education in promoting ecological and social sustainability. 6 units.

Also listed as Education 400

Prerequisite: Sophomore standing or consent of instructor

ENST 470

Environmental Policy, Politics, and Justice

This research seminar examines selected aspects of America's environmental politics, policies, and justice. It will explore questions such as: Do acid rain, intractable urban smog, toxic wastes, and endangered spotted owls signify a march toward ecological disaster? Who has rights to nature, how are those rights specified, and what are the duties and responsibilities that accompany those rights? Who is setting the political agenda regarding America's environmental policies, and are they focusing on the most important priorities? How good a job are environmental policies and regulations doing, and can they balance economic concerns with environmental protection? Special attention will be given to the debates about environmental justice, by examining such questions as: Do poor and minority populations suffer disproportionately from exposure to toxic material — *i.e.*, environmental injustice? How pervasive is environmental racism? 6 units.

Also listed as Government 465

Prerequisite: Government 110 and junior standing, or consent of instructor

ENST 480

Advanced Environmental Economics

Course content incorporates the substantive topics raised in ENST 280 but with more analytical breadth

and depth. Students use microeconomic tools to understand the existing academic literature and to address the efficient use of natural and environmental resources. 6 units.

Also listed as Economics 480

Prerequisite: Economics 300 or consent of instructor

ENST 505

Coral Reef Environments

Examines the ecology of coral reef environments.

Lecture, laboratory, and field components. Part of the Marine Biology Term. 6 units.

Also listed as Biology 505

Prerequisites: Concurrent enrollment in Biology 200 and 434 and consent of instructor

ENST 600

Seminar on Selected Topics in Environmental Science

An opportunity for students to read and analyze primary literature on significant topics in environmental science. 3 or 6 units.

Prerequisite: Consent of instructor

ENST 650

Environmental Studies Senior Seminar

A seminar on issues and methods of environmental studies and a focal point of the environmental studies major. Topics include scientific measures of environmental quality, natural resource management, pollution, prices, and public policy and ethical considerations. Students employ data and models to address a chosen environmental problem. Faculty members from contributing disciplines participate. 6 units.

Prerequisites: Environmental Studies 150, Environmental Studies 300 and senior standing, or consent of instructor

ENST 190, 390, 590, 690

Tutorial in Environmental Studies

Advanced study and analysis of a particular topic or case related to environmental issues, viewed from the perspective of more than one academic discipline.

May be taken more than once, for full or fractional credit, as the instructor considers appropriate.

ENST 195, 395, 595, 695

Internship in Environmental Studies

An opportunity for environmental studies students to gain practical experience in the commercial, government, or nonprofit sectors. The internship is supplemented by readings and discussions with a supervising faculty member. At the conclusion of the internship, the student must submit a summative report that considers the internship experience in the context of the student's other academic work. Variable credit.

ENST 199, 399, 599, 699

Independent Study in Environmental Studies

Advanced independent research, under the guidance of a faculty mentor or mentors, on a particular topic related to the environment. The student is required to produce a formal paper or equivalent (e.g., poster session, Web page, presentation at a professional meeting) as a tangible record of the work carried out. May be taken more than once, for full or fractional credit, as the instructor considers appropriate.

ETHNIC STUDIES

Faculty advisors: Blitstein (history), Daughtry* (anthropology), Gray (history), Hemwall (anthropology), Hoffmann (English), Law (director of international and off-campus programs), Purkey (education), Richards (library), Vetinde (French)

Ethnicity — that is, the identification with a group due to factors such as common language, customs, beliefs, religion, historical experience, kinship ties, and race — is increasingly becoming the challenge of the new century. Within the United States, race became, as W. E. B. DuBois had predicted, perhaps the central problem of the 20th century, and the influx of immigrants of various ethnic groups has continually complicated the socio-economic landscape. Contemporary international conflicts often take the form of ethnic conflicts; we only need look at the recent problems in Bosnia or Rwanda to understand that ethnic relationships are influential factors in many areas of the world.

This interdisciplinary minor explores topics such as the meaning of ethnicity and race; the impact of ideas about ethnicity and race; and the definition, experience, and interactions of ethnic groups. The curriculum is guided by a variety of questions, including the following: Is our identity determined by our biology? How much of our identity is socially constructed? How do ideas about ethnicity and race affect our sense of identity? Is there a significant difference between ethnicity and race? How do individuals come to understand and to express their ethnic identity? How do the experiences of ethnic groups in the United States compare to those in other areas of the world? What are the political, economic, and social consequences of one's racial or ethnic identity? Do these consequences change through time and place? How can we promote better relationships among racial and ethnic groups, in the United States and abroad?

Students may elect to enter the program through one of two interdisciplinary courses, one emphasizing the social sciences and humanities (ETST 200), the

other emphasizing the fine arts and humanities (ETST 210).

Required for the minor in ethnic studies

1. Two interdisciplinary core courses
Ethnic Studies 200: *Race and Ethnicity in the United States*
Ethnic Studies 210: *Expressions of Ethnicity*
2. Three disciplinary core courses (at least one from each category below)
Category I – Courses that focus on the experience of a major ethnic group in the United States or on relations among ethnic groups in the United States:
Ethnic Studies 222: *History of the American West*
Ethnic Studies 231: *Urban Communities of the United States*
Ethnic Studies 240: *Social Foundations of Education*
Ethnic Studies 241: *Multicultural Education*
Ethnic Studies 250: *Race, Law, and Representation in U.S. Politics*
Ethnic Studies 270: *History of Catholicism in America*
Ethnic Studies 271: *Conversion and Conquest: Spanish, French, and British Encounters with "The Other"*
Ethnic Studies 290: *African American Art*
Ethnic Studies 311: *The Economics of Difference and Discrimination*
Ethnic Studies 321: *Race Relations in the United States, 1865-2000*
Ethnic Studies 330: *Indians of North America*
Ethnic Studies 360: *Survey of African American Literature*
Ethnic Studies 380/381: *"Ideal Immigrants"? The German Experience in America*
Ethnic Studies 420: *The American Civil War*
Ethnic Studies 450: *Politics of Race and Ethnic Relations*
Ethnic Studies 561: *Selected Studies in African American Literature*
Ethnic Studies 582/583: *Hispanic Issues*

*On leave Term II

Category II – Courses that focus on the experience of ethnicity and relations among ethnic groups outside the United States, or comparative courses that include both the United States and other parts of the world:

Ethnic Studies 120: *Modern Africa*

Ethnic Studies 121: *Traditional East Asian Civilization*

Ethnic Studies 220: *Atlantic Slave Trade*

Ethnic Studies 221: *Europe in the Age of Nationalism, World War, and Totalitarianism (1851-1990)*

Ethnic Studies 223: *Nationalism in the Modern World*

Ethnic Studies 230: *Ethnography of Sub-Saharan Africa*

Ethnic Studies 251: *Changing the Face of Europe*

Ethnic Studies 320: *Empire and Nation in Russian History*

Ethnic Studies 322: *Modern Japanese History, 1868-2000*

Ethnic Studies 331: *Ethnography of Latin America*

Ethnic Studies 332: *Ethnography of the Middle East and North Africa*

Ethnic Studies 350: *Nationalism, Ethnicity, and Politics in Modern India*

Ethnic Studies 351: *Comparative Politics: Asia, Africa, and Latin America*

Ethnic Studies 382: *The Literature and Culture of Ethnic Minorities in Germany*

Ethnic Studies 560: *Contemporary British and Post-Colonial Fiction*

Ethnic Studies 580: *Le Roman Québécois*

Ethnic Studies 581: *Hispanic American Black Literature*

Ethnic Studies 584: *Black Cultural Nationalism*

3. Two elective courses, selected from the core course list or approved by petition. Elective courses must allow students to focus their individual work on ethnicity, and such work must count for at least 25 percent of the final grade.
4. A senior project completed through an independent study or tutorial and including a public presentation in a symposium organized by the ethnic studies program. Projects must be approved prior to the student's participation and can be completed through participation in an appropriate activity

including, but not limited to, an internship, a volunteer activity, English as a Second Language certification, an independent study, or an off-campus program. Group projects are permitted.

5. C average in the minor.

Note: No more than two courses used for the minor may count toward the student's major, and in the disciplinary core courses, no more than two courses may be taken from one department.

Courses

ETST 120

Modern Africa

A survey of African history in the 20th century, examining the experiences of Africans as they confronted European colonization, engaged in the struggle for independence, and built new nations. The course takes for its focus the West African nation of Ghana. 6 units.

Also listed as History 125

ETST 121

Traditional East Asian Civilization

An introductory survey of East Asia from the dawn of indigenous civilization to the 16th century. Focus on the growth of a Sinitic center and its interaction with the sedentary and nomadic peoples on its Inner Asian and Pacific rims. Emphasis on the diverse peoples and societies of the area and the historical processes that bound them together through a common tradition. 6 units.

Also listed as History 160 and East Asian Languages and Cultures 140

ETST 200

Race and Ethnicity in the United States

An interdisciplinary study of race and ethnicity in the United States. The course examines the development of racial and ethnic categorization; patterns of stratification; and the role of political, cultural, and economic forces in shaping ideas about race and ethnicity. The course will explore the social consequences of race and ethnicity with particular attention to racial and ethnic tolerance, discrimination, and institutional racism. The Civil Rights Movement, affirmative action, and immigration policies will be analyzed, as well as connections between ethnic stratification, class, and gender. Other topics will vary

from term to term. 6 units.

Enrollment limit: 24

ETST 210

Expressions of Ethnicity

An introductory course in which film, theatre, literature, visual arts, and music are analyzed in an effort to explore the many ways in which ethnicity is expressed, reflected, and constructed in American culture. Issues of identity, authenticity, impersonation, commodification, stereotypes, integration, and audience will be raised. 6 units.

Enrollment limit: 24

ETST 220

Atlantic Slave Trade

An examination of the Atlantic trade in enslaved Africans from its beginning in the 15th century to its eventual abolition in the 19th century. Topics include ideas of slavery in Europe and Africa; the development of the Atlantic trade; the economic, social, political, and religious effects of the slave trade in Africa and the Americas; the rise of racism; abolition and its aftermath. 6 units.

Also listed as History 215

Prerequisite: Sophomore standing or consent of instructor

ETST 221

Europe in the Age of Nationalism, World War, and Totalitarianism, 1851-1990

An examination of European history from the Age of National Unification through the collapse of the Soviet Empire. Topics include imperialism, the two World Wars, the Russian Revolution, fascism, totalitarianism, mass nationalism, and the reemergence of eastern and central Europe. 6 units.

Also listed as History 275

Enrollment limit: 30

Prerequisite: Sophomore standing or consent of instructor

ETST 222

History of the American West

This course examines realities and images of the frontier/western experience from exploration and settlement of North America through the present. Included are native and immigrant groups, technology, transportation, agriculture, mining, and urbanization as well as effects of the frontier on national character. 6 units.

Also listed as History 330

Prerequisite: Sophomore standing

ETST 223

Nationalism in the Modern World

An examination of the idea and the reality of nationalism in modern history. Among the questions we will ask are: Is nationalism a modern phenomenon, or does it have pre-modern origins? Is it compatible with democracy and human rights or fundamentally hostile to them? Is it primarily a European phenomenon transplanted to other places, or are there indigenous roots of nationalism throughout the world? We will attempt to answer these questions by reading theoretical works on nationalism from a variety of disciplines and by examining historical case studies. 6 units.

Also listed as History 295

Prerequisite: Sophomore standing and History 115 or consent of instructor

ETST 230

Ethnography of Sub-Saharan Africa

A comparative study of the societies and cultures of sub-Saharan Africa, with emphasis on Africa as a place where local histories are tied to the global economy. Topics include history, literature, ecological adaptation, social organization, and social change. 6 units.

Also listed as Anthropology 362

Enrollment limit: 25

Not offered in 2003-04

ETST 240

Social Foundations of Education

An examination of the social foundations of education in the United States with particular attention paid to the cultural, political, and economic functions of education in modern society and to the relationship between school and students' families and communities. The reproductive function of schooling in a society divided along lines of race/ethnicity and class, and schools as sites of cultural production will also be explored. Other topics discussed include the effects of class, gender, and ethnicity on educational achievement and attainment and the historical tension in the U.S. between "equality" and "excellence" in education. Practicum of

25 hours required. 6 units.

Also listed as Education 340

Prerequisite: Sophomore standing

ETST 241

Multicultural Education

A study of the experience of children and adolescents from different ethnic, cultural, economic, and gender groups. Emphasis on understanding the social consequences of these differences and how such differences affect students' learning and educational opportunity. The sources and educational effects of racism, sexism, and other forms of prejudice and discrimination will also be examined. Practicum of 25 hours required. 6 units.

Also listed as Education 350

Prerequisite: Sophomore standing

ETST 250

Race, Law, and Representation in U.S. Politics

This course examines theories of political behavior and political representation through the lens of racial and ethnic politics in the United States. We focus particularly on the role of race in legislative representation, political campaigns, and minority voting rights, answering the question, "Does race affect political outcomes?" 6 units.

Also listed as Government 225

Prerequisite: Sophomore standing

Government 110 or Ethnic Studies 200 recommended

ETST 251

Immigration and Refugees: Changing the Face of Europe

This course will be a comparative examination of the refugee and asylum policies of Britain, France, Germany, and other European countries. The course will begin by tracing the evolution of immigration and asylum policies as they emerged in the first half of the 20th century and developed during the Cold War period. It will then consider the impact of the end of the Cold War and increased cooperation within the EU on immigration and asylum practices and laws. Topics to be discussed include the refugee crisis of the 1930s, Cold War refugees of the 1950s, guest worker policies of the 1970s, the asylum crisis of the 1980s, and the creation of "fortress Europe" in the 1990s. Throughout the course, special attention will be paid to the impact of immigrant and refugee

communities on the social, political, and cultural framework of European countries. 6 units.

Also listed as Government 255

Offered at the London Center in 2003-04

ETST 270

History of Catholicism in America

An examination of the history and development of Catholicism in America from the Colonial Period through the present day. Themes to be addressed include: the roles of women, characteristics of material culture, devotional practices, racism and ethnic discrimination, "threats" to the Republic, and continuities and discontinuities between American Protestant culture and Catholicism. 6 units.

Also listed as Religious Studies 275

Enrollment limit: 20

Prerequisite: Sophomore standing

ETST 271

Conversion and Conquest: Spanish, French, and British Encounters with "The Other"

This course will explore three distinct "frontiers" of conversion and conquest in the New World during the 16th and 17th centuries. The Spanish Conquistadors, the French Jesuits, and the English Puritans brought their very different ideas about Christianity to native peoples with their own distinct religious traditions. The course will examine key aspects of these complex encounters. 6 units.

Also listed as Religious Studies 345

Prerequisite: Sophomore standing or consent of the instructor.

ETST 290

African-American Art

This course traces the artistic and social legacy of African-American art from the 18th century to the present day. Specifically, it focuses on the ways in which artists used creativity to confront, deny, or complicate understandings of racial identity and racism. 6 units.

Also listed as Art History 272

Enrollment limit: 50

ETST 311

Economics of Homosexuality, Heterosexual Marriage, and Gender

Begins with an economic analysis of heterosexual

marriage and the differing roles of men and women in the United States, then extensively analyzes the choices, opportunities, treatment, and outcomes of individuals who are identifiably sexually oriented to others of the same gender. Uses labor economics, statistics, and information economics. 6 units.

Also listed as Economics 235 and Gender Studies 235

Prerequisite: At least one of Economics 100, Economics 120, a calculus course, or a statistics course

ETST 320

Empire and Nation in Russian History

The course examines the history of ethnically diverse territories often referred to as "Russia" from early modern times to 1991. Themes include the formation of the Russian empire, its transformation into the Soviet Union, and its partial collapse in 1991; the meaning of "empire," "nation," and "ethnicity" in historical context; and the interaction of Russians with non-Russian peoples in Ukraine, the Baltic States, Central Asia, and the Caucasus. 6 units.

Also listed as History 315

Prerequisite: Sophomore standing or consent of instructor

History 320 or 325 recommended

ETST 321

Race Relations in the United States, 1865-2000

An examination of relations between black and white Americans since Emancipation. Topics will include Reconstruction, the rise of Jim Crow, the Great Migrations, the Civil Rights Movement, urban unrest, and white backlash. 6 units.

Also listed as History 345

Prerequisites: Sophomore standing and History 132

ETST 322

Modern Japanese History, 1868-2000

A discussion course on modern Japanese history from the Meiji Restoration of 1868 to the present. This course focuses on Japanese efforts to build a new, westernized state and society compatible with Japan's traditional "national polity" and to find a new role in modern East Asia and the world. 6 units.

Also listed as History 365

Prerequisite: History 165

ETST 330

Indians of North America

A cultural study of the Indians of North America, including examination of the impact of European ideas and technology on Indian societies. Emphasis on environmental adaptations, levels of social and cultural complexity, problems of historical interpretation, and the methods and theories of ethnology and their applications to North American cultures.

6 units.

Also listed as Anthropology 350

Enrollment limit: 25

Prerequisite: Anthropology 110

Not offered in 2003-04

ETST 331

Ethnography of Latin America

An introduction to the ethnography of Mexico, the Caribbean, and Central and South America. Special attention to constructions of ethnicity, religion, gender, and nationalism and how these issues have shaped communities and nation-states. The course focuses on clashes over cultural practices as experienced and told by Latin Americans. 6 units.

Also listed as Anthropology 352

Prerequisite: Anthropology 110 or consent of instructor

Not offered in 2003-04

ETST 332

Ethnography of the Middle East and North Africa

Introduction to the diversity of social organization and cultural practice in the Middle East and North Africa. Focus on contemporary Arab and Islamic societies and their ethnic and religious minorities. Topics include tribalism, colonialism, gender, religious practices, migration, and the politics of identity. 6 units.

Also listed as Anthropology 358

Enrollment limit: 25

Prerequisite: Anthropology 110 or consent of instructor

Not offered in 2003-04

ETST 350

Nationalism, Ethnicity, and Politics in Modern India

A study of the attempt to modernize tradition-

directed societies into nation-states. Particular attention to the rise of modern nationalism, the ebb and flow of the independence movement, the structure of modern government, and the contemporary political crisis in India. 6 units.

Also listed as Government 250

Prerequisite: Government 110 or sophomore standing.

ETST 351

Comparative Politics: Asia, Africa, and Latin America

A comparative study of the crucial issues and problems of state-building in old and new countries in the developing areas. Emphasis on theories of political modernization and their application to concrete cases, especially Japan, and a comparison of it with other countries, mainly in Africa and Latin America. Topics include political culture, nationalism, revolution, politics of economic development, and the relation of development to regime types and legitimacy. 6 units.

Also listed as Government 350

Prerequisite: Government 110 or consent of instructor

ETST 360

Survey of African American Literature

A survey of African American literature from slave narratives through contemporary literature. Readings include works by Harriet Jacobs, Frederick Douglass, Langston Hughes, Zora Neale Hurston, Richard Wright, Amiri Baraka, Audre Lorde, and Toni Morrison. 6 units.

Also listed as English 260

Enrollment limit: 20

Prerequisite: English 150 or its equivalent or sophomore standing

ETST 380/381

“Ideal Immigrants”? The German Experience in America

This course explores what it used to mean to be German in the United States and what it means today: bratwurst, beer, and Oktoberfest. Students will consider issues raised by 19th-century immigration that still reverberate in Germany and America: cultural pluralism vs. assimilation, linguistic diversity vs. single, national languages, citizenship vs. “guest” workers. 6 units.

Also listed as German 445/446

Taught in English (380) or German (381). If in English, German majors and minors may participate in a

two-unit tutorial in which discussions and some course readings will be in German.

Prerequisite: When taught in German, German 312 or consent of instructor. When taught in English, none

ETST 382

The Literature and Culture of Ethnic Minorities in Germany

Despite a long-term refusal to open itself to immigration, Germany has become a nation of immigrants and asylum-seekers. The course focuses on “Interkulturalität,” an intercultural clash that causes both alienation and intellectual ferment. Examples of texts by Turkish and Italian writers residing in Germany and by ethnic German writers from Rumania provide insight into “interculturality.” 6 units.

Also listed as German 447

Prerequisite: German 312 or consent of instructor

ETST 420

The American Civil War

A comprehensive examination of the Civil War era between 1840 and 1877. Major themes and topics will include the political crisis leading to succession, the military conduct of the war, the end of slavery, the effects of the war on American society, and Reconstruction. 6 units.

Also listed as History 470

Enrollment limit: 15

Prerequisites: Junior standing and History 131

ETST 450

Politics of Race and Ethnic Relations

A comparative, interdisciplinary examination of the theories of race and ethnic relations, of underlying conditions and patterns of ethnic conflict, and of governmental responses to such conflict. Emphasis on the role of the state and governmental policy in the development of ethnic identities, ethnic social movements, and ethnic conflict in multiethnic societies. 6 units.

Also listed as Government 440

Enrollment limit: 20

Prerequisite: Junior standing or consent of instructor
Government 110 recommended

ETST 560

Contemporary British and Post-Colonial Fiction

A survey of contemporary fiction in Britain, with an

emphasis on the impact of post-colonial and multicultural writers and perspectives. Authors may include Chinua Achebe, Angela Carter, Keri Hulme, Hanif Kureishi, Patrick McCabe, V. S. Naipaul, Jean Rhys, Salman Rushdie, Amos Tutuola, and Irvine Welsh. 6 units.

Also listed as English 507

Prerequisite: Junior standing, English 240, or consent of instructor

ETST 561

Literature of the Harlem Renaissance

A focused study of a genre, literary movement, or group of authors within the African American literary tradition. The topic will vary from year to year. Possible topics include Literature of the Harlem Renaissance, African American Autobiography, Recent African American Fiction. 6 units.

Also listed as English 510

Prerequisite: Junior standing, English 250 or 260, or consent of instructor

ETST 580

Le Roman Québécois

An introduction to the 20th-century Québécois novel, with readings from the works of representative novelists such as Gabrielle Roy, Gerald Bessette, Marie-Claire Blais, Claude Jasmin, Rejean Ducharme, Louky Bersianik, and Yves Beauchemin. Course examines the writers' depiction of French-speaking Canadian society and their treatment of political, feminist, and literary themes. 6 units.

Also listed as French 540

Not offered in 2003-04

ETST 582/583

Hispanic Issues

This course covers the main cultural issues in the contemporary Hispanic world. It concentrates on both the Hispanics of Latin America and those of the United States. Through theoretical materials as well as literature, film, historical documents, testimony, etc., this course addresses a variety of subjects related to the Hispanic culture. Taught in Spanish (583) and in English (582). 6 units.

Also listed as Spanish 565/566

Enrollment limit: 15

Prerequisites: When taught in Spanish, one 400-level Spanish course, its equivalent, or consent of instructor. When taught in English, sophomore standing or consent of instructor

ETST 584

Black Cultural Nationalisms

A study of the variations of black cultural nationalism in the works of Francophone writers from Africa and the Diaspora. The course examines the writers' challenge to the "Negritude" school and the ways in which they articulate plural and locational black identities to affirm their unique sense of national belonging. Readings from authors such as L. S. Senghor, Aimé Césaire, Camara Laye, Maryse Condé, Patrick Chamoiseau, Raphael Constant, and Edouard Glissant. 6 units.

Also listed as French 588

FRENCH

Associate professors: Hoft-March, Sarnecki*, Seaman
(associate dean of the faculty), Vetinde (chair)
Instructor: Goellner

Goals of the beginning and intermediate sequences in French are comprehension of both the oral and written language on more than an elementary level, development of the capacity to express reasonably complicated thought both orally and in writing, and an introduction to French and Francophone literatures and cultures.

At the advanced level, the student is expected to reach competence in use and knowledge of the French language and to become acquainted with ideas in literature, literary genres, selected themes, and a sampling of critical approaches as well as with important aspects of French history and civilization.

From the beginning, French is used extensively, if not totally, in the classroom. Except where specified, all class discussion, essays, and examinations are conducted in French. Even in the early stages, students write free compositions; in more advanced courses they write analytical and interpretive essays.

Placement

Placement examinations for students taking French at Lawrence for the first time are given during Welcome Week. Students wishing to place out of the language requirement by proficiency examination should sign up through the department chair for an oral proficiency interview and writing exam in addition to the placement test.

At the beginning and intermediate levels, courses are numbered to indicate relative difficulty, the lowest numbers identifying those that require the least proficiency in French. At the level of French 400 and above, however, students should consult a French instructor.

At whatever level students place, they should plan to begin their study of French in the freshman or sophomore year.

Required for the French major

Students complete a French major by taking a minimum of ten six-unit courses beyond French 202, including French 301 and/or 302; either French 500, 510 or study in France, West Africa, or Québec; and French 515. The concentration in French and Francophone literature includes a combination of six literature courses. At least one of these courses must represent literature before 1800, one literature after 1800, and one Francophone literature. At least three of the advanced courses (numbered 500 and above) must be taken on the Appleton campus. In addition, students must take at least one advanced course (numbered 400 or above) outside the department in European history, anthropology, or art and music history. In the last year of study, a student must complete a senior project that may take any form appropriate to French study. Also, the department strongly recommends that majors take at least one course in linguistics or Latin.

Finally, all French majors will be required to assemble a portfolio of a selection of their work in the French program. The portfolio is designed to keep a record of progress over the course of a French major's career in terms of linguistic proficiency, mastery of specific literary and cultural content, and sophistication of ideas. Portfolios must be submitted by the second week of Term III of the student's senior or super-senior year. The French department will receive and approve only completed portfolios, and the portfolio submissions must be in hard copy as well as on computer disk.

The French portfolio must include:

1. A list of all courses taken for the major
2. A list of work included in the portfolio
3. A brief statement (one and a half to two pages) in which students evaluate their progress in the French program
4. Samples of students' work will be drawn from each of the following four categories:
 - a. A sample essay from either French 301 or 302
 - b. A sample essay from either French 500, 510, or a culture or civilization course taken on a French program abroad
 - c. A sample essay from a literature course of the

*On leave Term I

student's choice

d. The student's senior capstone project

A student may request permission to submit a tape or video recording of an oral presentation in place of one essay.

Required for the French minor

Students complete a French minor by taking a minimum of six six-unit courses beyond French 202, including French 301 and/or 302; either French 500, French 510, or study in France, West Africa, or Québec; and French 515. At least one of the six courses must represent French literature and another Francophone literature. Students who minor in French are required to attend at least six meetings of the French Table and complete a short project to be approved by the department. A C or above average in the minor also is required.

Concerning study abroad

The department urges students to take advantage of the international study programs in France, Senegal, or Québec. (See page 250.)

Courses

FREN 101

Beginning French I

A beginning course designed to give training in reading, writing, speaking, and understanding. This course is for students with no previous training in the French language. It is recommended that students take 101, 102, and 200 in three consecutive terms. 6 units.

Five class meetings per week

FREN 102

Beginning French II

A continuation of French 101. It is recommended that students take 101, 102, and 200 in three consecutive terms. 6 units.

Five class meetings per week

Prerequisite: French 101

FREN 200

Intermediate French I

A continuation of French 102, structured to help students develop their skills in reading, writing, speaking, and listening. 6 units.

Five class meetings per week

Prerequisite: French 102 or placement by the department

FREN 201

Intermediate French II

Designed to help students attain facility in reading and oral comprehension and mastery of basic skills in writing and speaking. Includes grammar review that continues in French 202. Students with two to four years of high school French or the equivalent should contact the department about placement in this course. 6 units.

Four class meetings per week

Prerequisite: French 200 or placement by the department

FREN 202

Intermediate French III

A continuation of French 200 or 201, intended to develop further a student's proficiency in the four language skills. 6 units.

Prerequisite: French 200 or 201 or a minimum of three years of high school French or the equivalent

Placement determined by examination and consultation with the instructor

Four class meetings per week

FREN 301

Introduction aux études littéraires

A bridge between intermediate and advanced courses, with readings from across the centuries of French literature. Focus on close reading and discussion of short texts by Villon, Labé, Voltaire, Hugo, Maupassant, Camus, and Duras. Several short essays. 6 units.

FREN 302

Conversation à travers le cinéma

This course presents modern French films for study and discussion. While emphasizing both speaking and listening, the course will help students develop new vocabulary and communicate sophisticated ideas in comprehensible French. Students will often lead class discussion and give short oral presentations as well as write brief interpretive essays. 6 units.

FREN 325

Destination Dakar

A required course for students who plan to take French 400 that will serve as an introduction to Dakar. Students will be asked to participate in weekly

meetings and an intensive orientation weekend. 2 units.

FRANCOPHONE SEMINAR

A seminar that will take students to French-speaking West Africa for ten weeks. Study abroad will include both the French and Wolof languages, Senegalese history and culture, and African literature written in French. Varied excursions will help students to appreciate, discuss, and analyze cultural differences.

Offered in Term III 2003-04 and in alternate years thereafter

FREN 400

Senegalese Culture

6 units.

Also listed as Anthropology 450

FREN 401

Senegalese Literature and History

6 units.

FREN 402

French Language

3 units.

FREN 403

Beginning Wolof

3 units.

FREN 450

Independent Readings in French

For students wishing to read French in fields other than French language and literature. Planned and carried out with a member of the department. May be taken for more than one term; may be taken for full or partial credit.

Prerequisite: Consent of instructor

FREN 500

Cours de civilisation: la France et la Francophonie

A study of cultural, social, political, and economic developments in France and the Francophone world from the French Revolution to the present. Insights into the ways in which France has influenced and continues to influence Francophone cultures worldwide and how they in turn tend to shape French society in various domains. Readings are complemented by selected films. 6 units.

FREN 510

Les actualités

A critical analysis of current events in France and the rest of the French-speaking world, through the discussion of recent newspaper and magazine articles

as well as selected radio and television broadcasts from the French media. Allows students with a wide range of interests to work through independent study and collaboration with other students toward an understanding of France and the Francophone world at the beginning of the 21st century. 6 units.

FREN 515

Cours pratique

Intensive advanced study of phonetics, idiom, usage, and grammatical structure, designed for students who want to communicate effectively in French. Required of majors and prospective teachers of French. 6 units.

Prerequisite: Two courses above the level of French 202

FREN 524

Le siècle des lumières

An introduction to 18th-century French literature, focusing on the critical spirit of authors such as Diderot, Graffigny, Voltaire, Rousseau, and Charrières; the objects — morals, social institutions, literary genres — and modes of their critique; and their idealized alternatives, which helped to lay the foundations for Romantic thought. 6 units.

FREN 526

La conscience romantique

An introduction to French literature of the early 19th century and an examination of Romanticism's aesthetics of the sublime, its melancholy individualism, and its modernist outlook. Readings of many genres from writers such as de Staël, Lamartine, Hugo, Musset, and Sand. 6 units.

FREN 528

Du réalisme au symbolisme

An introduction to French literature of the late 19th century. Readings include novels and short stories that employ the mimetic function of language to describe the "real world" and poetry that espouses "art for art's sake" and transforms the word into a symbol for the initiated. Authors include Balzac, Baudelaire, Flaubert, Maupassant, Zola, Rimbaud, and Mallarmé. 6 units.

FREN 530

Du modernisme au post-modernisme

An introduction to 20th-century French literature. Readings from Colette, Proust, Gide, Breton, Duras, Ernaux, and Robbe-Grillet reflect the loss of belief in a transparent language and a unified subject. In the process, they show how literary texts came to take

the creative process itself as their subject. 6 units.

FREN 534

Cinéma et littérature Francophones

A study of theories of film, theatre, and the novel in French-speaking Africa and the Caribbean. Focusing on the works of Ousmane Sembene, Aimé Césaire, Joseph Zobel, and Raoul Peck, the course examines the effectiveness and limitations of certain genres in the articulation of nationalist discourses as well as the ways in which they complement each other. 6 units.

FREN 536

Romancières noires d'expression Française

An introduction to the writing of Francophone women writers from Africa and the Caribbean such as Mariama Bâ, Animata Sow Fall, Calixthe Beyala, Assia Djébar, Maryse Condé, and Simone Schwartz-Bart. Focuses on their representation of society, the challenge of patriarchal hegemony, and the (re) construction of female identity. 6 units.

Also listed as Gender Studies 546

FREN 540

Le roman Québécois

An introduction to the 20th-century Québécois novel, with readings from the works of representative novelists such as Gabrielle Roy, Gerald Bessette, Marie-Claire Blais, Claude Jasmin, Rejean Ducharme, Louky Bersianik, and Yves Beauchemin. Course examines the writers' depiction of French-speaking Canadian society and their treatment of political, feminist, and literary themes. 6 units.

Also listed as Ethnic Studies 580

Not offered in 2003-04

FREN 568

France sous l'occupation

This course looks at France and its people under Nazi occupation. It examines well-known films and literature produced under German and Vichy censorship and the risks those cultural products did or did not entail. It then compares those literary and cinematic texts with more recent attempts to make sense of this difficult period. 6 units.

FREN 588

Black Cultural Nationalism

A study of the variations of black cultural nationalism

in the works of Francophone writers from Africa and the Diaspora. The course examines the writers' challenge to the "Negritude" school and the ways in which they articulate plural and locational black identities to affirm their unique sense of national belonging. Readings from authors such as L. S. Senghor, Aimé Césaire, Camara Laye, Maryse Condé, Patrick Chamoiseau, Raphaël Constant, and Édouard Glissant. 6 units.

Also listed as Ethnic Studies 584

FREN 600

Senior Seminar

Seniors meet with the instructor early in Term I to select a specific topic. They read and discuss texts at the beginning of the winter term, then formulate their own projects, which may take them in a direction of their choice (literature, art, history, music, etc.). 6 units.

FREN 190, 390, 590, 690

Tutorial Studies in French

Topic of study and the structure of the term's work depend on the interest of the student, the instructor, and the subject. Tutorials are not substitutes for courses but opportunities to pursue topics suggested by courses. May be taken for more than one term; may be taken for full or partial credit.

FREN 199, 399, 599, 699

Independent Study in French

A thorough investigation of a topic of a student's choice, carried out in consultation with an instructor. Students considering an honors project in their senior year should register for these courses, for one or more terms (see "Honors at Graduation," page 275). Variable credit.

Recent tutorial topics in French

George Sand et le récit féministe
 Désir et écriture: Liaisons dangereuses
 L'Islam dans la littérature africaine contemporaine
 Les visages du vaudou dans le roman antillais
 La littérature de l'holocauste
 La Musique Rai

FRESHMAN STUDIES

Director: E. De Stasio (biology)

A part of the Lawrence curriculum since 1945, Freshman Studies is best described as an introduction to liberal learning. In their two terms of Freshman Studies, students are encouraged to confront new ideas, to test and revise their own thinking, and to build an intellectual foundation for the rest of their lives. Each section of the course numbers about 15 students, which allows for close relationships between students and teachers — but, because every section is engaged with the very same works, Freshman Studies also helps students join in the life of a much larger community, one that includes not only their current classmates but also entire generations of Lawrentians.

In keeping with such goals, Freshman Studies is expansive and inclusive. Instead of endorsing a single point of view, the course embraces works from a variety of intellectual and cultural traditions. Recently, students have been invited to contrast Plato with the Taoist philosopher Chuang Tzu and to compare the novels of Fyodor Dostoevsky with those of Chinua Achebe and Jane Austen. Every year, students taking Freshman Studies are exposed to works drawn from every division of the Lawrence curriculum, including works of art and music. Thus, the syllabus has featured works by Virginia Woolf and Karl Marx, Pablo Picasso and Elizabeth Bishop, Aldo Leopold and Duke Ellington.

Through their encounters with such works, students and faculty members gain an appreciation of different art forms, an understanding of different approaches to knowledge, and a sense of the connections and conflicts between different intellectual traditions.

Perhaps more importantly, they also join each other in exploring a host of important human questions: the nature of authority, the discernment of good and evil, the attainability of truth. Of course, there are no easy answers to such questions, but in Freshman Studies the aim is not to solve a problem so much as to deepen our awareness of its difficulties

and complexities and to study possible answers provided by a few of the world's greatest thinkers.

Freshman Studies also serves more immediate and practical goals, including that of helping students develop particular skills. In the first term, students hone their abilities to define and explain a concept, to summarize an argument, and to analyze texts of various sorts. In the second term, students not only refine but apply those skills; instead of focusing most of their papers on a single passage or even a single work, they are asked to compare and contrast at least two works. In addition, they must consider other writers' interpretations and assessments of a work, moving toward the kinds of writing usually reserved for upperclass students. Thus, by the time students have completed Freshman Studies, they have not only encountered a number of important works and ideas but also have begun to acquire, to develop, and to practice the skills associated with liberal education.

Individual sections of the course are taught by faculty members from all departments. In the first term, a student might work with a historian or painter, in the second with an oboist or chemist or anthropologist. Thus, in the selection of the teaching staff, as in the choice of works and the design of the assignments, Freshman Studies is a reflection of Lawrence's commitment to the liberal arts, to the notion that liberally educated men and women need not be bound by their training, their histories, or their habits. Indeed, Freshman Studies stands as proof that, for a liberally educated person, no discipline or tradition, no single branch of knowledge stands isolated from the rest; all are connected, not only to each other but to every one of us.

Courses

FRST 100

Freshman Studies I

Required of first-year students and selected transfer students. Through the study of works representing a variety of intellectual and cultural traditions, students develop fundamental skills: the ability to

define a concept, to summarize an argument, or to analyze a passage. Throughout the term, instructors stress close reading, cogent discussion, and precise writing. Regular class work is supplemented by lectures and performances by Lawrence faculty members or by visiting scholars or artists. 6 units.

FRST 101

Freshman Studies II

Required of first-year students and selected transfer students. A continuation of *Freshman Studies I*, this course is designed to help students refine their abilities as readers, writers, and thinkers. In this term, writing assignments require students to compare and contrast particular works and to reckon with earlier interpretations and assessments of those works. As in *Freshman Studies I*, instructors stress close reading, cogent discussion, and clear writing. Regular class sessions are again supplemented by lectures and performances by Lawrence faculty members or by visiting scholars or artists. 6 units.

Freshman Studies Works List, 2003-04

In the order in which they are studied

Fall Term 2003

Karl Marx and Friedrich Engels, *The Communist Manifesto*

Plato, *The Republic*

William Shakespeare, *Measure for Measure*

Elizabeth Bishop, *The Complete Poems 1927-1979*

Lila Abu-Lughod, *Veiled Sentiments: Honor and Poetry in a Bedouin Society*

Modest Mussorgsky, *Pictures at an Exhibition*

Winter Term 2004

Fyodor Dostoevsky, *Notes from Underground*

Stanley Milgram, *Obedience to Authority*

Chinua Achebe, *Things Fall Apart*

Aldo Leopold, *A Sand County Almanac*

Wriston Art Gallery: "Visions of Ukiyo-e: The Landscapes of Hiroshige"

Chuang Tzu, *Basic Writings*

GENDER STUDIES

Faculty advisors: Bloom (English), Daughtry** (anthropology), Haines (psychology), Hemwall (anthropology, dean of student academic services), Hoffmann (English), Hoft-March (French), Hollis (English), Kern (history), Privatt* (theatre arts), Rew-Gottfried (psychology), Richards (library), Sarnecki* (French), Spurgin (English), Vorenkamp (religious studies), Wall*** (biology, chair)

Gender is a fundamental aspect of personal and social identity and a biological, psychological, and cultural category of paramount importance for people everywhere. In addition, gender is often a criterion for social stratification and different political treatment, as well as a favored symbol for expressing essential values and beliefs. Gender studies offers students an opportunity for focused study of such varied issues, in both contemporary and past societies, as human reproduction, sex roles in the family and society, the psychology of identity, sexual orientation, and images of men and women in literature and art.

Required for the major in gender studies

1. Two core courses (interdisciplinary in nature):
Gender Studies 100: Introduction to Gender Studies
Gender Studies 200: *Introduction to Feminist Theory and Practice*
2. At least six additional six-unit courses, usually cross-listed and offered within various disciplines, that focus primarily on gender. The six courses must be distributed as follows:
 - a. One must be either Gender Studies 110 or Gender Studies 350.
 - b. One must be either Gender Studies 180 or Gender Studies 270.
 - c. At least two courses must be at the level of 200 or above.
 - d. At least one course must be at the level of 400 or above.
 - e. Courses must be taken in at least two academic divisions (humanities, social sciences,

natural sciences, fine arts). Completion of independent study in gender studies can be substituted for one course.

3. Two additional six-unit courses that are either (1) cross-listed in gender studies or (2) offered in other departments but which may be taken for credit in gender studies. These courses include those whose primary focus is something other than gender but in which students' individual work (essays, research projects, etc.) must be focused on gender issues. In order to have a course outside the gender studies program approved for the requirement, students complete a form (to be signed by the instructor and their gender studies advisor) that outlines which course requirements will be fulfilled with work applicable to gender studies. This form must be completed and submitted to the gender studies advisor by the end of the second week of the term. Forms may be downloaded from the gender studies Web page (www.lawrence.edu/dept/gender_studies/).
4. Students will enroll in a capstone experience that is approved by the Gender Studies Steering Board and mentored by a gender studies advisor. The capstone may be an independent study, internship/practicum, or cross-disciplinary project. The capstone experience should draw on concepts and materials from the gender studies core courses.

Gender studies faculty advisors have developed a list of potential courses in which the instructors have agreed that students can focus individual work on gender or in which a focus on gender is a regular part (see page 123 for a list of these courses).

Courses cross-listed in gender studies will count toward completion of the major whether students register for them using the program's designation (GEST) or an individual department's designation.

Required for the minor in gender studies

*On leave Term I; **on leave Term II; ***on leave Term III

1. Two core courses: Gender Studies 100:
Introduction to Gender Studies
Gender Studies 200: *Introduction to Feminist Theory and Practice*
2. Four additional six-unit courses that focus primarily on gender. The four courses must be distributed as follows:
 - a. Two must be cross-listed in gender studies; the two remaining courses may be in gender studies or offered in other departments. If offered in other departments, students must complete a form (to be signed by the instructor and their gender studies advisor) that outlines which course requirements will be fulfilled with work applicable to gender studies. This form must be completed and submitted to the gender studies advisor by the end of the second week of the term. Forms may be downloaded from the gender studies Web page (www.lawrence.edu/dept/gender_studies).
 - b. At least two courses must be at the level of 200 or above.
 - c. Courses must be taken in at least two academic divisions (humanities, social sciences, natural sciences, fine arts). Completion of independent study in gender studies can be substituted for one course.
3. C average in the minor

Courses cross-listed in gender studies will count toward completion of the minor whether students register for them using the program's designation (GEST) or an individual department's designation.

Courses

GEST 100

Introduction to Gender Studies

Introduces the concept of gender as a multidisciplinary category of analysis, asking how gender identity is constructed by the sciences, social sciences, humanities, and fine arts. Aimed at first-year and second-year students. Practicum experience in each division. 6 units.

Enrollment limit: 24

GEST 110

Gender and Feminism in Historical Perspective

A comparative world history of both gender relations

and the emergence of a feminist consciousness within the past 500 years. Case studies drawn from different regions of the world will precede the examination of the emergence of a global feminism in the late 20th and early 21st centuries. Topics will include the social roles of men and women, ideas about masculinity and femininity, understandings of sexual orientation, forms of systematic subordination, and the politics of modern feminisms. 6 units.

Also listed as History 140

GEST 180

The Biology of Human Reproduction

An introductory lecture course focusing on human reproduction to demonstrate some basic biological principles. Discussion of aspects of molecular, cellular, and organismic phenomena related to the development of human biological complexity and consideration of current research and its impact on the individual and on society. 6 units.

Lecture only

Also listed as Biology 100

Primarily for non-science majors, credit not applicable to the biology major

GEST 200

Introduction to Feminist Theory and Practice

Examines and critiques a variety of feminist theories and how they apply to women's and men's lives today. We explore the tension between feminist theory and practice as we look at significant contributions to the field by women of color, gay and lesbian studies, queer studies, and the study of masculinities. 6 units.

Enrollment limit: 15

Prerequisite: Sophomore standing

GEST 215

Women in Classical Antiquity

This course examines the roles of women in ancient Greek, Hellenistic, and Roman societies, using historical, literary, art historical, and archaeological sources. We discuss these cultures' constructions of gender and the ways in which they affected the relationship of women (and men) to the social, religious, political, economic, and legal institutions. 6 units.

Also listed as Art History 302 and Classics 355

Prerequisite: Sophomore standing

GEST 220

Women in Early America, 1607-1860

An examination of the experiences of women in early America, focusing both on women's lives and on the changing economic, political, and cultural roles they played in American society. Themes include women and the family, women's religious experiences, women and industrialization, and the effects of slavery on black and white women. 6 units.

Also listed as History 335

Prerequisite: Sophomore standing or consent of instructor

GEST 235

Economics of Homosexuality, Heterosexual Marriage, and Gender

Begins with an economic analysis of heterosexual marriage and the differing roles of men and women in the United States, then extensively analyzes the choices, opportunities, treatment, and outcomes of individuals who are identifiably sexually oriented to others of the same gender. Uses labor economics, statistics, and information economics. 6 units.

Also listed as Economics 235 and Ethnic Studies 311

Prerequisite: At least one of Economics 100, Economics 120, a calculus course, or a statistics course

GEST 260

Women and Gender in Russian Culture

Introduction to issues of gender roles and gender identity in Russian culture and society. After providing basic historical background, the course will explore the portrayal of women in literary texts (written by both men and women). The last segment of the course concentrates on social issues of the late Soviet and post-Soviet periods. 6 units.

No knowledge of Russian required

Also listed as Russian 335

GEST 270

The Psychology of Gender

An examination of theory and research on gender identity, gender roles, and the similarities and differences between males and females in our society. Topics include gender stereotypes, gender role development, and psychological androgyny, as well as sex differences in cognitive abilities, aggression, mental health, sexuality, and family roles. 6 units.

Also listed as Psychology 310

Enrollment limit: 35

Prerequisite: One of the following: Psychology 240, 250, 260, 265, or 270 or Gender Studies 100

GEST 314

Family, Sexuality, and the State in South Africa

An exploration of the social history of South Africa from the arrival of the Dutch in 1652 to the present. This course focuses on how people adapted their ideas of gender and family to meet the challenges of colonial conquest, apartheid, and the liberation struggle. Topics include the mineral and industrial revolutions, migrant labor, traditional religion and Christianity, democratization, and recent controversies over homosexuality, witchcraft, and AIDS. 6 units.

Also listed as History 219

Prerequisite: Sophomore standing

GEST 315

Gender in 20th-Century Africa

An examination of the changing roles of African men and women in the 20th century. The course will focus on the rapid social transformations of the 20th century — colonialism, abolition of slavery, the spread of Christianity and Islam, urbanization, the birth of new nations — and their challenges to traditional understandings of what it meant to be a man or woman. Special emphasis on the balance of power between the sexes under colonialism, the use of cultural conservatism to bolster and to resist colonial rule, and the efforts of individual men and women to re-imagine themselves in swiftly changing societies. 6 units.

Also listed as History 220

Prerequisite: Junior standing or some gender studies background

GEST 330

Women and Politics

A survey of the role of women in contemporary politics, both domestic and international. Topics covered include the feminist movement in the U.S. and other democracies, women as political actors, and women's contribution to war and peace. 6 units.

Also listed as Government 290

Prerequisite: Government 110 or sophomore standing

GEST 350

Women and Men in Cross-Cultural Perspective

An anthropological approach to the study of gender,

the sexual division of labor, marriage, and reproduction. Emphasis on biosocial and comparative/historical perspectives that emphasize universals and commonalities across cultures as well as the uniqueness of male/female experience cross-culturally. 6 units.

Also listed as Anthropology 306

Prerequisite: Anthropology 110 or Gender Studies 100

GEST 351

Archaeology of Gender

An examination of the relationship between gender and material culture. Focus on how gender and gender roles are reflected in the archaeological record and on the problems in identifying and determining gender roles in prehistory. Readings include studies from both the Old and New Worlds and modern theoretical approaches. 6 units.

Also listed as Anthropology 320

Prerequisite: Anthropology 110 or 140 or consent of instructor

GEST 365

Women in Asian Religions

Examination of the role of women in Asian societies by exploring issues pertaining to women in the religions of Indian, Chinese, and Japanese societies. Students will examine the role, influence, and impact of (and upon) women in Hinduism, Taoism, Confucianism, and Shintoism to learn how each religion and culture has responded to women's issues. 6 units.

Also listed as Religious Studies 360

Prerequisite: One course in Asian religions

GEST 415

Society and the Sexes in Pre-Industrial Europe

A seminar, organized topically, exploring changing gender definitions, economic and social roles, family structures and functions, and styles of intimacy from the Middle Ages to the 18th century. A variety of primary sources and scholarly interpretations examined. 6 units.

Also listed as History 430

Enrollment limit: 18

Prerequisite: Junior standing or consent of instructor

GEST 440

Virginia Woolf and the Bloomsbury Group

A study focused on the literature and art produced

by the Bloomsbury Group, an early 20th-century London-based network of novelists, painters, economists, and philosophers that includes Virginia Woolf, E. M. Forster, Lytton Strachey, Bertrand Russell, J. M. Keynes, and the painters Vanessa Bell and Duncan Grant. 6 units.

Also listed as English 482

Prerequisite: Junior standing, an intermediate course in English, or consent of instructor

GEST 445

Gender and Modernist British/American Literature

A study of the construction of gender in early 20th-century fiction and poetry. Authors include Cather, Woolf, Lawrence, Hemingway, Sassoon, and others. 6 units.

Also listed as English 515

Prerequisite: Junior standing, an intermediate course in English or gender studies, or consent of instructor

GEST 546

Romancieres Noires d'Expression Française

An introduction to the writing of Francophone women writers from Africa and the Caribbean such as Mariama Bâ, Animata Sow Fall, Calixthe Beyala, Assia Djebar, Maryse Condé, and Simone Schwartz-Bart. Focuses on their representation of society, the challenge of patriarchal hegemony, and the (re) construction of female identity. 6 units.

Also listed as French 536

GEST 548

Women's Writings

A course on women's writing from different times and Spanish-speaking cultures. It will emphasize theoretical approaches to women's writings and closely read some relevant authors, from colonial times to contemporary ones. Taught in English and/or in Spanish. 6 units.

Also listed as Spanish 545

Enrollment limit: 15

Prerequisite: When taught in Spanish, one 400-level Spanish course, its equivalent, or consent of instructor. When taught in English, none

GEST 555

Women and Gender in Islam

A critical examination of the constructs, institutions,

and modes of thought that have played a crucial role in defining women's roles in Muslim societies. An in-depth focus on Islamic discourses on gender from the time of the prophet Muhammad to the present and an examination of some of the key issues that have shaped the status of women across Islamic cultures.

6 units.

Also listed as Religious Studies 520

Prerequisite: Two courses in religious studies or consent of instructor

GEST 556

Eve, Adam, and the Serpent

A close analysis of the Genesis story and a survey of its exegesis in the three Abrahamic traditions: Judaism, Christianity, and Islam. Students will compare how these three distinct but related traditions define and sanction gender roles through sacred scripture, commentary, law, historical (re)vision, and modern feminist critique. 6 units.

Also listed as Religious Studies 540

Enrollment limit: 15

Prerequisites: Sophomore standing and one course in one of the relevant traditions.

GEST 190, 390, 590, 690

Tutorial Studies in Gender Studies

Advanced study, arranged and carried out under the direction of an advisor. Variable credit.

GEST 199, 399, 599, 699

Independent Study in Gender Studies

Advanced study, arranged in consultation with an advisor. Students considering an honors project should register for this course for one or more terms (see "Honors at Graduation," page 275). Variable credit.

Courses in which individual work can be focused on gender

ANTH 308: *Emotion, Identity, and Culture*

ANTH 330: *Language and Culture*

ANTH 376: *Urban Communities of the U.S.*

ANTH 508: *Freaks, Deviants, and Stigmatized People: Cultural Perspectives on Normality*

ARHI 200: *Archaic and Classical Greek Art*

ARHI 202: *Art of the Hellenistic Age*

ARHI 204: *Roman Art*

ARHI 220: *Art of the Italian Renaissance*

ARHI 550: *Seminar: Portraiture*

BIOL 103: *Biotechnology and Society*

BIOL 237: *General Endocrinology*

EALC 140 (HIST 160): *Traditional East Asian Civilization*

EALC 150 (HIST 165): *Modern East Asian Civilization*

EALC 260: *East Asian Classics in Translation*

EALC 350: *Modern Chinese Literature and Cinema in Translation*

EDUC 330: *Sociology and Philosophy of Education*

EDUC 350: *Multicultural Education*

ENG 260: *Survey of African American Literature*

ENG 460: *The Victorian Age*

ENG 465: *The English Novel*

ENG 500: *Contemporary American Fiction*

ENG 507: *Postcolonial Literature*

ENG 510: *Selected Studies in African American Literature*

ENG 525: *Contemporary Critical Theory*

FREN 526: *La conscience romantique**

FREN 530: *Du modernisme au post-modernisme**

FREN 568: *France sous l'occupation**

GOVT 340: *International Politics*

HIST 205: *Cross-Cultural Contacts in the Early Modern World*

HIST 260: *Culture and Power in Renaissance Europe*

HIST 261: *Rebellion and Discipline in Reformation Europe*

HIST 280: *Religion, Magic, and Witchcraft in Early Modern Europe*

HIST 290: *Modern European Thought I*

HIST 291: *Modern European Thought II*

HIST 330: *History of the American West*

HIST 470: *The American Civil War*

HIST 480: *Reconsidering the 1960s*

MURP 452: *Literature of the Piano*

PSYC 260 or 265: *Developmental Psychology*

PSYC 270: *Social Psychology*

PSYC 460: *Adolescent Psychology*

PSYC 480: *Historical Origins and Contemporary Viewpoints of Psychology*

PSYC 560: *Social Development*

RLST 240: *Islam*

RLST 280: *Quran*

RUSS 300: *Seduction, Marriage, and Adultery: 19th-Century Literature in Translation*

SPAN 520: *Survey of Latin American Literature I***

SPAN 521: *Survey of Latin American Literature II***

THAR 327: *Playscript Analysis*

*Taught in French

**Taught in Spanish

GEOLOGY

Professor: Bjørnerud (chair)

Assistant professors: Clark, Knudsen

If “geology” makes you think of dusty collections of rocks, minerals, and old bones, visit the Lawrence geology department. You will discover a thriving group of faculty members and students who consider geology to be a way of seeing the Earth, a lens through which the planet’s past and present come simultaneously into focus.

Lawrence geology students have an exceptional range of research experiences, comparable to what students from larger universities would first encounter at graduate school. In a single academic term, you could find yourself sampling ice-age lake sediments aboard the department’s research vessel, mapping the roots of an ancient mountain belt in Michigan’s upper peninsula, instrumenting a watershed in northern Wisconsin, examining microscopic rock structures with state-of-the-art image-analysis software, and conducting geochemical and crystallographic studies with research equipment shared with the chemistry and physics departments. Of the five to ten geology majors who graduate from Lawrence each year, more than half complete senior thesis projects, and many present results of their research at professional meetings.

Field-based studies are at the heart of the Lawrence geology program. Recent destinations for the annual all-department field trip have included Hawaii, Wyoming, Colorado, the Grand Canyon, and Puerto Rico. Shorter trips are integrated into academic-year courses, and there also are opportunities for summer field courses, internships, and research projects. Appleton is within a few hours’ drive of classical geological localities, including iron ore deposits and ancient volcanoes in northern Wisconsin and Michigan, a fossil forest preserved in glacial sediments on the shores of Lake Michigan, and the world-renowned glacial landscape of the Kettle Moraine. Local environmental issues related to surface and groundwater protection also provide the basis for student field projects.

In many ways, geology is the ideal liberal arts

degree. It is a discipline that draws not only upon one’s observational and analytical abilities but also upon one’s aesthetic and creative instincts.

Careers in geology

Protecting and maintaining our physical environment, while simultaneously extracting vital resources, presents scientific challenges and creates a wide range of professional opportunities. In addition to preparing students for employment in the environmental geosciences, the Lawrence geology department continues to prepare students for careers in the energy and minerals industries, government, and earth science education. Lawrence geology graduates will tell you that a degree in geology is perfect preparation for a career in law, government, business, technology, or the arts.

Required for the geology major

A. Required core sequence

Geology 110: *Introductory Geology*

Geology 210: *History of Earth and Life*

Geology 240: *Chemistry of the Earth: Low-Temperature Environments*

Geology 250: *Chemistry of the Earth: High-Temperature Environments*

Geology 360: *Physics of the Earth: Surface Processes*

Geology 370: *Physics of the Earth: Subsurface Processes*

Geology 600: *Senior Capstone: Quaternary Studies*

B. Additional courses in geology

Three additional six-unit courses in geology, including two courses numbered 200 or higher and at least one seminar, extended field trip, or internship

C. Courses in other sciences and mathematics

Chemistry 115 (may be waived by placement exam);

Mathematics 107 or 117 or 120 or 140 or 207

Physics 120 or 150

Required for the geology minor

- A. Required core sequence
 - Geology 110: *Introductory Geology*
 - Geology 210: *History of Earth and Life*
 - Any two of the following:
 - Geology 240: *Chemistry of the Earth: Low-Temperature Environments*
 - Geology 250: *Chemistry of the Earth: High-Temperature Environments*
 - Geology 360: *Physics of the Earth: Surface Processes*
 - Geology 370: *Physics of the Earth: Subsurface Processes*
- B. Additional courses in geology
 - Three additional six-unit courses in geology, including one with a laboratory and at least two numbered 200 or higher and:
 - One three-unit seminar, extended field trip, or internship
- C. C average in the minor

Required for the interdisciplinary major in the natural sciences in geology and a secondary discipline

1. Geology 110 and Geology 210
2. Physics 150 and 160 or, with the permission of the secondary department, Physics 120 and 130.
3. Either:
 - a. Biology 110 and 120 or Biology 110 and 140 or:
 - b. Chemistry 115 and 116 or Chemistry 119 or equivalent, chosen to include the secondary interest
4. At least 10 six-unit courses in the sciences (biology, chemistry, geology, and physics) numbered 200 or above, with at least five in geology and at least three in the secondary discipline
5. Geology 600

Certification for secondary-school teaching in earth and space science

As of August 1, 2004, students who wish to be certified for licensure in science must complete the following requirements:

1. Complete a major in one of the following disciplines:
 - a. Biology

- b. Chemistry
 - c. Geology (earth science)
 - d. Physics
 - e. Environmental science
2. Take one course in each of the non-major sciences. Students may use the same course to fulfill multiple Lawrence University and/or Wisconsin Department of Public Instruction requirements.
3. Take a course in astronomy or space science or a course that includes astronomy or a related topic as a discrete unit.
4. Pass a state test of content-area knowledge, covering all six disciplinary areas.
5. Complete all other requirements as listed in the *Lawrence University Teacher Certification Handbook*.

Broad Field Science

Students who complete a major, a minimum of two courses in each of two other science disciplines, and at least one course in each of the remaining three disciplines (including space science) will be eligible for Broad Field certification.

Please refer to the Department of Education, page 87, for more detailed information on teacher certification.

Courses

GEOL 110

Introductory Geology

An introduction to the study of the Earth, examining the interdependent global systems (atmosphere, hydrosphere, biosphere, tectosphere) that set Earth apart from its planetary neighbors. Emphasis is also placed on human participation in and perturbation of these systems. 6 units.

One lab per week

Enrollment limit: 48

GEOL 130

Planetary Geology

Comparative analysis of the rocky planets and moons, with emphasis on how these other worlds provide insights into the origin and evolution of Earth. 6 units.

GEOL 150

Environmental Science

Presents principles of biology, chemistry, and geology

that relate to such environmental issues as resource limitation, pollution, and environmental degradation. Designed to foster understanding of scientific measures of environmental quality. Four class meetings per week, including one discussion session. 6 units.

Enrollment limit: 60

Also listed as Environmental Studies 150

GEOL 180

Issues in Geosciences

A reading course on topics in the history and philosophy of science, the interaction of science and society, and environmental issues, particularly as they relate to geology. Especially for students who intend to teach in secondary schools. 3 units.

Offered on demand

GEOL 210

History of the Earth and Life

A study of the physical, chemical, and organic evolution of the Earth since its origin 4.5 billion years ago, with emphasis on times of change and crisis. The course also examines the evolution of ideas about Earth's history, illustrating how science and culture are inherently entangled. 6 units.

Also listed as Environmental Studies 230

Prerequisite: Geology 110

GEOL 214

Weather, Climate, and Climate Change

A study of basic meteorologic principles and climate patterns. These phenomena will be discussed in relation to evidence of past climate change and implications of global warming on future climate. 6 units.

Also listed as Environmental Studies 235

Prerequisite: Geology 110 or 150

GEOL 220

Remote Sensing of the Environment

Fundamentals of electromagnetic radiation and the interaction of radiation with matter are introduced as the basis of remote sensing. Interpretation and manipulation of remotely sensed images are used to demonstrate the wealth of information remote sensing provides. Applications and case studies from geology, environmental science, ecology, agronomy, and urban planning will be explored. 6 units.

Also listed as Environmental Studies 237

Prerequisite: Geology 110

High school physics recommended

GEOL 230

Geoarchaeology

An exploration of depositional environments and burial processes associated with archaeological sites. Interpretation of paleoenvironments of buried soils and strata will be emphasized. 6 units.

Also listed as Anthropology 420

Prerequisites: Geology 110 and Anthropology 140

GEOL 240

Chemistry of the Earth: Low-Temperature Environments

A detailed introduction to properties of geologically and environmentally important minerals. Emphasis is placed on mineral properties, tools of mineral identification, mineral associations, and chemical reactivity of minerals in earth surface and near-surface environments. 6 units.

One lab per week

Also listed as Environmental Studies 240

Prerequisites: Geology 110 and Chemistry 115

GEOL 250

Chemistry of the Earth: High-Temperature Environments

Introduction to the chemical processes that form igneous and metamorphic rocks, with emphasis on how mineralogical, chemical, and isotopic clues can be used to gather information about Earth's early history and its inaccessible interior. 6 units.

One lab per week

Prerequisites: Geology 110, Chemistry 115, and Geology 240

GEOL 340

Advanced Geochemistry

Overview of the chemistry of geological processes in aqueous environments. Includes review of thermodynamics, chemical kinetics, phase equilibria, mineral solubility, redox reactions, and stable isotopes with geological examples. 6 units.

One lab per week

Also listed as Environmental Studies 330

Prerequisites: Geology 240 and Chemistry 115, or

consent of instructor

Chemistry 116 recommended

GEOL 360

Physics of the Earth: Surface Environments

This course studies the movement of water, solute, and sediment through the landscape and the resulting properties and distribution of surficial earth materials and landforms. Topics include weathering; soil development; runoff; mass movement; river, glacial, and coastal processes; and deposition in sedimentary environments. 6 units.

One lab per week

Also listed as Environmental Studies 335

Prerequisite: Geology 240 or consent of instructor

Physics 120 or 150 recommended

GEOL 370

Physics of the Earth: Sub-Surface Processes

Introduction to the study of the mechanics of Earth's crust and mantle, including mountain-building processes, seismicity and faulting, mantle convection, interpretation of deformed rocks. 6 units.

Four-day field trip late in term

One lab per week

Prerequisite: Geology 240 or consent of instructor

GEOL 430

Watershed Hydrology

An introduction to the basic components of the hydrologic cycle, focusing on surface water and groundwater systems. Measurement and analysis of hydrologic data are emphasized. Application to contemporary issues such as flooding, watershed development, and groundwater contamination will be discussed. 6 units.

One lab per week

Also listed as Environmental Studies 430

Prerequisite: Geology 110

Physics 120 or 150 recommended

GEOL 440

Contaminant Transport and Fate

Hydrology and chemistry of dissolved contaminants in surface waters, groundwaters, and their associated media. Introduction to principles of reactive transport modeling and use of current computer models with relevant examples. 6 units.

Also listed as Environmental Studies 435

Prerequisites: Geology 240 and Mathematics 120 or 140 or consent of instructor

GEOL 460

Crustal Recycling

Study of the interactions between tectonic and sedimentary processes, including mountain-building and erosion, isostasy and deposition, and subduction of continent-derived sediment. 6 units.

Prerequisites: Geology 110 and one other course in geology

GEOL 520

Seminar in Selected Topics in Geology

An opportunity for students to read and analyze primary literature on significant topics in geology. 3 units.

Prerequisite: Consent of instructor

GEOL 550

Seminar in Field Geology

During spring break, winter break, or prior to Term I, students conduct field investigations at an area of geological complexity, such as the Grand Canyon, Death Valley, Wyoming, Hawaii, the Florida Keys, southern Colorado, or Puerto Rico. 3 units; S/U only.

Prerequisites: Geology 110 and consent of instructor

GEOL 600

Quaternary Studies

Senior capstone course in geology; an interdisciplinary investigation of some aspect of the geologic record of the Quaternary period, with emphasis on late Pleistocene landforms and deposits in the Lake Michigan and Lake Superior region. Each student will participate in a field-based collaborative project. 6 units.

Prerequisite: Senior standing in geology or environmental studies

GEOL 190, 390, 590, 690

Tutorial Studies in Geology

Advanced work, arranged and carried out in consultation with an instructor. Variable credit.

Prerequisite: consent of instructor

GEOL 195, 395, 595, 695

Internship in the Geosciences

An opportunity for students to gain work experience in industry, government, or the non-profit sector. The

academic component, supervised by a Lawrence instructor, includes readings, discussion with the instructor, and a formal presentation and written report, which can be used to satisfy the geology department's senior seminar requirement. (Grades are based on this academic work.) Intended to be used for research that is later developed into an honors project. Applications for an internship must be submitted by the fifth week of the term preceding the proposed internship. Variable credit.

Prerequisites: Junior standing as a geology major and consent of instructor

Offered on demand

GEOL 199, 399, 599, 699

Independent Study in Geology

Advanced research, arranged in consultation with the department. Students considering an honors project should register for this course, for one or more terms (see "Honors at Graduation," page 275). Variable credit.

Recent tutorial topics in geology

Impact Cratering
Hydrogeology
Geologic Hazards
Gaia
Dendroclimatology
Wetland Hydrology
Volcanology

GERMAN

Professors: Friedlander (*emerita*), Ternes
Associate professors: Lanouette, Peterson (chair)

German has long been a key language of culture, the arts, philosophy, and the social and natural sciences. For better or for worse, Germany has also played an important role in European history, while united Germany is one of the positive forces behind European integration and economic expansion. As a result, German is an important language not just in Germany but also as a second language throughout the continent. Germany itself is changing in ways that shatter old prejudices and make it an exciting culture to explore.

More than six million Germans emigrated to the United States during the 19th and 20th centuries, and millions of Americans share this heritage. For many students, German is more than an exciting other culture: German is also a means of finding out where they came from and who they are.

The German department at Lawrence assists students in learning the German language, becoming familiar with Germany's literature and culture, and developing interpretive skills. This mix enables them to understand an increasingly dynamic and interdependent international community. The knowledge and skills that German students acquire can help them in a wide variety of careers and give them a lifetime of cultural pleasure.

The study of German begins with the language. Lawrence's German program is designed to help students develop proficiency in listening, speaking, reading, and writing; courses are all based on a communicative approach. Most classes, even at the elementary level, are conducted exclusively in German, and every course, at every level, is always also a language course. Knowledge of a second language makes students aware of their first language — and culture — and less likely to take things for granted. The best way to experience difference is to live in another culture, and the department encourages students to take advantage of opportunities for study in the German-speaking world through our programs in Berlin, Freiburg, and

Vienna. On campus they can maintain a connection to things German through the department's ongoing film series, German tables in the commons, our Kaffeestunde, and the German play.

Once the linguistic foundation has been laid, students embark on an exploration of German culture, history, and society. The German department at Lawrence embraces the notion of German studies. Although great works of literature offer unparalleled access to German culture, students will also be exposed to German film, popular narratives, and non-fiction texts of lasting cultural and social significance.

Study abroad

Students who want to study in a German-speaking country can choose from among three programs, and they can spend one, two, or even three terms abroad. Vienna, Austria, is particularly well-suited to those interested in music or who have little language preparation, because there are no prerequisites. Students with more background in German can also go to Freiburg, a beautiful university town in the Black Forest, or to Berlin, Germany's political and cultural capital. Students who stay for the entire year or whose German language preparation is already sufficient can take regular university courses at each of these three sites; otherwise, their coursework is through IES, the Institute for the International Education of Students. The department recommends that majors and minors spend at least one term in one of these programs, and they are also available to interested non-majors.

Placement

Placement examinations for students taking German at Lawrence for the first time are given during Welcome Week. Students wishing to place out of the language requirement by proficiency examination should sign up through the department chair for an oral proficiency interview and writing exam in addition to the placement test.

Required for the German major

1. Sixty units beyond German 202, including German 285 and 312. At least half of these units must be taken at Lawrence, and 24 units should be at the 400 level or above. Only 12 units taught in English may count toward the major, but tutorials taken in conjunction with English courses may count as German credit.
2. Students will complete a capstone project as an independent study in conjunction with a departmental course taken during their final year at Lawrence.
3. Students who expect to graduate will present a portfolio by the second week of their final term. The portfolio will be reviewed and approved or returned to the student for revisions before the end of the term. The student's advisor and one other member of the department will review a portfolio consisting of the following materials submitted as hard copy and on disk:
 - a brief statement in which students evaluate their development as German majors
 - a list of courses taken for the major
 - three sample pages of *Lesejournale* from all German courses numbered 300 and above taken at Lawrence
 - four papers from upper-level courses, two of which may be from courses taken abroad
 - a copy of the capstone paper

Required for the German minor

Thirty-six units beyond German 202, including German 285 and 312. At least half of these units must be taken at Lawrence, and 12 units should be at the 400 level or above. Only six units taught in English may count toward the minor, but tutorials taken in conjunction with English courses may count as German credits.

A C average in the minor is also required.

Teaching certification in German

The German department offers a course of study that prepares its majors to teach German at the elementary and secondary levels. Students interested in teaching German, K-12, should plan to complete the major and should consult with the education department (page 87) about certification requirements.

Courses

GER 101

German I

The first course of a two-term sequence that introduces students to the basics of German. The traditional four skills of speaking, writing, reading, and listening are practiced, yet the prime concern is adequate comprehension and response within a given situation. 6 units.

GER 102

German 2

A continuation of German 101. Students improve their communicative skills with continued practice in the four skills of speaking, writing, reading, and listening while learning about the culture of German-speaking countries. 6 units.

Prerequisite: German 101 or the equivalent

GER 201

Intermediate German I

Further development of the four basic skills with an emphasis on increasing the student's ability to understand literary as well as non-literary texts of increasing difficulty. 6 units.

Successful completion of German 201 satisfies Lawrence's foreign language requirement.

Prerequisite: German 102 or the equivalent

GER 202

Intermediate German II

Special emphasis on building reading and writing skills and expanding vocabulary. Cultural units include "Die Schwarzwaldklinik," a German TV series that develops listening comprehension and raises issues for student essays. 6 units.

Prerequisite: German 201 or the equivalent

GER 275

The Culture of Music in Germany

After considering the role of music in the construction of "Germanness," the course focuses on the evolution of the "Lied" from folk song to the artistic "Lieder" and on contemporary popular music. Songs from the 18th to the 20th century are treated primarily as texts and cultural artifacts. 6 units.

Also listed as Music History 150

Prerequisite: German 202 or consent of instructor

GER 285

Advanced Composition and Conversation

Students improve and refine writing and speaking skills through study of a variety of written texts, discussion based on readings, grammar exercises, and systematic vocabulary building. The primary work in the course involves composing (in multiple drafts) texts that fall into diverse categories, including descriptive, argumentative, and persuasive essays. 6 units.

Prerequisite: German 202 or consent of instructor

GER 288

German Theatre Workshop

Intensive study of German dramatic literature culminating in a public workshop performance. Students will investigate the background of the author and period of the plays, as well as doing dramatic readings. Assignments will include short essays and oral presentations. 6 units.

Prerequisite: German 202 or consent of instructor

GER 312

Reading Texts and Contexts

This course serves as a transition from the language sequence to advanced courses in German literature and culture. Texts vary from novels to non-fiction, from drama to poetry, and from written forms to film. While familiarizing students with both literary and cultural analysis, the course stresses literature's place in fostering an understanding of German society. 6 units.

Prerequisite: German 275, 285, or consent of instructor

GER 355

The Holocaust in German Culture

This course focuses on literary responses to the Holocaust, but it also deals with film and the issue of commemoration. After a discussion of the difficulty of representing the Holocaust, the course examines the Holocaust's role in the construction of German-Jewish identity and its impact on post-war German culture. 6 units.

Taught in English. German majors and minors may participate in a two-unit tutorial in which discussions and some course readings will be in German.

Prerequisite: Sophomore standing or consent of instructor.

GER 357

Film in Germany

This course selects from 90 years of filmmaking in Germany. Films range from expressionism to Nazi propaganda and from escapist comedies to *avant garde* art. Learning to "read" German films critically also means finding out how to understand movies from Hollywood and beyond. Possible topics include "From Caligari to Hitler," "German Literature as Film," and "What Makes Lola Run." 6 units.

Also listed as Theatre Arts 352

Taught in English. German majors and minors may participate in a two-unit tutorial in which discussions and some course readings will be in German.

GER 359

Inventing Germany

Students use literary and non-fiction texts to examine German national identity as it developed from the French Revolution through Bismarck and two world wars to "reunification" in 1990. Topics include the role of Germany in Europe, the legacy of divided Germany, and diversity in German society today. 6 units.

Also listed as History 310

Taught in English. German majors and minors may participate in a two-unit tutorial in which discussions and some course readings will be in German.

GER 410

Medieval German Literature

A study of representative works from the Old and Middle High German period. The thematic focus will vary, but topics include the concepts of loyalty and honor and how they changed with the influence of Christianity, the Arthurian legend in German literature as compared to other traditions, and representations of women in medieval German literature. 6 units.

Prerequisite: German 312 or consent of instructor

GER 441/442

The Fantastic and Grotesque in German Art and Literature

The course examines expressions of the fantastic and grotesque in literature from the 18th to the 20th centuries; it will also incorporate film and other visual versions of several texts. Works range from the fairy tales collected by the brothers Grimm to the fanciful and ominous creations of E.T.A. Hoffmann and others working in that tradition. 6 units.

Taught in English (441) or German (442). If in English, German majors and minors may participate in a two-unit tutorial in which discussions and some course readings will be in German.

Prerequisite: When taught in German, German 312 or consent of instructor. When taught in English, none

GER 443/444

German Expressionism in Art and Literature

The course focuses on the two faces of expressionism: its ecstatic missionary aspect and its darker pessimistic side, as both are manifested in poetry, drama, and art. It will show how the missionary aspect was perversely appropriated by the Nazis, who distorted Nietzsche's "Übermensch" and declared expressionist art "degenerate." Lawrence's LaVera Pohl Collection of German Expressionists serves as a resource. 6 units.

Taught in English (443) or German (444). If in English, German majors and minors may participate in a two-unit tutorial in which discussions and some course readings will be in German.

Prerequisite: When taught in German, German 312 or consent of instructor. When taught in English, none

GER 445/446

"Ideal Immigrants"? The German Experience in America

This course explores what it used to mean to be German in the United States and what it means today: bratwurst, beer, and Oktoberfest. Students will consider issues raised by 19th-century immigration that still reverberate in Germany and America: cultural pluralism vs. assimilation, linguistic diversity vs. single, national languages, citizenship vs. "guest" workers. 6 units.

Also listed as Ethnic Studies 380/381

Taught in English (445) or German (446). If in English, German majors and minors may participate in a two-unit tutorial in which discussions and some course readings will be in German.

Prerequisite: When taught in German, German 312 or consent of instructor. When taught in English, none

GER 447

The Literature and Culture of Ethnic Minorities in Germany

Despite a long-term refusal to open itself to immigration, Germany has become a nation of

immigrants and asylum-seekers. The course focuses on "Interkulturalität," an intercultural clash that causes both alienation and intellectual ferment. Examples of texts by Turkish and Italian writers residing in Germany and by ethnic German writers from Rumania provide insight into "interculturality." 6 units.

Also listed as Ethnic Studies 382

Prerequisite: German 312 or consent of instructor

GER 449/450

Nature and the Environment in German Literature

This course examines the literary, philosophical, and sociological history of ecological issues in Germany. Students investigate the formulation of the specifically German concept of nature and study the roles of Romanticism and of the early 20th-century youth movement in shaping contemporary environmental debates. 6 units.

Also listed as Environmental Studies 449/450

Taught in English (449) or German (450). When in English, German majors and minors may participate in a two-unit tutorial in which discussions and some course readings will be in German.

Prerequisite: When taught in German, German 312 or consent of instructor. When taught in English, none

GER 540

Romantic Love in German Literature

Drawing from exemplary texts of the 18th to the 20th century, this course engages the student in a discussion of the concept of intimacy and how it changed over time because of socio-economic and cultural transformations. The way love is experienced depends in large part on the semantics of love — *i.e.*, on the way meaning is structured to express emotional immediacy and authenticity. 6 units.

Prerequisite: German 312 or consent of instructor

GER 541

Studies in 18th-Century Literature and Culture

This course examines the gradual secularization of German society that culminated in the Enlightenment. As church and court patronage diminished, middle-class Germans became both the heroes and consumers of artistic productions. Issues of artistic taste that arose in the 18th century remain vital today. 6 units.

Prerequisite: German 312 or consent of instructor

GER 542**Studies in 19th-Century Literature and Culture**

This course selects from important developments in 19th-century German culture. Topics include the Romantic revolt against rationalism, the rise of the novel, the development of politically engaged literature, the modernist attack on an increasingly smug national culture, and the problems of mass and middlebrow culture. 6 units.

Prerequisite: German 312 or consent of instructor

GER 543**Studies in 20th-Century Literature and Culture**

This course explores various themes in 20th-century culture, most importantly the impact of modernity on the German imagination. Possible topics include the rise of Expressionism and Dada, art and culture of the Weimar Republic, the development of popular and middlebrow culture, Nazi aesthetics, the art and culture of the 1950s and 1960s, and literature in divided Germany. 6 units.

Prerequisite: German 312 or consent of instructor

GER 544**Studies in Contemporary Literature and Culture**

This course deals with current cultural, economic, political, and social issues in Germany, Austria, and Switzerland. Topics include the ongoing process of German unification, the situation of women and minorities, reckoning with the Nazi past, and new developments in German literature. 6 units.

Prerequisite: German 312 or consent of instructor

GER 548**Realism and its Discontents**

Most popular literature, narrative non-fiction, and visual representation seems realistic, but despite its ubiquity, few of us understand the development of the realist paradigm. This course helps students examine what is at stake in the transformation of reality into words on the page; it looks at the assumptions behind "realistic" language and the shift in subject matter that characterized realist literature. 6 units.

Prerequisite: German 312 or consent of instructor

GER 551/552**The Devil's Pact**

Goethe's *Faust* remains the centerpiece in this examination of the Faust legend, but its context includes both Goethe's predecessors and more recent

versions of the Faust story in literature, music, and film. This course pays particular attention to the decades-long development of Goethe's text and the place *Faust* occupies in German culture. 6 units.

Taught in English (551) or German (552). If taught in English, German majors and minors may participate in a two-unit tutorial in which discussions and some course readings will be in German.

Prerequisite: When taught in German, German 312 or consent of instructor. When taught in English, none

GER 190, 390, 590, 690**Tutorial Studies in German**

Individual study arranged and carried out in close consultation with an instructor. May be taken for more than one term. Variable credit.

GER 195, 395, 595, 695**Internship in German**

An opportunity for students to apply their German language skills in business, government, and the non-profit sector on the regional, national, and international level. Arranged in collaboration with and supervised by a member of the department. Includes readings, discussion, report, and/or portfolio. Advance consultation and application required. 2 to 3 units, repeatable for up to 6 units.

Prerequisite: Equivalent of German 101 or above

Offered on demand

GER 199, 399, 599, 699**Independent Study in German**

Advanced research on a topic of the student's choice, arranged in consultation with the department. One or more terms may be elected. Students considering an honors project should register for this course (see "Honors at Graduation," page 275). Variable credit.

Recent tutorial topics in German

18th-Century Women Playwrights

Nietzsche as Writer

German Bestsellers

Comparative Grammar of English and German

Representing World War II in New German Cinema

Women and Family in 19th-Century German Literature

Advanced German for Music

GOVERNMENT

Professors: Adenwalla (*emeritus*)

Associate professor: Skran (chair)

Assistant professors: Frazier, Grose, Hixon, Wulf

Scarff professor: Meyer

Instruction in the government department responds to an intensely political age and its intellectual challenges. Its main objective is to help students develop a clear understanding of political values, behavior, institutions, processes, and policies, as well as theories and modes of analysis central to the study of politics. Because politics affects everyone, the department offers a comprehensive program.

The introductory course (Government 110) provides an introduction to the analysis of the contemporary political system primarily through an examination of the theory and practice of American government. Students proceeding further are introduced to the major problems of political analysis and to the interplay of theory and data before going on to advanced courses in American politics and policy, comparative politics, constitutional law, international politics, and political theory. The department encourages students to work in a one-to-one relationship with faculty members in tutorial and independent studies.

Required for the government major

1. Government 110: *Introduction to Political Science*
2. One of the following courses in American politics:
Government 220: *American Elections, Candidates, and Political Parties*
Government 360: *The American Presidency*
Government 370: *Congressional Politics*
Government 380: *Introduction to Public Policy*
3. Government 340: *International Politics*
4. Government 245: *Comparative Politics of Developing Countries*
5. One of the following courses in political theory:
Government 200: *Politics and Human Nature*
Government 315: *Founding the Just Regime*
Government 405: *Individuality and Community in Modern Politics*
6. Two six-unit courses numbered 400 or above, including seminars (Government 500), only one

of which may be an advanced independent study or tutorial.

7. A total of at least 10 six-unit courses for the major

Tutorial instruction, usually in the senior year, is available to all government majors. Independent study and honors work in government are encouraged. In addition to work in government, all majors are asked to consult with their advisors and take as many courses as possible from the social sciences that complement their core programs in government.

Students intending to do graduate work in political science or in a related field are urged to take statistics, computer science, and at least one modern foreign language.

Students interested in international relations should explore the interdisciplinary area in international studies (see page 151).

Students interested in law school should consult with the pre-law advisor, who usually is a member of the government department faculty. Students interested in the study of law should note especially the following courses in the area of public law: Government 320 or 321, 430, and 490.

Required for the government minor

1. Government 110: *Introduction to Political Science*
2. Five six-unit courses numbered 200 or above, including at least one course in American politics, one course in comparative politics, one course in international relations, one course in political thought, and one other course
3. C average in the minor

Off-campus study

See "Washington Semester," page 254.

Courses

GOVT 110

Introduction to Political Science

An introduction to the nature of contemporary politics and government. Topics drawn primarily from American national, state, and local government and politics, with other political systems introduced for comparative purposes. Emphasis on such major concepts as power, legitimacy, political culture, conflict, and rational choice and on an examination of how a political system manages problems related to political change. 6 units.

GOVT 140

Introduction to International Relations

An introductory study of the cultural, political, and economic interactions among states and non-state actors in global politics. Special attention is paid to key issues, including international security, foreign policy decision-making, and the role of diplomacy in promoting cooperation. Required for the interdisciplinary area in international studies. 6 units.

GOVT 200

Politics and Human Nature

What activities are most appropriate for human beings? What is the purpose of political activity? What is the best practicable constitution for a political community? This course examines several philosophers' arguments concerning the best political regime in light of their respective visions of human nature and happiness. 6 units.

Enrollment limit: 18

GOVT 210

Survey Research Methods for Political Analysis

How do political scientists carry out research using survey and other data? This course focuses on qualitative and quantitative research through actual projects concerning such topics as election, public opinion, and policy choices. Specific research methods covered include research design, sampling, questionnaire construction, interviewing, and analysis of data. Emphasis on applications, including computer usage. Open to majors and non-majors. 6 units.

Prerequisite: Government 110

GOVT 216

The Japanese-U.S. Alliance and Power Politics

An examination of the origins and development of the U.S.-Japan Alliance since 1945 that considers the

internal and international politics of the two countries, explicitly employing relevant theories of politics, economics, and psychology. Major topics to be covered include conflict and cooperation over military relations, base issues, nuclear weapons, Asia/Pacific security, and economic-technological issues. Special attention is given to theories of realism, alliance formation, bargaining, and cognitive social psychology. 6 units.

GOVT 220

American Elections, Candidates, and Political Parties

A study of the development, organization, structure, and activities of American political parties, with special attention to the recruitment and selection of presidential candidates. 6 units.

Prerequisite: Government 110 or consent of instructor

GOVT 225

Race, Law, and Representation in U.S. Politics

This course examines theories of political behavior and political representation through the lens of racial and ethnic politics in the United States. We focus particularly on the role of race in legislative representation, political campaigns, and minority voting rights, answering the question, "Does race affect political outcomes?" 6 units.

Also listed as Ethnic Studies 250

Prerequisite: Sophomore standing

Government 110 or Ethnic Studies 200 recommended

GOVT 230

Interest Groups, PACs, and the Policy Process

An analysis of the role of interest groups and lobbyists in contemporary American politics, especially their influence in making, implementing, and evaluating public policy. Special attention to public interest lobbying, the rise of single-issue interest groups, and the growing significance of Political Action Committees (PACs). 6 units.

Prerequisite: Government 110 or consent of instructor

GOVT 235

American Political Thought

This course examines the character and historical development of American political thought. Students analyze ideas about liberty, virtue, equality, authority, and community expressed in political tracts and speeches from colonial times to the present. 6 units.

Prerequisite: Government 110 or consent of instructor

GOVT 245**Comparative Politics of Developing Countries**

An introduction to the study of comparative politics, with an emphasis on countries in the developing world. Themes covered include state-building, nationalism, modernization, political culture, democratization, and regime change. These concepts are assessed in light of observations drawn from specific countries and regions in the developing world. 6 units.

Prerequisites: Sophomore standing and Government 110 or 140

GOVT 250**Nationalism, Ethnicity, and Politics in Modern India**

A study of the attempt to modernize tradition-directed societies into nation-states. Particular attention to the rise of modern nationalism, the ebb and flow of the independence movement, the structure of modern government, and the contemporary political crisis in India. 6 units.

Also listed as Ethnic Studies 350

Prerequisite: Government 110 or sophomore standing.

GOVT 255**Immigration and Refugees: Changing the Face of Europe**

This course will be a comparative examination of the refugee and asylum policies of Britain, France, Germany, and other European countries. The course will begin by tracing the evolution of immigration and asylum policies as they emerged in the first half of the 20th century and developed during the Cold War period. It will then consider the impact of the end of the Cold War and increased cooperation within the EU on immigration and asylum practices and laws. Topics to be discussed include the refugee crisis of the 1930s, Cold War refugees of the 1950s, guest worker policies of the 1970s, the asylum crisis of the 1980s, and the creation of "fortress Europe" in the 1990s. Throughout the course, special attention will be paid to the impact of immigrant and refugee communities on the social, political, and cultural framework of European countries. 6 units.

Also listed as Ethnic Studies 251

Offered at the London Center in 2003-04

GOVT 260**European Democracies**

An examination of the historical development and

contemporary characteristics of western European political systems that first compares the contemporary systems of Great Britain, France, and Germany and then focuses on challenges facing European democracies today, including environmental problems and increasing immigration. Particular attention is paid to the process of European integration and the role of the European Union. 6 units.

Prerequisite: Government 110, Government 140, or sophomore standing

GOVT 265**Southeast Asian Politics**

This course serves as an introduction to the politics of Southeast Asia, a region of substantial cultural, religious, ethnic, and political diversity. Through an examination of particular states in the region, this course addresses issues of nation-state formation and national identity, political institutions and legacies, economic development, and regional inter-state cooperation. 6 units.

Also listed as East Asian Languages and Cultures 270

Prerequisite: Government 110 or consent of instructor

GOVT 270**Global Environmental Politics**

This course provides an examination of the environment as an issue in world politics. Emphasis will be placed on the role of both state and non-state actors (*i.e.*, the UN, NGOs) in global environmental regimes that are designed to deal with global warming, ozone depletion, and other environmental issues. Particular attention will be paid to the positions taken by both developed and developing countries. As part of the course, students will participate in a simulation of an international negotiation on an environmental issue. 6 units.

Also listed as Environmental Studies 270

Prerequisite: Sophomore standing or Environmental Studies 150, Government 110, or Government 140

GOVT 275**Global Economic Relations**

This course covers the major concepts utilized in the field of international political economy. Major issues covered include globalization, monetary policy, trade policy, and the role of international institutions such as the WTO.

Prerequisite: Government 140 or sophomore standing

GOVT 280**U.S. Foreign Policy**

Analysis and interpretation of the nature, patterns, and trends of American foreign policy since World War II. Emphasis on the origins, development, and passing of the Cold War and on factors of continuing significance. 6 units.

Prerequisite: Government 110 or Government 140 or sophomore standing

GOVT 290**Women and Politics**

A survey of the role of women in contemporary politics, both domestic and international. Topics covered include the feminist movement in the U.S. and other democracies, women as political actors, and women's contribution to war and peace. 6 units.

Also listed as Gender Studies 330

Prerequisite: Government 110 or sophomore standing.

GOVT 315**Founding the Just Regime**

Can a corrupt people create a just regime? What role must violence, deception, persuasion, and reflection play in promoting political justice? What are the ground and scope of citizens' political obligations? This course studies the difficulties of creating and reforming political communities. 6 units.

Enrollment limit: 30

Prerequisite: Sophomore standing or consent of instructor

GOVT 320**Introduction to Constitutional Law**

A study of the development of constitutional law through an analysis of landmark cases of the Supreme Court of the United States. Special attention to the great legal questions concerning the origin and scope of judicial review, property rights, and the development of due process, federalism, and the separation of powers. 6 units.

Enrollment limit: 30

Prerequisite: Government 110 or sophomore standing

GOVT 321**Civil Liberties and the Supreme Court**

A study of landmark 20th-century civil-rights and liberties cases in U.S. constitutional law. These cases involve critical constitutional issues concerning the nationalization of the Bill of Rights, freedom of

speech and press, abortion and the right to privacy, desegregation and affirmative action. 6 units.

Enrollment limit: 30

Prerequisite: Government 110 or sophomore standing

GOVT 330**Soviet and Post-Soviet Politics**

An examination of the origins, development, and collapse of the Soviet Union and the contemporary politics of Russia, other successor states, and the former Eastern bloc countries. Emphasis on the legacies of Stalinism, the role of ideology and institutions, and problems involved in political and economic reform throughout the former Communist world. Particular attention will be paid to the role of nationalism in both domestic and international politics. 6 units.

Prerequisite: Government 110, Government 140, or sophomore standing

GOVT 335**Political Economy of East Asia**

This course examines the policies and politics associated with the emergence and continued dynamism of the East Asian economies. The course will cover various debates over the roles of the state, culture, and market institutions in explaining the region's rapid economic development and the viability of current development models in a global economy. 6 units.

Also listed as East Asian Languages and Cultures 335

Prerequisite: Government 140 or Economics 200 or consent of instructor

GOVT 340**International Politics**

An analysis of patterns of interactions of state and non-state actors in a system without supreme authority, focusing on alternative theoretical frameworks rather than substantive problems. Special emphasis on "realist" and "liberal" theories, the nature and uses of power in international politics, the causes of wars, and approaches to peace. 6 units.

Prerequisites: Sophomore standing and Government 110 or 140 or consent of instructor

GOVT 360**The American Presidency**

Why are presidents such chronic disappointments? This class focuses on the barriers to successful

presidential leadership and the strategies presidents use to overcome them. Topics covered include presidential character, elections, bureaucracy, media, Congress, and policy-making. 6 units.

Prerequisite: Government 110 or consent of instructor

GOVT 370

Power and Policy-Making in Congress

An analysis of the politics of policy-making in the U.S. Congress, with special attention to recent dramatic changes in the distribution of power within that institution. Emphasis on Congress as a political institution with some reference to other legislative bodies in the United States and to the British House of Commons. 6 units.

Prerequisite: Government 110 or consent of instructor

GOVT 380

Introduction to Public Policy

A survey of public policy in the United States, analyzing issues such as welfare, environment, crime, civil rights, and others. Policy problems and case studies used to examine the theory of policy formation, decision-making, and implementation. 6 units.

Prerequisite: Government 110 or consent of instructor

GOVT 386

British Foreign Policy

From the beginning of the 20th century, when Britain ruled the seas as an imperial power, through two world wars and the Cold War, to the "war on terrorism," Britain has been one of the most powerful countries in the world. This course traces the development of British foreign policy from the First World War to the present day. Throughout the course, the aims, causes, and consequences of British foreign policy will be examined and areas of continuity and change highlighted. Attention will also be paid to the foreign policy-making process, including the role of the prime minister. Topics to be discussed include Britain's imperial legacy, role in the Middle East, membership in NATO, special relationship with the United States, status within the European Union, and position in the UN. 6 units.

Offered at the London Center in 2003-04

GOVT 405

Individuality and Community in Modern Politics

This course studies a variety of theoretical responses to the emergence of open societies in the West.

Topics include the competing demands of individuality and community in religious, commercial, and political life. 6 units.

Enrollment limit: 30

Prerequisite: Junior standing or consent of instructor

GOVT 430

Judicial Politics

A seminar in judicial decision-making, emphasizing the judiciary as a political institution. Special attention to the sources, instruments, strategies, impact, and limitations of judicial power. 6 units.

Prerequisite: Junior standing or consent of instructor

GOVT 435

Voting, Political Participation, and Public Opinion

Who votes and why? How do individuals form opinions about politics? How are scientific surveys and polls conducted and what are their limitations? This course examines voting, participation, and public opinion formation (primarily in the United States) through theories of political psychology and rational choice. 6 units.

Prerequisite: Government 220, 360, 370, or 380

GOVT 445

Chinese Government and Politics

This course explores the political development, political institutions, forms of political participation, and the policy-making process in the People's Republic of China. Coverage includes the Chinese Revolution, Maoist China, and contemporary China, with an emphasis on economic reforms and political changes in recent decades. 6 units.

Also listed as East Asian Languages and Cultures 410

Enrollment limit: 20

Prerequisite: East Asian Languages and Cultures 150, Government 245, History 360, or consent of instructor

GOVT 450

The Politics of Nuclear Weapons and Arms Control

An examination of the impact of nuclear weapons in international politics, focusing on how such weapons have altered the meaning of national security concepts like offense, defense, and deterrence. Special emphasis on the nature of the nuclear "revolution," the development of Russian and American operational doctrines, and the problems of arms control. 6 units.

Enrollment limit: 18.

Prerequisites: Government 140 or 340 or junior standing

GOVT 465

Environmental Policy, Politics, and Justice

This course examines aspects of America's environmental politics, policies, and justice. It will explore questions such as: Do acid rain, intractable urban smog, toxic wastes, and endangered spotted owls signify a march toward ecological disaster? Who has rights to nature, how are those rights specified, and what are the duties and responsibilities that accompany those rights? Who is setting the political agenda regarding America's environmental policies, and are they focusing on the most important priorities? How good a job are environmental policies and regulations doing, and can they balance economic concerns with environmental protection? Special attention will be given to the debates about environmental justice, by examining such questions as: Do poor and minority populations suffer disproportionately from exposure to toxic material — *i.e.*, environmental injustice? How pervasive is environmental racism? 6 units.

Also listed as Environmental Studies 470

Prerequisites: Government 110 or 380 or consent of instructor

GOVT 480

International Organizations

An examination of the role of international organizations (IOs) in world politics, focusing on both the historical development and the contemporary functions of the United Nations and other IOs in regard to the promotion of international peace and security. Attention is also given to the role of IOs in regard to global issues such as peacekeeping, humanitarian intervention, and environmental protection and to regional organizations, especially the European Union. As part of the course, students will participate in a simulation of the United Nations. 6 units.

Enrollment limit: 25

Prerequisites: Government 140 or 340 or junior standing

GOVT 490

International Law

A study of the role of law in international politics.

Attention to the distinctive nature of the international legal system and to the relevance of international law to the control of violence, promotion of peace, protection of human rights, and management of resources. Current problems and the outlook for the future world order are assessed. 6 units.

Enrollment limit: 25

Prerequisite: Government 140 or 340 or junior standing

GOVT 495

Health Policy

A seminar addressing present and prospective health care policy in the United States. Emphasis on various contemporary health care problems, including high and rising costs, differences in access to medical service, and trade-offs between cost and quality. Specific topics include Medicare, Medicaid, medical malpractice, profit versus not-only-for-profit producers of care, and alternative delivery systems. 6 units.

Enrollment limit: 20

Prerequisite: Junior standing or consent of instructor

GOVT 500

Senior Seminar in Government

Offerings for 2003-04:

The Causes of War

In this course, students examine some of the most important works on the causes of war. Attention is paid both to the methodology utilized and the substance of each work. Questions addressed include "Do the causes of war rest in the nature of the international system?" and "Are democracies peace-loving?" 6 units.

Prerequisites: Government 340 and junior standing. Senior standing recommended.

Political Leadership and Coalition Building

This course surveys political scientists' efforts to analyze strategies of political leadership and coalition building. Applications are drawn from a variety of areas, including congressional politics, legislative-executive relations, the courts, parliamentary systems, and international relations. 6 units.

Prerequisite: Junior standing

The Stephen Edward Scarff Memorial Visiting Professorship

The Scarff Professorship, typically a one-year visiting appointment, makes available to Lawrence students the real-world experience and knowledge of distinguished public servants, professional leaders, and scholars.

In 2003-04, the Stephen Edward Scarff Memorial Visiting Professor is George Meyer, former secretary of the Wisconsin Department of Natural Resources.

GOVT 205

Introduction to Diplomacy and Foreign Affairs

This course provides students with an introduction to American diplomacy, taught by a Scarff Professor who is a professional diplomat. The exact topic of the course will vary, depending on the interests and expertise of the instructor. 6 units.

Not offered in 2003-04

GOVT 206

Introduction to Environmental Law

This course presents an overview of the major environmental laws of the State of Wisconsin and the United States, their interaction, and insights into their practical application. Specific emphasis will be on laws related to water regulations, endangered resources, air pollution, water quality, waste management, fish and wildlife management, environmental impact, and forestry. It is designed to have value for those aspiring to have careers in law, environmental management and protection, or public policy or those individuals wishing to have a general background in the subject. There are class opportunities to interact with environmental professionals in the private and public sectors. 6 units.

Also listed as Environmental Studies 302

GOVT 305

Topics in Diplomacy and Foreign Affairs

This course focuses on a significant topic related to diplomacy and foreign affairs, taught by a Scarff Professor who is a professional diplomat. The exact topic will vary, depending on the interests and expertise of the instructor. Possible topics to be explored include the foreign policy of a particular country (*i.e.*, Soviet foreign policy), an important diplomatic event (*i.e.*, Revolutions of 1989), or a particular international economic issue (*i.e.*, globalization). In the course, the instructor will

analyze the relationship between theory and practice, emphasizing the real-life problems that diplomats face when they conduct foreign policy. 6 units.

Prerequisite: Sophomore standing or consent of instructor

Not offered in 2003-04

GOVT 306

Topics in Government, Politics, and Law

Topic for 2003-04:

Environmental Policy and Groundwater Politics

This course explores the theory and the actual practice of how environmental policy is developed. The prime examples will be the regulation of groundwater quality and quantity in Wisconsin and specifically the highly controversial Perrier bottled water facility in Central Wisconsin. Guest lecturers involved in successful and unsuccessful groundwater policy developments will share their practical expertise. 6 units.

Also listed as Environmental Studies 306

Prerequisite: Sophomore standing or consent of instructor

GOVT 190, 390, 590, 690

Tutorial Studies in Government

Advanced study, arranged and carried out under the direction of an instructor. Variable credit.

GOVT 199, 399, 599, 699

Independent Study in Government

Advanced research, arranged in consultation with the department. Students considering an honors project should register for this course, for one or more terms (see "Honors at Graduation," page 275). Variable credit.

Recent tutorial topics in government

Privacy, Abortion, and the Supreme Court

The Brazilian Military Coup, 1964

Electoral Strategy and Tactics in Local and State Politics

Presidential Decision-Making: President Clinton

International Human Rights Law

The Role of U.N. Secretary General Kofi Annan

Greece and the European Union

Structural Realism and Alliance Management:

The U.S.-Japan Alliance

Non-Self-Interested Behavior

HISTORY

Professors: Chaney (*emeritus*), Cohen (chair),
Doeringer
Associate professors: Kern, Podair
Assistant professors: Blitstein, Gray, Rico
Lecturer: Myers

Consciously or not, all of us operate as historians. We make judgments and decisions based on our knowledge, however inadequate, of what has gone before. Formal study of history — the critical examination of human accomplishments and failures — greatly enhances our ability to judge and decide about private matters as well as public issues. In the study of history we seek the origins of modern institutions, attitudes, and problems. We may not discover solutions to our problems, but at least we find out what has not worked in the past. Studying civilizations more remote in time and space, we also gain perspective on our society and ourselves.

Required for the history major

The minimal requirement for the major is ten six-unit courses, at least one but no more than two of which must be “gateway” courses. The completed major must meet the following criteria:

1. Students must take History 101: *Clionautics: An Introduction to Doing History*, preferably by the end of their sophomore year.
2. Students must take at least one course from among the following, which are open to freshmen and designated as “gateways” to the major: History 110, 115, 120, 125, 130, 131, 132, 160, 165, 180, and 185.
3. In developing a major, students must select courses that will serve both to broaden and to deepen their historical knowledge. To this end, we have divided all courses above the 200 level into three categories: North America (NA), Europe (E), and Global and Comparative (G&C).
- a. To serve the requirement for breadth, students must select three six-unit courses, one from each of the three categories, that have a common date — *e.g.*, 1650 or 1789 or 1914.†

- b. To serve the requirement for depth, students must select three six-unit courses within any one category (NA, E, G&C).
- c. Students must have one six-unit course that covers materials up to the year 1750.
- d. All courses — excluding History 101, the required gateway course, History 620, and History 650 — may be counted in fulfillment of both the breadth and depth requirements.
4. Students must take History 620: *Historiography*.
5. Students must take *at least one* course designated as a seminar (those numbered between 400 and 500) or one designated as a tutorial or independent study (those numbered over 500).
6. Students must take History 650: *The Practice of History*. Exceptions may be granted, however, for majors who petition to complete a piece of advanced and original historical research in suitable off-campus programs.

† Students who wish to focus their major on the pre-1500 era may do so but must consult their advisors about constructing a suitable alternative to meet the breadth requirement.

Required for the history minor

1. Two gateway courses in either the same geographical area into which the history curriculum is divided (North America, Europe, or Global and Comparative) or in the same period of time.
2. Two additional (non-gateway) courses in one geographical area.
3. Two additional (non-gateway) courses that share a common date in one time period.
4. One of the four non-gateway courses must be a seminar.
5. C average in the minor.

Off-campus study

The history department encourages majors, whenever possible, to participate in one of the off-campus programs offered either by Lawrence or under the

auspices of the Associated Colleges of the Midwest or other consortial arrangements. The Lawrence London Center and the ACM Newberry Library Program have proven to be of particular interest to history majors, though majors have benefited from participation in numerous others — especially those that match up with students' area interests (see "Off-Campus Programs," page 250).

Graduate school

Students who are considering graduate studies in history should know that most doctoral programs require one or more (usually two) foreign languages and should work closely with their advisors to plan their schedules accordingly.

Advanced placement

Students who have earned a 4 or better in the Advanced Placement Examinations in American History, European History, or World History will receive six units of credit in history and may use that credit in partial fulfillment of the major. (History majors should consult with their advisors to determine which departmental gateway course their AP credit might replace.) These same students are strongly encouraged to consult with any member of the department about appropriate placement in courses above the introductory level.

Course numbering

Courses numbered above 400 constitute more advanced offerings (seminars, tutorials, and independent study) designed for juniors and seniors. All advanced courses, however, are open to non-majors of appropriate standing as well as to majors. Tutorials and independent study credit require both an instructor's consent and a 3.25 grade-point average, although the latter may be waived at the instructor's discretion.

Courses

HIST 101

Clionautics: An Introduction to Doing History

An introduction to the practical skills of doing history aimed at freshmen and sophomores planning to major in history and others seriously interested in learning how to navigate the waters of historical study. Emphasis is on acquiring the techniques current

historians use to research into the past, make sense of their findings, and present them to others in a variety of media. Using materials appropriate to a theme that changes from year to year, students will discover how to do a thorough bibliographical search of all major genres of historical works, to find and interpret primary sources, and master the basic historical essay. In 2003-04 the theme is Media Age: Emergence of a Global Consumer Society, 1945-1989. 6 units.

Enrollment limit: 20

HIST 110

The Emergence of the Modern World

An introductory survey of the modernization of Europe from 1350 to 1750 within a global context, covering the periods of the Renaissance, Reformation, Scientific Revolution, and Enlightenment. Attention to global change through the creation of worldwide commercial and colonial empires, the nature of cross-cultural relations, and the dynamics of power and resistance. Special emphasis on analysis of documents and historical interpretations. (G&C or E) 6 units.

Enrollment limit: 40

HIST 115

The Modern World

An introductory examination of the development of modern global civilization from the end of the 18th century to the late 20th century, surveying the final modernization of the West through successive waves of political, industrial, and social revolutions and exploring the worldwide reaction to the spread of modern mass society brought about by Western efforts at global domination. Special emphasis on analysis of documents and historical interpretations. (G&C or E) 6 units.

Enrollment limit: 40

HIST 120

Africa to 1800

An introductory survey of African history to 1800. The course focuses on problems of the environment, the organization of society, foreign trade and influence, state building, and maintaining non-state forms of governance. Topics include African kingdoms and empires, migration, Islam, and the trade in enslaved Africans. Special emphasis on how historians use archaeology, linguistics, and oral traditions to reconstruct African history. (G&C) 6 units.

HIST 125**Modern Africa**

A survey of African history in the 20th century, examining the experiences of Africans as they confronted European colonization, engaged in the struggle for independence, and built new nations. The course takes for its focus the West African nation of Ghana. (G&C) 6 units.

Also listed as Ethnic Studies 120

HIST 130**Colonies to Republic: British North America, 1607-1789**

A survey of North American history from the arrival of the first European voyagers through establishment of the Republic in 1789. Emphasis on the major political, intellectual, social, and economic changes of the period and on the nature of historical inquiry and analysis. (NA) 6 units.

Enrollment limit: 35

HIST 131**Republic to Nation: The United States, 1789-1896**

A study of the major social, political, economic, and intellectual developments in American society from 1789 through 1896. Topics include the industrialization of the economy, the diversification of the population, the democratization of American politics, and the evolution of an American character. (NA) 6 units.

Enrollment limit: 35

HIST 132**Nation in a Modern World: The United States, 1896-2000**

An examination of reform, dissent, and protest in the United States as it passed through eras of economic transformation, social crises, technological revolution, and international confrontation. Emphasis on domestic history, including the reforms of the Progressive-Great Depression eras, the Civil Rights Movement, and civil protest during the Vietnam period. (NA) 6 units.

Enrollment limit: 35

HIST 140**Gender and Feminism in Historical Perspective**

A comparative world history of both gender relations and the emergence of a feminist consciousness within the past 500 years. Case studies drawn from different regions of the world will precede the examination of the emergence of a global feminism in the late 20th

and early 21st centuries. Topics will include the social roles of men and women, ideas about masculinity and femininity, understandings of sexual orientation, forms of systematic subordination, and the politics of modern feminisms. (G&C) 6 units.

Also listed as Gender Studies 110

HIST 155**Gender in Latin American History, 1490-1800**

An introductory cultural history of Latin America focusing on gender as it intersects with class, race, and ethnicity. Topics will include pre-Columbian indigenous and iberic societies, the material and cultural clashes of the European conquest, the evolution of colonial societies, and the collapse of colonial power. (G&C) 6 units

Enrollment limit: 25

HIST 160**Traditional East Asian Civilization, 1800 B.C.-1600**

An introductory survey of East Asia from the dawn of indigenous civilization to the 16th century. Focus on the growth of a Sinitic center and its interaction with the sedentary and nomadic peoples on its Inner Asian and Pacific rims. Emphasis on the diverse peoples and societies of the area and the historical processes that bound them together through a common tradition. (G&C) 6 units.

Also listed as East Asian Languages and Cultures 140 and Ethnic Studies 121

HIST 165**Modern East Asian Civilization, 1600-1990**

An introductory survey of the modern history of East Asia, examining the efforts of traditional states, particularly China and Japan, to respond to Western intrusion into the region after 1600. Focus on social and cultural problems created by attempts to modernize yet defend tradition and on the differing results of Chinese and Japanese approaches. (G&C) 6 units.

Also listed as East Asian Languages and Cultures 150

HIST 180**Survey of Greek History**

A study of ancient Greek history from the Bronze Age to 146 B.C. Emphasis on the rise and fall of the Greek city-state as a political, societal, and cultural model. Readings include the historians Herodotus and Thucydides. (E) 6 units.

Also listed as Classics 150

HIST 185

Survey of Roman History

A study of the history of Rome from its origins through the Republic and Empire to 410 A.D. Emphasis on political and cultural developments and the acquisition of empire. Readings may include Livy, Tacitus, Suetonius, and the *Historia Augusta*. (E) 6 units.

Also listed as Classics 160

HIST 205

Cross-Cultural Contacts in the Early Modern World

A discussion course examining contacts among various peoples between 1350 and 1750. Focus on cultural or ethnic identity, the role of power in relations between groups, and theoretical problems involved in such study. Examples include ancient and medieval cultural contacts, European settlement in North and South America, the African slave trade, and contacts among the peoples of Southeast Asia, India, China, and Japan. (G&C) 6 units.

Prerequisite: Sophomore standing or consent of instructor

HIST 215

Atlantic Slave Trade

An examination of the Atlantic trade in enslaved Africans from its beginning in the 15th century to its eventual abolition in the 19th century. Topics include ideas of slavery in Europe and Africa; the development of the Atlantic trade; the economic, social, political, and religious effects of the slave trade in Africa and the Americas; the rise of racism; abolition and its aftermath. (G&C) 6 units.

Also listed as Ethnic Studies 220

Prerequisite: Sophomore standing or consent of instructor

HIST 220

Gender in 20th Century Africa

An examination of the changing roles of African men and women in the 20th century. The course will focus on the rapid social transformations of the 20th century — colonialism, abolition of slavery, the spread of Christianity and Islam, urbanization, the birth of new nations — and their challenges to traditional understandings of what it meant to be a man or woman. (G&C) 6 units.

Also listed as Gender Studies 315

HIST 230

Slaves and Barbarians in Antiquity

An examination of the cultural role of slaves and barbarians in the societies of ancient Greece and Rome. Topics to be considered include: representations in literature and art; legal and social status; and issues of labor, war, and trade. Emphasis on questions of power, identity, and assumptions of cultural superiority. (E) 6 units.

Also listed as Classics 320

Prerequisite: Sophomore standing

HIST 235

Periclean Athens

A study of the history of Athens from the end of the Persian Wars to the execution of Socrates (479 to 399 B.C.). A wide range of material and topics will be considered: social and political developments, warfare, empire, diplomacy, intellectual and cultural life. Emphasis on the revolution in ideas and visions of humanity that defined the golden age of classical Greece. (E) 6 units.

Also listed as Classics 300

Prerequisite: Sophomore standing or consent of instructor

HIST 240

Augustan Rome

An introduction to ancient Rome and Roman civilization, focusing on the Age of Augustus in all its aspects: art, literature, politics, empire, law, entertainment, and society. Emphasis on the political and cultural changes that took place during this revolutionary period. (E) 6 units.

Also listed as Classics 310

Prerequisite: Sophomore standing or consent of instructor

HIST 245

History of England to 1485

A study of the history of England (and, to a lesser degree, Scotland and Wales) from prehistoric times to the accession of the House of Tudor. Special attention to the history of London. Especially recommended for, but not limited to, students going to the London Center. (E) 6 units.

HIST 246

Modern Britain, 1688 to the Present

This course surveys the history of Great Britain from the political upheavals of 1688 to the present day. Emphasis will be on broad political and economic themes: the development of parliamentary democracy, the growth of modern industrial capitalism, and the extension and eventual collapse of the British Empire. We will also examine some of the major cultural and intellectual achievements of the period. (E) 6 units.

Prerequisite: Sophomore standing

HIST 250

The High Middle Ages: Papal Revolution to Dante

A study of the High and Late Middle Ages, with emphasis upon intellectual, cultural, and institutional development, from the Papal Revolution, Scholasticism, and the Crusades through the 13th century and its changes in such concepts as time, space, and matter. (E) 6 units.

Prerequisite: Sophomore standing or consent of instructor

HIST 260

Culture and Power in Renaissance Europe

A study of intellectual, artistic, and religious innovations and their relation to dynamic political and social transformations between roughly 1350 and 1550. Beginning with the concepts of rediscovery, rebirth, and renewal as expressed in the writings of Renaissance Humanists, the course will explore how a new cosmology informed changes in artistic expression, political theory and practice, production and commerce, overseas expansion, popular ritual and spectacle, gender relations, and understandings of the self. (E) 6 units.

Prerequisite: Sophomore standing or consent of instructor

HIST 261

Rebellion and Discipline in Reformation Europe

An examination of the religious fragmentation of Christian Europe and its social and political aftermath from 1500 to 1715. The course will survey how revolt against the church evolved into a series of rebellions against authority — peasants against nobles, cities against overlords, and nobles against monarchs — and eventually culminated in a reassertion of social discipline through the consolidation of the state's power, the formation of confessional orthodoxies (Lutheran, Calvinist, Catholic), an increased policing of morality, and the domestication of men's and

women's roles in society. (E) 6 units.

Prerequisite: Sophomore standing or consent of instructor

HIST 270

Europe in the Age of Revolution, 1789-1851

An examination of European history from the French Revolution through the revolutions of 1848, focusing on the socioeconomic, political, and ideological configurations that emerged out of the French and Industrial Revolutions. Topics include the rise of liberalism, nationalism, socialism, and the modern state within their various historical contexts. (E) 6 units.

Enrollment limit: 30

Prerequisite: Sophomore standing or consent of instructor

HIST 275

Europe in the Age of Nationalism, World War, and Totalitarianism, 1851-1990

An examination of European history from the Age of National Unification through the collapse of the Soviet Empire. Topics include imperialism, the two World Wars, the Russian Revolution, fascism, totalitarianism, mass nationalism, and the reemergence of eastern and central Europe. (E) 6 units.

Also listed as Ethnic Studies 221

Enrollment limit: 30

Prerequisite: Sophomore standing or consent of instructor

HIST 277

Eastern Europe in the 20th Century

This course surveys the history of the peoples of Eastern Europe from the First World War until the collapse of Communism. Themes include the collapse of empires and rise of nation-states, revolution and counter-revolution, the consequences of relative economic backwardness, and the impact of totalitarian ideologies such as fascism and communism on the everyday lives of people. We will examine these themes through literature and film as well as more traditional historical texts. (E) 6 units.

Prerequisite: Sophomore standing or consent of instructor

HIST 280**Religion, Magic, and Witchcraft in Early Modern Europe**

Witchcraft and witch-hunting in Europe between 1350 and 1750. An examination of the concepts of religion and magic and an exploration of such topics as magical practices, the relationship between heresy and magic, the evolution of witchcraft, the dynamics and demise of witch-hunting, the role of gender, and definitions of societal deviance. Readings in primary sources and modern historical and anthropological scholarship. (E) 6 units.

Enrollment limit: 40

Prerequisite: Sophomore standing or consent of instructor

HIST 290**Modern European Thought I, 1500-1800**

A close examination of 17th- and 18th-century intellectual trends (during the Scientific Revolution and Enlightenment) that influenced the epistemological, scientific, and political assumptions of the modern world. Works by such authors as Galileo, Bacon, Descartes, Hobbes, Newton, Locke, Voltaire, Rousseau, Goethe, and Wollstonecraft will trace the displacement of divine authority by human authority as the basis of knowledge in what some modern philosophers have called the "Quest for Certainty" that followed the 16th century. (E) 6 units.

Prerequisite: Sophomore standing or consent of instructor

HIST 291**Modern European Thought II, 1789-present**

An examination of modern thought focusing on the problem of self and society since the late 18th century. Topics include individualism and individuality, "economic man," socialism, feminism, fascism, existentialism, and post-modernism. Readings from Adam Smith, J. S. Mill, Dostoevsky, Marx, Freud, Woolf, and Foucault. (E) 6 units.

Prerequisite: Sophomore standing or consent of instructor

HIST 295**Nationalism in the Modern World**

An examination of the idea and the reality of nationalism in modern history. Among the questions we will ask are: Is nationalism a modern phenomenon, or does it have pre-modern origins? Is it compatible with democracy and human rights or fundamentally

hostile to them? Is it primarily a European phenomenon transplanted to other places, or are there indigenous roots of nationalism throughout the world? We will attempt to answer these questions by reading theoretical works on nationalism from a variety of disciplines and by examining historical case studies. (G&C) 6 units.

Also listed as Ethnic Studies 223

Prerequisite: Sophomore standing and History 115 or consent of instructor

HIST 301**Travel and Tourism from the 18th Century to the Present**

This course explores the emergence and development of travel and tourism, primarily in Europe and the United States. The focus will be on how Europeans and North Americans experienced travel, but we will also spend time looking at how people from colonized regions and the developing world respond to tourism. We will study a variety of primary and secondary sources, including historical monographs, travel diaries, and films. Students will be encouraged to discuss and consider their own experiences as travelers and tourists. (E or NA) 6 units.

Prerequisite: Sophomore standing

History 115 or History 130, 131, or 132 recommended

HIST 305**Film as History and History as Film**

An examination, through selected films, of specific moments in European history and an examination of film itself as a source of historical interpretation. Possible "historical moments" include Medieval England, Nazi Germany, and the Holocaust, and possible films include *Becket*, *The Triumph of the Will*, and *Schindler's List*. (E) 6 units.

Enrollment limit: 24

Prerequisite: Sophomore standing or consent of instructor

HIST 315**Empire and Nation in Russian History**

The course examines the history of ethnically diverse territories often referred to as "Russia" from early modern times to 1991. Themes include the formation of the Russian empire, its transformation into the Soviet Union, and its partial collapse in 1991; the meaning of "empire," "nation," and "ethnicity" in historical context; and the interaction of Russians

with non-Russian peoples in Ukraine, the Baltic States, Central Asia, and the Caucasus. (G&C) 6 units.

Also listed as Ethnic Studies 320

Prerequisite: Sophomore standing or consent of instructor

History 320 or 325 recommended

HIST 320

Imperial Russia, 1800-1917

A history of the Russian Empire from the reign of Alexander I through the revolutions of 1917. Themes include serfdom and its abolition, attempts at modernization, the emergence of political opposition to autocracy, national minorities, cultural developments, and Russia's role in the European state system. (G&C) 6 units.

Prerequisite: Sophomore standing or consent of instructor

HIST 325

The Soviet Union, 1917-1991

A study of the creation of a socialist state on the territory of the former Russian empire. Themes include the revolutionary origins of the state, economic modernization and social transformation, the emergence of the Stalinist political order, nationality policy, intellectual and artistic activity, and the decline and collapse of the Soviet system. (G&C) 6 units.

Prerequisite: Sophomore standing or consent of instructor

HIST 330

History of the American West

This course examines realities and images of the frontier/western experience from exploration and settlement of North America through the present. Included are native and immigrant groups, technology, transportation, agriculture, mining, and urbanization as well as effects of the frontier on national character. (NA) 6 units.

Also listed as Ethnic Studies 222

Prerequisite: Sophomore standing

HIST 335

Women in Early America, 1607-1860

An examination of the experiences of women in early America, focusing both on women's lives and on the changing economic, political, and cultural roles they played in American society. Themes include women

and the family, women's religious experiences, women and industrialization, and the effects of slavery on black and white women. (NA) 6 units.

Also listed as Gender Studies 220

Prerequisite: Sophomore standing or consent of instructor

HIST 345

Race Relations in the United States, 1865-2000

An examination of relations between black and white Americans since Emancipation. Topics will include Reconstruction, the rise of Jim Crow, the Great Migrations, the Civil Rights Movement, urban unrest, and white backlash. (NA) 6 units.

Also listed as Ethnic Studies 321

Prerequisites: Sophomore standing and History 132

HIST 350

The '20s, Great Depression, and New Deal, 1920-1945

After considering the 1920s as a "new era" in American history, the course examines the impact of the Great Depression upon American institutions and attitudes, with extensive analysis of the New Deal's domestic reform program and its creation of a national welfare state. (NA) 6 units.

Enrollment limit: 25

Prerequisites: Sophomore standing and History 132

HIST 355

History of the American Environment

North Americans have transformed the environment while being shaped by nature in turn. This course surveys the changing relationships between Americans and their physical environment in historical context from the 17th century to the present. Topics include the "Columbian exchange," agriculture, urbanization, conservation, and the emergence of contemporary environmentalism. (NA) 6 units.

Also listed as Environmental Studies 355

Prerequisite: Sophomore standing

HIST 360

Contemporary China, 1949-2000

A discussion course on selected issues in the social and cultural history of modern China. Literature, films, documents, and historical studies are examined to explore the intimate side of personal, family, and social life and the nature and impact of social and cultural changes in 20th-century China. (G&C) 6 units.

Also listed as East Asian Languages and Cultures 420

Prerequisite: Sophomore standing or consent of instructor

History 165 recommended

HIST 365

Modern Japanese History, 1868-2000

A discussion course on modern Japanese history from the Meiji Restoration of 1868 to the present. This course focuses on Japanese efforts to build a new, westernized state and society compatible with Japan's traditional "national polity" and to find a new role in modern East Asia and the world. (G&C) 6 units.

Also listed as East Asian Languages and Cultures 365 and Ethnic Studies 322

Prerequisite: History 165

HIST 375

Race, Labor, and the Nation-State in the 20th-Century Caribbean

An exploration of the legacies of slavery, the plantation economy, and colonialism in the making of Caribbean nation-states during the 20th century.

Focusing on the interaction of ethnicity, race, and labor, the course will treat three specific Caribbean case studies: Black Nationalism in the British West Indies, the communist revolution in Cuba, and the colonialist alternative in Puerto Rico. (G&C) 6 units.

Enrollment limit: 25

Prerequisite: Sophomore standing or consent of instructor

HIST 421

Pan-Africanism

This advanced seminar will explore the development of Pan-Africanist political and cultural movements in Africa, the Caribbean, and the United States. Major themes will include negritude, Garveyism, African independence movements, South Africa's Black Consciousness movement, Afrocentrism, and current debates on reparations for slavery. We will explore the works of authors such as Blyden, Garvey, DuBois, Senghor, Nkrumah, and Asante. (G&C) 6 units.

Prerequisite: Junior standing or consent of instructor

HIST 430

Society and the Sexes in Pre-Industrial Europe

A seminar, organized topically, exploring changing gender definitions, economic and social roles, family structures and functions, and styles of intimacy from 1000 to 1800. A variety of primary sources and

scholarly interpretations examined. (E) 6 units.

Also listed as Gender Studies 415

Enrollment limit: 18

Prerequisite: Junior standing or consent of instructor

Fulfills seminar requirement

HIST 431

Violence in Medieval and Early Modern Europe

A chronological and thematic examination of the understandings, uses, and effects of violence between roughly 1000 and 1800. Structured loosely around changing distinctions between licit and illicit forms of violence, the course will explore the transition from reliance upon self-help to well-articulated systems of jurisdiction at different levels of society. Topics will include warfare (feud, conflict among states, mercenaries, standing armies), jurisprudence (interrogation, torture, public execution), revolt (riot, rebellion), and interpersonal violence (criminal behavior, retribution). Readings will include a wide variety of documentary materials and scholarship. (E) 6 units.

Enrollment limit: 18

Prerequisite: Junior standing or consent of instructor

Fulfills seminar requirement

HIST 435

Nazism and Stalinism in Comparative Perspective

This course examines the political, social, and cultural histories of two of the 20th century's most notorious regimes. We will seek to determine what they had in common and, in doing so, answer the question, "What is totalitarianism?" We will read biographies of Stalin and Hitler, monographs on political and social history, memoirs and diaries, and view popular films of the time. (E) 6 units.

Prerequisites: Junior standing and History 115 or 275, or consent of instructor

Fulfills seminar requirement

HIST 440

Themes in European Intellectual History, 1789-present

A seminar in the history of ideas, focusing on one of several topics that shift periodically. Possible topics include the concept of freedom in French thought since the Revolution and the rise of post-modernism in 20th-century Europe. (E) 6 units.

Prerequisite: Sophomore standing and History 115 or consent of instructor

Fulfills seminar requirement

HIST 470

The American Civil War

A comprehensive examination of the Civil War era between 1840 and 1877. Major themes and topics will include the political crisis leading to secession, the military conduct of the war, the end of slavery, the effects of the war on American society, and Reconstruction. (NA) 6 units.

Also listed as Ethnic Studies 420

Enrollment limit: 15

Prerequisite: Junior standing and History 131

Fulfills seminar requirement

HIST 475

The History of America at Play

How serious is play? This class explores the ways in which seemingly frivolous activities — ordinary American entertainment — has reflected and shaped hierarchies of race, class, and gender as well as urban economies and landscapes. The course will progress chronologically from the mid-18th to the mid-20th century, including such topics as museums, vaudeville, vacations, professional and amateur sports, dance halls, and night clubs. (NA) 6 units.

Enrollment limit: 18

Prerequisites: Junior standing and at least one of History 130, 131, 132

Fulfills seminar requirement

HIST 480

Reconsidering the 1960s

A seminar examining the major themes and issues of the decade. Topics include Vietnam, the Great Society, civil rights, the counterculture, and feminism. Fiction, oral narrative, and the developing historiographical literature will be employed as aids in addressing the period. (NA) 6 units.

Enrollment limit: 15

Prerequisites: Junior standing and History 132

Fulfills seminar requirement

HIST 490

The Advent of the Atomic Bomb, 1900-1962

Examination of the scientific evolution of nuclear weapons and the historical context in which they were developed. World War II made urgent the exploitation of atomic power for military purposes.

The course examines scientific thought that made harnessing nuclear energy possible, political pressures that shaped that process, and ramifications of the bomb for science and politics during and immediately after the war. (G&C) 6 units.

Prerequisite: Junior standing or consent of instructor

Fulfills seminar requirement

HIST 495

The Global Century, 1914-1991

A study of the 20th century from the perspective of its end rather than its start. Focus is on major world events and trends from a global rather than a regional point of view and with regard to the possible onset of a new contemporary stage of history. (G&C) 6 units.

Enrollment limit: 18

Prerequisite: Junior standing and History 115 or consent of instructor

Fulfills seminar requirement

HIST 510

The Origins of War

A study of the concerns that lead states to war through analysis of the strategic and diplomatic crises that precipitated two great historical conflicts: the Peloponnesian War in 431 B.C. and the First World War in 1914. Students will regard themselves as diplomats assigned to report on the developing situations. (E) 6 units.

Also listed as Classics 510

Enrollment limit: 15

Prerequisite: Junior standing or consent of instructor

HIST 620

Historiography

A seminar examining both philosophical and methodological aspects of historical studies. Readings include modern treatises on the nature of history, select works of important philosophers of history, and examples of contemporary approaches to historical research and writing. 6 units.

Enrollment limit: 18 per section

Prerequisite: Sophomore standing or consent of instructor

HIST 650

The Practice of History

HISTORY

A collaborative senior seminar culminating in an original and substantial piece of historical research. Students will be introduced to the standards of research and writing common to the historical profession and will be guided, as apprentice historians, through their own individual projects. Open to history majors who, having completed an advanced seminar, tutorial, or independent study, have outlined a research topic that they are prepared to pursue intensively. 6 units.

Enrollment limit: 15

Prerequisite: Senior standing or consent of instructor

HIST 190, 390, 590, 690

Tutorial Studies in History

A reading program, specially designed and implemented in consultation with an instructor. Writing is required. More than one term may be taken. Students must consult in advance with the member of the department with whom they wish to work. Variable credit.

Prerequisite: Junior standing or consent of instructor

HIST 199, 399, 599, 699

Independent Study in History

A research project organized in consultation with an instructor, culminating in a major research paper. Students must consult in advance (preferably during spring registration) with the member of the department with whom they wish to work. Students considering an honors project should register for this course (see page 275). One or more terms may be elected. Variable credit.

Prerequisite: Junior standing or consent of instructor

Recent tutorial topics in history

The French Idea of Freedom

Renaissance Humanism

Modern Japanese History

Fin de Siècle European Culture

Anti-Semitism in the Late Middle Ages

Myth and Reality of the American West

Student Protest Movements in Contemporary China

Modern Central Asia

INTERNATIONAL STUDIES

Faculty advisor: Skran (government)

The interdisciplinary area in international studies encourages students to discover the relationships among different societies. It is also intended to heighten their sensitivity to the degree to which cultural-linguistic factors affect perception of the world. The program offers students an opportunity to use skills and perspectives gained from study of modern languages and civilizations to enhance their understanding of international events and developments encountered in their studies in the social sciences and humanities.

Just as interdisciplinary areas (IAs) are intended to provoke students to examine the boundaries between their major fields and closely related fields of study, the interdisciplinary area in international studies is a vehicle through which students may discover and explore the international dimensions of their majors. It is also a means through which a student may demonstrate a commitment to enhanced understanding of those dimensions.

The interdisciplinary area in international studies has an informal, but natural, relationship with the social organization called Lawrence International. Students who participate in the interdisciplinary area should consider seriously membership in Lawrence International and should attend the meetings and functions of the organization. Lawrence International extends a warm welcome to all students and especially to those who evince interest in international matters.

Required for the interdisciplinary area in international studies

1. One six-unit course in a foreign language beyond the level required for completion of Lawrence's foreign language requirement.
2. Government 140. Students should fulfill this requirement in the freshman or sophomore year. Juniors are discouraged from taking Government 140, and the course is closed to seniors without the consent of the instructor.
3. At least four six-unit courses, from at least three different departments, that embody international and/or cross-cultural context and that can be shown by the student to conform to a coherent design, either regional or thematic in nature. The student must present a clear articulation of the design either during a culminating conversation between the student and the Interdisciplinary Area Advisory Committee or in some other suitable context — *e.g.*, an advanced-level seminar in international studies, when such an offering is available.
4. Notification of the faculty advisor by the first Friday of Term III of intention to complete the IA in the current academic year.

GOVT 140

Introduction to International Relations

An introductory study of the cultural, political, and economic interactions among states and non-state actors in global politics. Special attention is paid to key issues, including international security, foreign policy decision-making, and the role of diplomacy in promoting cooperation. 6 units.

LINGUISTICS

Faculty advisors: Lanouette (German), Rew-Gottfried (psychology), Ryckman (philosophy), Sung (East Asian languages and cultures), Taylor (classics), Ternes (German), Yamagata (East Asian languages and cultures)

The goal of linguistics is the enrichment of knowledge about the nature, grammar, and history of human language. Linguistics is a theoretical discipline, akin to philosophy, anthropology, and cognitive psychology.

The core areas of linguistic theory are phonology, morphology, syntax, and semantics. A grammar is a system of rules that characterize the phonology, morphology, syntax, and semantics of a natural language. The properties of grammars are the central focus of linguistic theory.

Because language is central to all humanistic disciplines, as well as to several social science areas, it is studied from many points of view. Linguistics itself cannot be said to recognize a single optimal approach to the subject; hence the courses provide a variety of approaches that reflect the diversity of the field.

Required for the linguistics major

1. The following core courses:
Linguistics 150: *Introduction to Linguistics*
Linguistics 320: *Historical Linguistics*
Linguistics 340: *Introduction to Syntax*
Linguistics 350: *Introduction to Phonology*
Linguistics 420: *Topics in Logic*
2. Four of the following elective courses:
Computer Science 100: *Exploring Computer Science*
Computer Science 150: *Introduction to Computer Science*
Linguistics 265: *Introduction to Japanese Language and Culture*
Linguistics 310: *Introduction to East Asian Linguistics*
Linguistics 330: *Language and Culture*
Linguistics 360: *Second Language Acquisition*
Linguistics 370: *Phonetics*
Linguistics 375/376: *Spanish Phonetics*
Linguistics 377: *Linguistics of the Spanish Language*

Linguistics 400: *Philosophy of Language*
Linguistics 440: *Comparative Syntax*
Linguistics 450: *Psycholinguistics*
Linguistics 510: *The Romance Languages and Their Histories*
Linguistics 530: *The English Language*
Linguistics 190, 390, 590, 690: *Tutorial Studies in Linguistics*
Philosophy 150: *Symbolic Logic*
Philosophy 410: *Philosophy of Mind*
Psychology 340: *Cognitive Psychology*

3. One of the following:
 - a. Study of two foreign languages, each for three terms (*i.e.*, first-year level)
 - b. Completion of the fifth term of one foreign language (*i.e.*, second-year level)
 - c. Study of one foreign language for four terms and the completion of an off-campus language program
4. Linguistics 199, 399, 599, 699: *Independent Study in Linguistics*

Required for the linguistics minor

1. Linguistics 150: *Introduction to Linguistics*
2. Two of the following core courses:
Linguistics 320: *Historical Linguistics*
Linguistics 340: *Introduction to Syntax*
Linguistics 350: *Introduction to Phonology*
Linguistics 420: *Topics in Logic*
3. Two courses selected from the list of electives.
One of these may be a third course from the list of core courses.
4. C average in the minor

Courses

CMSC 100

Exploring Computer Science

An overview of computer science as a broadly based discipline. Emphasis on development of skills in algorithmic thinking, implemented in a subset of a suitable programming language. Brief coverage of selected advanced topics from computer science, applications of computing in other disciplines, and

impacts of computing on society. 6 units.

Enrollment limit: 24 per section

CMSC 150

Introduction to Computer Science

An introduction to computer programming for potential mathematics/computer science majors and other students with a strong interest in computing. Topics include elementary programming constructs, design and implementation of algorithms, and object-oriented programming. Introductory instruction in the C++ language. 6 units.

Enrollment limit: 24 per section

LING 150

Introduction to Linguistics

Introduction to theory and methods of linguistics: universal properties of human language; phonetic, phonological, morphological, syntactic, and semantic structures and analysis; nature and form of grammar. 6 units.

LING 265

Introduction to Japanese Language and Culture

A survey introducing major characteristics of the Japanese language with reference to the structure of Japanese society. Topics include honorifics, use of pronouns, loan words, age and gender differences in the language. The course will also familiarize students with various aspects of traditional and contemporary Japanese culture. 6 units.

Also listed as East Asian Languages and Cultures 265

LING 310

Introduction to East Asian Linguistics

Survey of genetic, regional, and typological classification of East Asian languages; writing systems for Chinese, Japanese, Korean, and Tibetan languages; descriptive and comparative analyses of phonological, morphological, and syntactic structures of East Asian languages. More than one language may be investigated in detail. 6 units.

LING 320

Historical Linguistics

An introduction to the principles and procedures of historical and comparative linguistics: sound change, genetic classification, reconstruction, language variation, and comparative philology. Emphasis on Indo-European, with particular attention to methodology and the historical development of the discipline itself. 6 units.

Prerequisite: Linguistics 150 or consent of instructor

LING 330

Language and Culture

An examination of language and other cultural symbolic systems used to formulate and communicate meanings. Attention to social factors in language use, including ethnicity, social class, gender, and the nation-state. Some consideration of the ways that language both reflects and influences people's ways of thinking. 6 units.

Also listed as Anthropology 330

Enrollment limit: 35

Prerequisite: Anthropology 110 or 140

LING 340

Introduction to Syntax

An introduction to descriptive analysis of morphological and syntactic structures in natural languages with an emphasis on gaining insight into the nature of such structures, rather than on linguistic formalization. Topics include levels of representation, X-bar theory, case theory, thematic roles, the lexicon, grammatical function-changing rules, and head-complement relations. 6 units.

Prerequisite: Linguistics 150 or consent of instructor

Offered in alternate years

LING 350

Introduction to Phonology

An introduction to the formal study of phonetics, phonemics, and phonological analysis and theory. Topics include stress, syllable structure, tones, metrics, phonotactics, and links between phonology and morphology/syntax; exercises on familiar and unfamiliar languages. 6 units.

Prerequisite: Linguistics 150 or consent of instructor

Offered in alternate years

LING 360

Second Language Acquisition

This course will introduce various issues in the study of second-language acquisition from different perspectives. Topics will include comparisons to first-language acquisition, factors related to second-language acquisition, and learner strategies. 6 units.

LING 370

Phonetics

An introduction to the science of speech sounds,

focusing on descriptive and experimental studies of articulation and speech acoustics. Laboratory demonstrations of speech production, acoustical analysis, and speech synthesis are combined with lecture/demonstrations to relate phonetics research to theories of phonology and language acquisition. 6 units.

LING 375/376

Spanish Phonetics

Spanish Phonetics will immerse students in the pronunciation and general phonetics of the Spanish language as it is spoken in Spain and Latin America. The course will help students to perfect their accent in Spanish and make them aware of the different accents of spoken Spanish. It also will serve Conservatory of Music students who desire to practice their diction in Spanish. Taught in Spanish (375) and English (376). 6 units.

Also listed as Spanish 340/341

Enrollment limit: 15

Prerequisite: When taught in Spanish, Spanish 202, its equivalent, or consent of instructor and not open to native speakers of Spanish. When taught in English, sophomore standing or consent of instructor

LING 377

Linguistics of the Spanish Language

A broad introduction to the concepts and terminology of synchronic linguistics, including different levels of language analysis (e.g., phonology, morphology, syntax, semantics), discourse analysis, and interdisciplinary areas of interest (e.g., sociolinguistics, language policy, cognitive science). Emphasis on the application of linguistic issues within the context of the Spanish language. 6 units.

Also listed as Spanish 350

LING 400

Philosophy of Language

An examination of major theories of meaning, reference, and cognitive content, and an attempt to understand how language functions to relate "internal" psychological states to things in the "external" world. Contemporary philosophers are emphasized. 6 units.

Also listed as Philosophy 400

Prerequisite: One course in philosophy, junior standing, or consent of instructor

Philosophy 150 recommended

LING 420

Topics in Logic

An investigation of topics selected from among the following: consistency and completeness theorems for both sentential and predicate logic, Gödel's Incompleteness Theorem, logical paradoxes (Russell's Paradox, the Liar Paradox, and Newcomb's Paradox), and modal-tense logic and its formal semantics. 6 units.

Also listed as Philosophy 420

Prerequisite: Philosophy 150 or consent of instructor

LING 440

Comparative Syntax

A comparative, formal study of morphological and syntactic structures in Indo-European languages (focusing on Romance and Germanic) and non-Indo-European languages (focusing on East Asian languages). Contrastive analysis allows students to acquire linguistic insights into individual languages in light of universal grammar. 6 units.

Prerequisite: Linguistics 150 or consent of instructor

LING 450

Psycholinguistics

An examination of the nature and structure of language, integrating knowledge from linguistics, psychology, neuropsychology, and sociology. Focus on the psychological theories and experimental evidence about language production and perception. 6 units.

Also listed as Psychology 540

Prerequisite: Psychology 340, Linguistics 150, or consent of instructor

LING 510

The Romance Languages and Their Histories

An introduction to the development of Romance languages from Latin. Emphasis on a comparative study of the structures of the modern Romance languages. 6 units.

Taught in English

Also listed as Classics 520 and Spanish 560

Prerequisite: Knowledge of Latin or a Romance language beyond the intermediate level or consent of instructor

LING 530

The English Language

A study of the historical background of English and the sounds and structure of modern English. 6 units.

Prerequisite: Linguistics 150 or consent of instructor

LING 190, 390, 590, 690

Tutorial Studies in Linguistics

Available to advanced students of linguistics. Variable credit.

LING 199, 399, 599, 699

Independent Study in Linguistics

Available to advanced students of linguistics. Variable credit.

PHIL 150

Symbolic Logic

A study of some standard notations, deductive rules, and principles of symbolic logic. Focus on symbolic logic as an instrument of analysis and deduction; a background in mathematics is not presupposed.

Intensive training in the use of contemporary logical symbols and proof techniques, with consideration of sentential logic and predicate logic with identity.

6 units.

Enrollment limit: 35

Recommended for freshmen and sophomores

PHIL 410

Philosophy of Mind

An examination of our common sense conception of mental states and processes and of attempts to answer the question, "Is our common sense conception of mental states and processes compatible with the methods and assumptions of cognitive science?" 6 units.

Prerequisite: One course in philosophy, Psychology 340, junior standing, or consent of instructor

PSYC 340

Cognitive Psychology

An investigation of the mental processes involved in the acquisition, organization, and use of knowledge. Information-processing and other approaches are used to study pattern recognition, attention, memory, imagery, problem-solving, and related topics. 6 units.

One laboratory per week involving class demonstrations and experiments

Enrollment limit: 30

Prerequisite: Psychology 100 or sophomore standing

Recent tutorial topics in linguistics

History of Linguistics

Perception of Tones in Mandarin Chinese

Field Methods in Linguistics

Historical French Phonology

Language and the Law

MATHEMATICS

Professors: Parks*, Pourciau
Associate professors: Gregg, Krebsbach, Sanerib**
Assistant professor: Hunsicker
Assistant professor of statistics: Jordan

Pattern and form surround us — from the branching angles of our blood vessels and the complexity of computer algorithms to inventory scheduling and the four-dimensional geometry of our universe. As the pure expression of pattern and form, mathematics is the language of all science.

In the past 50 years, many disciplines — computer science, statistics, ecology, and management science among them — have been virtually transformed by the infusion of mathematics. Alongside the traditional field of mathematical physics, one now finds new fields such as mathematical biology, mathematical economics, mathematical linguistics, and mathematical psychology.

A mathematics degree could lead to graduate study in any of these fields, as well as in areas in pure and applied mathematics. Moreover, students have found a major in mathematics, with its training in logic, analysis, and precise expression, to be excellent preparation for careers in law, business, or medicine.

To reflect the diversity of modern mathematics and its applications, the department, alone or in conjunction with the economics department, offers three separate majors: mathematics, mathematics-computer science, and mathematics-economics. Core courses provide all majors with a secure foundation for varied and challenging advanced coursework, including possible student-designed tutorials and, in the senior year, a term of independent study.

For non-majors, the department offers a number of elementary- and intermediate-level courses designed to meet the needs of students who require mathematics for further work in their discipline or who wish to satisfy a general education requirement.

In all its courses, from elementary to advanced, the department seeks to instill an understanding of

mathematical ideas, an appreciation for mathematical methods and styles, and a sense of excitement at the power and diversity of modern mathematics and its applications.

For a full description of Lawrence's computer facilities and for descriptions of the computer science courses, see page 73.

Required for the mathematics major

1. Complete or place out of the calculus sequence: Mathematics 140, 150, and 160
2. One of Mathematics 207, 210, or 220
3. One computer science course numbered 150 or above (excluding 170)
4. Mathematics 300 and 310
5. 24 additional units in mathematics courses numbered 400 or above
6. Completion of an independent study project in at least one term of the senior year.
7. In choosing courses beyond the core sequence, students should note that certain advanced courses may be particularly relevant to majors with specific interests or career goals:
Pure mathematics: 525, 535, 540, 545, 546, 550, and 560
Computer science: 420, 515, 525, and 540
Operations research: 420, 435, 440, 445, 525, and 550
Applied mathematics: 400, 415, 420, 435, 445, 535, and 550
Statistics and actuarial science: 420, 435, 440, 445, and 550
Engineering: 400, 415, 420, 435, 440, 535, and 550
Secondary teaching: 525, 530, 535, 545, 550, 600, and 495

Required for the mathematics minor

1. Calculus through Mathematics 160
2. Either Mathematics 210 or Mathematics 220
3. Mathematics 300 and Mathematics 310
4. 6 units in any one upper-level mathematics course numbered from 400 to 600, except Mathematics 495
5. C average in the minor

*On leave Term I; **on leave Term III

Required for the interdisciplinary mathematics-computer science major

1. The core sequence: Mathematics 140, 150, 160, and Computer Science 150, 250, and 270
2. Mathematics 220 and 300
3. Computer Science 460, 510, and 515
4. 12 additional units in mathematics courses selected from among Mathematics 310, 420, 525, or 540
5. 6 additional units in a computer science course numbered 400 or above
6. Completion of an independent study project in at least one term of the senior year

In choosing electives: Mathematics 420 and 525 are recommended. Computer Science 430 or 440 is recommended for students considering a technical career or graduate study in computer science. Computer Science 410 is recommended for those considering careers in management information science. Physics 220 is recommended for students considering pre-engineering.

Required for the interdisciplinary mathematics-economics major

The mathematics component of the major is:

1. Mathematics 140, 150, 160, 207, 300, and 310
2. Either Mathematics 435 or 445 and 6 units in a mathematics course numbered 400 or above, with 400, 415, and especially 435, 440, 445, or 560 recommended

The economics component of the major is:

1. Economics 100 or 120
2. Economics 300, 320, and 380
3. Any three six-unit courses numbered between 400 and 500 with Economics 500, 520, and 540 recommended

The interdisciplinary component of the major is:

1. Completion of an independent study project that has been approved by both departments.
2. A major must have an advisor in each department.

Tutorials

The department views tutorials as opportunities to enhance its usual course offerings, not duplicate them. In order to reserve tutorials for this purpose, no tutorials are given for courses routinely offered, and the department does not normally permit a tutorial to be used to satisfy any requirement for the major.

Independent study and research

Required of all majors (mathematics, mathematics-economics, and mathematics-computer science), the independent study project must evidence the student's capacity to learn mathematics independently or to utilize mathematics or mathematical technique as an innovative or substantive part of a larger project. The project must be accompanied by a paper (with copies for each faculty member in the department) and/or an oral presentation to the department. In recent years, independent study projects have included such topics as fractals, robotics, population models in biology, the philosophy of mathematics, mathematical economics, mathematics in elementary schools, game theory, and tessellations of the plane.

The department sometimes employs students during the summer who are paid a stipend to work on research projects in mathematics, applied mathematics, or computer science. These students often report on their results at undergraduate-level research conferences.

First-year courses

The department offers two calculus sequences: Mathematics 140, 150, 160 (*Calculus I, II, III*) and Mathematics 120, 130 (*Applied Calculus I, II*). Students intending to major in mathematics, mathematics-computer science, mathematics-economics, physics, or chemistry, or any student intending to take advanced mathematics courses, must complete the *Calculus I, II, III* sequence. Properly prepared students should enter this calculus sequence their freshman year. Proper preparation means strong high school mathematics, including a pre-calculus or elementary functions course, and strong SAT or ACT scores. Students who lack this preparation yet need the three-course sequence should consult their advisor and the mathematics department as soon as possible.

The *Applied Calculus I, II* sequence does not prepare students for more advanced courses in mathematics but does help prepare students for advanced work in the social and life sciences. This sequence demands less technical proficiency than does the *Calculus I, II, III* sequence. Good performance in high school mathematics through the junior year should be adequate preparation.

Advanced placement

Advanced placement in the *Calculus I, II, III* sequence and up to 12 Lawrence units may be obtained by presenting a score of 4 or 5 on the AB or BC calculus exams administered by the College Board or by performing well on an exemption-credit exam given by the department during Welcome Week. Consult the department for details. Students intending to enter *Calculus I* should not take the department's exemption-credit exam.

Advanced placement and six Lawrence units (for Computer Science 150) may be obtained by scoring 4 or 5 on the A or AB College Board computer science exam. Consult the department for proper placement.

General Education Requirements

To satisfy General Education Requirements, students should consider Mathematics 105, 107, 117, 120, or 140. The department encourages students to take calculus; students not prepared to do so may elect Mathematics 105, 107, or 117. Advanced placement credit granted by the department may also be used to fulfill the requirement.

Off-campus and cooperative programs

Two off-campus programs are particularly relevant for mathematics and mathematics-computer science majors. Students wishing to combine a liberal arts degree with engineering should consider the 3-2 program in engineering (see page 31). Students interested in study and research at the frontiers of current knowledge in a national laboratory should refer to the Oak Ridge Science Semester, page 273.

In addition, the department encourages majors to apply for summer research positions and internships. Bell Laboratories and the Argonne National Laboratory, for example, have recently employed Lawrence mathematics students in such positions.

Course numbering

Courses numbered below 400 are offered each year. Courses numbered 400 or higher are offered every other year, generally with odd [even] numbered courses offered only in those academic years beginning in an odd [even] numbered year.

Courses

MATH 105

The Mathematical Experience

An introduction to the scope, power, and spirit of mathematics. Topics, chosen to convey the character of mathematical inquiry, may vary; they include euclidean and non-euclidean geometry, number theory, topology, graph theory, infinity, paradoxes, set theory, and logic. Intended for students with limited preparation in mathematics. 6 units.

Prerequisite: Sophomore standing

MATH 107

Elementary Statistics

For students in all disciplines. Provides the background needed to evaluate statistical arguments found in newspapers, magazines, reports, and journals and the logic and techniques necessary to perform responsible elementary statistical analysis. Students who have completed a calculus course should elect Mathematics 207 rather than Mathematics 107. 6 units.

Enrollment limit: 35

Prerequisite: Sophomore standing

Only one of Mathematics 107, 117, or 207 may be taken for credit

MATH 117

Elementary Statistics

For students in all disciplines. Provides background needed to evaluate statistical arguments found in newspapers, magazines, reports, and journals and the logic and techniques necessary to perform responsible elementary statistical analysis, including computer-aided data analysis. Students who have completed a calculus course should elect Mathematics 207 rather than Mathematics 107 or 117. 6 units.

Enrollment limit: 35

Prerequisite: Sophomore standing

Only one of Mathematics 107, 117, or 207 may be taken for credit

MATH 120

Applied Calculus I

An introduction to calculus that stresses applications to the life and social sciences. Topics include derivatives, integrals, optimization, and exponential and logarithmic functions. Mathematics 120 and 130 do not prepare students for more advanced courses.

6 units.

Prerequisite: Three years of high school mathematics
Mathematics 120 and 140 cannot both be taken for credit

MATH 130

Applied Calculus II

Differential and integral calculus in several variables, including optimization, partial derivatives, and multiple integrals. Also applications of integration and an introduction to differential equations. Stresses applications to the life and social sciences. 6 units.

Prerequisite: Mathematics 120

MATH 140

Calculus I

Functions, limits, derivatives, the Mean Value Theorem, definition and properties of integrals, the Fundamental Theorem of Calculus, and applications to related rates, curve sketching, and optimization problems. 6 units.

Prerequisite: Four years of high school mathematics; consult the department

Placement exam not required

Mathematics 120 and 140 cannot both be taken for credit

MATH 150

Calculus II

Applications of integration, exponential and logarithmic functions, techniques of integration, infinite sequences and series, and Taylor series. 6 units.

Prerequisites: Sufficient advanced placement, Mathematics 140, or Mathematics 120 and consent of instructor

MATH 160

Calculus III

Functions of two or more variables, partial derivatives, chain rules, optimization, vectors, derivatives of vector-valued functions, Lagrange multipliers, multiple integrals, line integrals, and Green's Theorem. 6 units.

Prerequisite: Mathematics 150 or sufficient advanced placement

MATH 207

Introduction to Probability and Statistics

A survey of statistical methods including their mathematical foundation and their implementations

on a computer. Topics include descriptive statistics and graphs, random variables and their distributions, conditional probability, independence, sampling distributions, the Central Limit Theorem, parametric and nonparametric tests of hypotheses, and multiple regression. Laboratory component emphasizes analysis of economic data sets. 6 units.

Prerequisite: Mathematics 120 or 140

Only one of Mathematics 207, 107, or 117 may be taken for credit

MATH 210

Differential Equations with Linear Algebra

A study of differential equations and related techniques in linear algebra. Topics include first-order equations and their applications, existence and uniqueness of solutions, second-order linear equations and their applications, series solutions, systems of first-order equations, vector spaces and dimension, linear transformations, and eigenvalues. 6 units.

Prerequisite: Mathematics 160, or Mathematics 150 and consent of instructor

MATH 220

Applied Combinatorics

An introduction to logic, proofs by mathematical induction, and elementary combinatorics. Additional topics include recurrence relations, generating functions, and the principle of inclusion-exclusion. 6 units.

Prerequisite: Mathematics 150

MATH 300

Foundations of Algebra

An introduction to the rigorous study of mathematics. Topics include elementary theory of sets and mappings, number theory, equivalence relations, finite groups, homomorphisms, quotient groups, and rings. 6 units.

Prerequisite: Mathematics 207, 210, or 220

MATH 310

Foundations of Analysis

A study of the concepts that underlie mathematical analysis: the completeness of the real numbers, convergence, continuity, derivatives, integrals, infinite series, and, if time permits, an introduction to metric spaces or Fourier series. 6 units.

Prerequisite: Mathematics 300

MATH 400

Partial Differential Equations

A survey of techniques used in modeling physical systems, with particular emphasis on partial differential equations and methods used to attack problems that do not have clean or simple solutions. Topics include techniques for solving partial differential equations exactly, the Fourier transform, perturbation theory, variational methods, Monte Carlo techniques, and finite difference schemes. 6 units.

Prerequisite: Mathematics 300 or consent of instructor

MATH 415

Dynamics for Applied Mathematics

Develops mathematical tools necessary to understand and apply both discrete and continuous dynamical systems. Topics include symbolic systems, orbits, periodicity, equilibrium, stability, hyperbolicity, bifurcations, and chaos. Computer simulations, experiments, and opportunities for independent work. 6 units.

Prerequisite: Mathematics 300

MATH 420

Numerical Analysis

Computer approximated (numerical) solutions to a variety of problems with an emphasis on error analysis. Interpolation, evaluation of polynomials and series, solution of linear and non-linear equations, eigenvectors, quadrature (integration), and differential equations. 6 units.

Prerequisites: Mathematics 300 and Computer Science 150. Mathematics 310 recommended

MATH 435

Optimization

Methods for finding maximal and minimal values of functions with applications to economics and the natural sciences. Topics include existence of optimal points, approximation methods, constrained problems, method of Lagrange multipliers, Kuhn-Tucker theorems, linear problems, duality, and the simplex algorithm. Additional topics may include the transportation problem, postoptimal analysis, and zero-sum two-person games. 6 units.

Prerequisite: Mathematics 310

MATH 440

Probability Theory

The mathematics of chance: discrete and continuous random variables and their distributions, moments, jointly distributed random variables, conditional distributions, the Central Limit Theorem, weak and strong convergence, and Markov chains. 6 units.

Prerequisite: Mathematics 310

MATH 445

Mathematical Statistics

The theory of probability applied to problems in statistics. Topics include sampling theory, point and interval estimation, tests of statistical hypotheses, regression, and analysis of variance. 6 units.

Prerequisites: Mathematics 310 and either Mathematics 207 or 440

MATH 495

Teaching Seminar

A seminar on teaching mathematics intended for students seeking secondary certification. Practice with and advice on lecture, small group, and one-on-one situations. Outside readings on the philosophy and techniques of teaching mathematics, professional standards, curriculum issues, and resources. 2 units.

Offered by arrangement

MATH 515

Theory of Computation

A study of programming in the abstract, leading to an understanding of the precise nature and limitations of computing machines. Topics include universal computing machines such as Turing machines, decidable and undecidable predicates, regular and pushdown automata, and regular and context-free grammars. 6 units.

Also listed as Computer Science 515

Prerequisites: Mathematics 300 and Computer Science 150

MATH 525

Graph Theory

A survey of graph theory that balances the abstract theory of graphs with a wide variety of algorithms and applications to "real world" problems. Topics include trees, Euler tours and Hamilton cycles, matchings, colorings, directed graphs, and networks. 6 units.

Prerequisite: Mathematics 300

MATH 530

Topics in Geometry

The axiomatic development of euclidean and non-euclidean geometry, including the historical and philosophical issues raised by the “non-euclidean revolution.” Additional topics, such as projective or differential geometry and convexity, may be included. 6 units.

Prerequisite: Mathematics 300

MATH 535

Complex Analysis

An introduction to functions of a complex variable, the Cauchy-Riemann equations, conformal mappings, Cauchy’s theorem, Cauchy’s integral formula, Taylor and Laurent series, and a sampling, as time and interest permit, of the corollaries to Cauchy’s theorem. 6 units.

Prerequisite: Mathematics 310

MATH 540

Mathematical Logic

Establishes the basic syntactical tools needed to develop the semantics of first-order logic with equality, including the completeness and compactness theorems. Formal number theory and the theory of recursive functions are developed, culminating in the proof of Gödel’s Incompleteness Theorem. 6 units.

Prerequisite: Mathematics 300

MATH 545

Algebraic Structures

Modern algebra with topics selected from group theory, ring theory, field theory, classical geometric construction problems, and Galois theory. Emphasis on the use of mathematical abstraction to illuminate underlying relationships and structure. 6 units.

Prerequisite: Mathematics 300

MATH 546

Topics in Advanced Algebra

The study of symmetry and symmetric transformations as they relate to the geometric and topological structure of various spaces. 6 units.

Prerequisite: Mathematics 300

MATH 550

Topics in Analysis

We will study the qualitative properties of analytical models, both discrete and continuous, that occur in applications to the social sciences (particularly economics) and to the natural sciences (particularly biology). We will develop the necessary theoretical machinery as we go. Time permitting, we will begin the study of financial derivatives, surveying numerical methods to approximate solutions to the Black-Scholes equation that models the value of a financial option over time. 6 units.

Prerequisite: Mathematics 310

MATH 560

Topology

A study of metric and topological spaces, including continuity, compactness, connectedness, product and quotient spaces. Additional topics may include Zorn’s Lemma, separation properties, surfaces, the fundamental group, and fixed point theorems. 6 units.

Prerequisite: Mathematics 310

MATH 600

History of Mathematics

A study of the history of mathematics from the ancient Greeks through the present, emphasizing the role of mathematics in scientific advances, the work of great mathematicians, and the modern branching of the subject into a multitude of specialties. 6 units.

Prerequisite: Mathematics 310

MATH 190, 390, 590, 690

Tutorial Studies in Mathematics

Advanced work in mathematics on topics not covered in regular offerings. One or more terms may be elected for full or partial credit.

Prerequisite: Consent of instructor

MATH 199, 399, 599, 699

Independent Study in Mathematics

Guided independent study of an advanced topic in undergraduate mathematics or supervised work on an undergraduate research project, generally culminating in a final presentation and/or paper. Variable credit.

MUSIC

Students in the Bachelor of Arts degree program may major or minor in music (see below). The Conservatory of Music section of this catalog, page 211, lists courses for all programs in music. Opportunities for the study of music and for participation in Lawrence University ensembles are available to qualified university students regardless of major.

Required for the music major

90 units in music, to include:

1. Music theory: 30 units: MUTH 151, 161, and 171 or 201, 211, and 221; 152, 162, and 172 or 202, 212, and 222; 251, 261, and 271; 252, 262, and 272; 301, 311, and 321
2. Music history: 18 units: MUHI 201, 202 (12 units); 6 units in courses numbered 400 or above.
3. Performance:
 - a. 18 units minimum of applied individual instruction numbered 231-250 or 331-350. 6 consecutive terms of study are required.
 - b. Students must complete a qualifying examination by the end of the sophomore year.
 - c. Students must participate in either individual or ensemble performance study in each term in which they are in residence on the Appleton campus.
4. Ensemble: 6 units minimum of ensemble performance study. A maximum of 9 units of ensemble performance study may apply to the major.
5. Keyboard skills: 3 units MURP 201, 202, 203 or 2 units MURP 301, 302 or demonstrated proficiency.
6. Additional electives in music to total 90 units
7. An approved lecture, lecture/recital, or senior project must be presented during the last three terms of study at Lawrence.

Please refer to the *Conservatory Student Handbook* (www.lawrence.edu/conservatory/handbook/) and

departmental handbooks for other regulations and information on the major in music. In addition to the 90 units maximum in music, students must complete 126 units in disciplines other than music, including all requirements for the B.A. degree (see "Degree and General Education Requirements," page 25).

Required for the music minor

1. Music theory: 18 units: MUTH 151, 161, and 171 or 201, 211, and 221; 152, 162, and 172 or 202, 212, and 222; 251, 261, and 271
2. Music history: 12 units: MUHI 201, 202
3. Performance: MUIN (Applied Individual Instruction) numbered 200 or above: 9 units and 3 terms of study
4. Ensemble: MUEN (Ensemble Performance Study): 3 units and 3 terms participation
5. Keyboard skills: 3 units: MURP 201, 202, 203 or 2 units: MURP 301, 302 or demonstrated proficiency
6. C average in the minor

Other opportunities for students interested in music

All courses in music may be elected by any qualified Lawrence student. Ensembles are open to university students by audition. Private instruction (Applied Music Individual Instruction) is available by permission of the instructor, based on audition or interview and faculty schedules. A fee for private lessons and the use of practice facilities is charged to non-music majors as follows:

1/2 hour per week – \$220 per term

1 hour per week – \$440 per term

A student may drop private instruction prior to the end of the third week of the term. A refund may be obtained for the remainder of the term, provided the registrar and the conservatory office are officially notified of the change in registration. Refunds are not provided after the third week of the term.

INTERDISCIPLINARY MAJOR IN THE NATURAL

The interdisciplinary major in the natural sciences enables students to construct science majors around subject areas that bridge two or more disciplines in the natural sciences. An interdisciplinary major in the natural sciences requires a primary concentration in biology, chemistry, geology, or physics and a secondary concentration in another of these sciences. An advisor should be chosen from the department of primary concentration.

The interdisciplinary major in the natural sciences enables students to design courses of study leading to graduate work and/or careers in many of the rapidly growing interdisciplinary fields developing along interfaces between the traditional natural sciences. Prospective science majors with interests that overlap two or more of the traditional natural sciences are encouraged to consider the interdisciplinary major in the natural sciences. Students interested in this major should seek advice from the department of primary interest in order to design a major consistent with both their interests and the requirements of the major.

Requirements for the interdisciplinary major in the natural sciences in a primary discipline and a secondary discipline

1. **Introductory Requirement:** An introductory sequence in physics and two additional introductory sequences chosen from those in biology, chemistry, and geology so that sequences in both the primary and the secondary disciplines are included. The introductory sequences are:

Biology:

Biology 110 and 120 or

Biology 110 and 140

Chemistry:

Chemistry 115 and 116 or

Chemistry 119 or equivalent

Geology:

Geology 110 (any section) and Geology 210

Physics:

Physics 150 and 160 or, with the permission of both the primary and the secondary departments, Physics 120 and 130

Advanced placement credit equivalent to any of the introductory courses may be applied to the introductory requirement.

2. **Intermediate/Advanced Requirement:** At least ten six-unit courses in the sciences (biology, chemistry, geology, physics) numbered 200 or above, with at least five in the primary discipline and at least three in the secondary discipline. More specific course and/or laboratory requirements may apply in specific departments.
3. **Participation in a senior seminar series** as defined by the department of the primary discipline.

NEUROSCIENCE

Faculty advisors: Hetzler (psychology), Rence (biology), Wall* (biology)

Neuroscience unites biology, chemistry, and psychology in a quest to understand the nervous system. Students participating in the program may include those interested in medicine, veterinary medicine, nursing, and graduate study in neuroscience. This program, however, also serves those whose primary interest is the elusive and alluring question of how the brain works. An important feature of our program is the wide range of laboratory facilities available, and students are encouraged to engage in neuroscience research in collaboration with the faculty.

Required for the interdisciplinary area in neuroscience

1. The following core courses:
Biology 110: *Principles of Biology*
Biology 140: *General Zoology*
Biology 242: *Comparative Physiology*
Chemistry 115 and 116: *Principles of Chemistry* or
Chemistry 119: *Accelerated General Chemistry*
Psychology 360: *Brain and Behavior I*
Psychology 530: *Brain and Behavior II*
2. At least one course outside the student's major department from the following group:
Biology 200: *Animal Behavior*
Biology 220: *Invertebrate Zoology*
Biology 240: *Morphogenesis of the Vertebrates*
Biology 270 or Chemistry 240: *Principles of Biochemistry*
Biology 351: *Genetics*
Biology 354: *Molecular Biology*
Biology 444 or Chemistry 340: *Biochemistry*
Biology 453: *Developmental Biology*
Chemistry 250 and 252: *Organic Chemistry I and II* (both courses must be taken to fulfill the requirement)
Mathematics 107: *Elementary Statistics*
Psychology 350: *Psychopharmacology and Behavior*

Psychology 370: *Perception*

Psychology 380: *Learning and Conditioning*

3. Biology 340/Psychology 580: *Topics in Neuroscience*

Courses

BIOL 110

Principles of Biology

An introduction to the unified science of life. Emphasis on the experimental approach, to show the interrelationships of living things by examining their metabolism, growth and development, genetics, behavior, ecology, and evolution. 6 units.

Prior registration with department required

Enrollment limit: 24 per laboratory section

BIOL 140

General Zoology

An introduction to the biology of animals, including studies of the phylogeny, morphology, physiology, development, behavior, and ecology of representatives of the major phyla. 6 units.

Prior registration with department required

Enrollment limit: 24 per laboratory section

Prerequisite: Biology 110

BIOL 200

Animal Behavior

A lecture, field, and laboratory study of the principles and problems of animal behavior. Subjects include orientation, feeding, locomotion, communication, escape in time and space, biological rhythms, mate choice, and aspects of social behavior, examined from evolutionary, ontogenetic, physiological, ecological, and ethological perspectives. 6 units.

Also listed as Environmental Studies 210

Prerequisite: Biology 140

May be taken separately or as part of the Marine Biology Term

BIOL 220

Invertebrate Zoology

A comprehensive introduction to 95 percent of the

*on leave Term III

million or so animal species, those without backbones. Emphasis on the evolution, behavior, and ecology of the major phyla and the role of invertebrates in contemporary research programs. 6 units.

Lecture only

Prerequisite: Biology 140

Not offered in 2003-04

BIOL 240

Morphogenesis of the Vertebrates

A modified "programmed self-instruction" course providing the materials and guidance necessary to gain an integrated concept of ontogenetic and evolutionary organogenesis. 6 units.

Lecture and laboratory

Enrollment limit: 24

Prerequisite: Biology 140

BIOL 242

Comparative Physiology

A comparative study of the variety of solutions and adaptations diverse animals can make to similar problems — obtaining and transporting oxygen, maintaining water and salt balance, utilizing food, movement, and nervous and hormonal integration. 6 units.

Enrollment limit: 12 per laboratory section

Prerequisite: Biology 140

BIOL 340

Topics in Neuroscience

A study of the nervous system from the perspectives of psychology and biology. Topics vary year to year and may include neuronal integration, neural development, and chemical aspects of psychoses. 6 units.

Also listed as Psychology 580

Prerequisites: Chemistry 116 or 119 and either Biology 140 and one course in psychology, or Psychology 360 and one course in biology, or consent of instructor

May be repeated with consent of instructor

BIOL 351

Genetics

A lecture and laboratory study relating the principles of inheritance to modern concepts of the structure and chemistry of the chromosomes and the molecular biology of the gene. 6 units.

Enrollment limit: 48

Prerequisite: Sophomore standing, Biology 120 or 140 and Chemistry 115 or concurrent enrollment therein

BIOL 354

Molecular Biology

An interdisciplinary examination of regulatory mechanisms leading to differential gene expression. Main topics include transcription, translation, gene and protein structure. Further examination of the molecular basis of disease, including cancer, as well as the mechanisms by which viruses exploit a cell's molecular machinery. Laboratory work is experimental in approach. 6 units.

Prerequisites: Sophomore standing, Biology 110, and Chemistry 115

BIOL 453

Developmental Biology

An experimental approach to animal development with laboratory and lecture emphasis on the molecular and cellular level. Includes discussions of pattern formation, differentiation, cell interactions, gametogenesis, fertilization, and early embryogenesis. 6 units.

Prerequisites: Biology 140; concurrent enrollment in or completion of one of the following: Biology 241, 444 (or Chemistry 340), 351, or 354

CHEM 115

Principles of Chemistry: Structure and Reactivity

Introduction to the study of chemistry, emphasizing structures of chemical species — atoms, ions, and molecules — and relationships between structure and chemical reactivity. Major topics may include models for atomic and molecular structure and bonding, empirical approaches to thermochemistry and equilibrium, acids and bases, descriptive chemistry of the main group elements, and solutions. 6 units.

One three-hour laboratory per week

Prerequisites: Chemistry 111 or placement examination (see Chemistry 111 description, page 60).

CHEM 116

Principles of Chemistry: Energetics and Dynamics

Introduction to the study of chemistry, emphasizing quantitative models of chemical behavior, especially those based on energy relationships. Major topics may include covalent bonding, introduction to thermodynamics, equilibrium, reaction rates,

electrochemistry, nuclear chemistry, and descriptive chemistry of the transition metals and their complexes. 6 units.

One three-hour laboratory per week

Prerequisite: Chemistry 115 or the equivalent

CHEM 119

Accelerated General Chemistry

A one-term treatment of general chemistry designed primarily for freshmen with strong high school backgrounds who are considering a major emphasizing chemistry, biochemistry, or molecular biology; premedical studies; or a 3-2 chemical engineering program. 6 credits.

Three lectures and two laboratory/workshop sessions per week

Enrollment is determined by placement exam and consent of instructor

CHEM 240

Principles of Biochemistry

A course designed principally for students who do not intend to pursue careers in the molecular sciences (molecular biology, molecular genetics, developmental biology, biochemistry, or chemistry) but who, nevertheless, are curious about the chemistry and chemical principles that underlie fundamental biological processes. Emphasis is on the structure and reactivity of biomolecules, from simple metabolites to complex enzymes. Energy production, biosynthesis, and the regulation of metabolism are considered in some detail. Student-selected topics on health, nutrition, drugs, and disease will be examined during the last week of the class. 6 units.

Also listed as Biology 270; students may not receive credit for both this course and Chemistry 340/Biology 444

Lecture only

Prerequisites: Biology 110 and Chemistry 166

CHEM 250

Organic Chemistry I

A study of carbon compounds, with hydrocarbons discussed in detail and some of the major functional groups introduced. One six-hour laboratory per week, directed toward the synthesis and analysis of organic compounds and the elucidation of reaction mechanisms. 6 units.

Prerequisite: Chemistry 116 or 119 or consent of

instructor

CHEM 252

Organic Chemistry II

A continuation of the study of carbon compounds, including additional functional groups and polyfunctional compounds. One six-hour laboratory per week, directed toward more advanced synthetic and analytic problems. 6 units.

Prerequisite: Chemistry 250

CHEM 340

Biochemistry

A study of biological processes at the molecular level. The course focuses principally on proteins — the workhorses of living systems — particularly their structure, function, and regulation as these relate to enzyme catalysis. A second focus is on biochemical transformations, the mechanisms whereby living systems transform simple chemicals into complex structures. 6 units.

Also listed as Biology 444; students may not receive credit for both this course and Chemistry 240/Biology 270

Prerequisite: Chemistry 252, concurrent enrollment therein, or consent of instructor

MATH 107

Elementary Statistics

For students in all disciplines. Provides the background needed to evaluate statistical arguments found in newspapers, magazines, reports, and journals and the logic and techniques necessary to perform responsible elementary statistical analysis. Students who have completed a calculus course should elect Mathematics 207 rather than Mathematics 107. 6 units.

Enrollment limit: 35

Prerequisite: Sophomore standing

Only one of Mathematics 107, 117, or 207 may be taken for credit

PSYC 350

Psychopharmacology and Behavior

An interdisciplinary examination of the ways in which behaviorally active drugs exert their effects, drawing on research in pharmacology, psychology, biochemistry, anatomy, and neurophysiology. Provides an understanding and appreciation of the role of behaviorally active drugs in people's lives, today and in the past. 6 units.

Enrollment limit: 50

Prerequisite: Psychology 100 or sophomore standing

PSYC 360

Brain and Behavior I

An introduction to the structure and function of the nervous system and its relationship to behavior. Topics include cellular physiology, neuroanatomy, sensory processes, and neuropharmacology. No laboratory. 6 units.

Enrollment limit: 50

Prerequisite: Psychology 100 or sophomore standing.
At least one biology course recommended

PSYC 370

Perception

An introduction to the physiological and psychological processes by which we receive, transform, and use the information from the world acquired through our senses. Special emphasis on visual and auditory perception to allow a more in-depth study of two perceptual systems and to provide information useful to those interested in the visual arts and music. 6 units.

Enrollment limit: 40

Prerequisite: Psychology 100 or sophomore standing

PSYC 380

Learning and Conditioning

An investigation of the basic principles of learning, including classical conditioning, operant conditioning, punishment, biological constraints on learning, and behavior modification. One laboratory per week involving animal learning experiments. 6 units.

Prerequisites: Psychology 100 and sophomore standing. Psychology 280 and 281 strongly recommended

Enrollment limit: 24

PSYC 530

Brain and Behavior II

An examination of interrelationships between the brain and behavior. Topics include sleep, language, motivation, emotion, learning, and mental disorders. One laboratory per week on basic neuroscience techniques. 6 units.

Enrollment limit: 12

Prerequisite: Psychology 360

Not offered in 2003-04

PHILOSOPHY

Professors: Dreher* (chair, Terms I, II), Ryckman (chair, Term III)

Assistant professor: Boleyn-Fitzgerald

Opportunities for non-majors

Courses in philosophy develop skills in reading and thinking analytically and critically, and in cogent argumentation. In addition, they provide students with invaluable insights into many of the major intellectual issues confronting Western civilization.

Many students find that such work in two or three philosophy courses significantly enhances the intellectual quality of their efforts in their own fields. We urge students to discuss the matter with any member of the philosophy department and with their own major advisors.

Note that, with the consent of the instructor, students may take an intermediate course in philosophy without having taken an introductory course. (Intermediate courses are numbered 200 through 399. Courses numbered 400 through 699 are advanced courses.)

The philosophy major

Students are introduced to philosophy through a study of logic or through a course in which substantive problems are raised by an examination of selected writings of some important philosophers. Students may continue their study through a variety of courses in the history of philosophy, in the systematic study of traditional problem areas within philosophy, and in the philosophical examination of other disciplines.

The historical courses enable students to become familiar with the thinking of the most influential philosophers in our tradition and with the historical contexts in which they worked. The systematic courses encourage students to confront contemporary statements of central philosophical questions and to investigate some of the more promising answers to them. The courses engaged in the philosophical examination of other areas encourage

students to bring methods of philosophical analysis to bear on the methods and presuppositions of other areas of inquiry.

Required for the philosophy major

A student majoring in philosophy is required to take a minimum of eight six-unit philosophy courses numbered above 140. Those eight courses will include:

1. Philosophy 150 or 420 (Majors are strongly encouraged to satisfy this requirement early in their careers.)
2. At least three courses from Philosophy 200, 210, 220, 230, 240 (including at least two from Philosophy 200, 210, 220)
3. At least two courses from Philosophy 300, 310, 320, 400, 410, 440 (including at least one from Philosophy 300, 310, 400)
4. Philosophy 600

Advanced students of philosophy are invited to do tutorial and honors work independent of the course requirements.

Required for the philosophy minor

Five six-unit courses in philosophy, at least two of which must be in the history of philosophy (Philosophy 200, 210, 220, 230, 240) and at least two of which must be from among courses numbered 200 or above but not among Philosophy 200-240.

Students pursuing a minor in philosophy are encouraged to choose a member of the philosophy department as an informal advisor.

A C average in the minor is required.

Courses

PHIL 100

Introduction to Philosophy: Problems

An introduction to philosophical analysis and intensive study of selected philosophical classics. Topics include the existence of God, the problem of evil, problems of knowledge, the relationship between mind and body, free will, determinism, and moral obligation. 6 units.

Enrollment limit: 35

*On leave Term III

Recommended for freshmen and sophomores

PHIL 120

Applied Ethics: Introduction to Biomedical Ethics

The course will examine moral dilemmas created or intensified by recent advances in medical technology and study ways of analyzing those dilemmas to make them more tractable. We will focus on examples such as euthanasia and the right to die, abortion, behavior modification, allocation of scarce medical resources, *in vitro* fertilization, genetic screening and engineering, and human experimentation. 6 units.

Also listed as Biomedical Ethics 120

Enrollment limit: 35

Recommended for freshmen and sophomores

PHIL 130

Meditation and Virtue: Contemplative and Analytic Perspectives on Character

This course focuses on different theories of the good and of the virtues that lead to a good life. It covers a variety of readings that discuss the good and the good life and also critically examines a variety of meditations designed to cultivate moral virtues. Requirements for the class include writing two papers and undertaking a daily meditation practice. 6 units.

Enrollment limit: 35

Recommended for freshmen and sophomores

PHIL 140

Introduction to Philosophy: Knowing and Valuing

Is there a plausible distinction between (real!) knowing and (mere!) opinion? Can we make any warranted claims about how humans might best lead meaningful lives? We will carefully analyze the responses to such questions offered by Plato and by two 20th-century philosophers. 6 units.

Enrollment limit: 35

Recommended for freshmen and sophomores

PHIL 150

Symbolic Logic

Formal study of the notions of validity, consistency, and equivalence in the languages of sentential logic and predicate logic, plus an introduction to semantics for these languages. 6 units.

Enrollment limit: 35

Recommended for freshmen and sophomores

PHIL 200

History of Philosophy: Plato and Aristotle

An examination of themes in selected classical Greek tragedies and their development in the philosophies of Plato (*The Republic*, *Gorgias*) and Aristotle (*Nicomachean Ethics*). 6 units.

Prerequisite: One course in philosophy, sophomore standing, or consent of instructor

PHIL 210

History of Philosophy: Scholasticism, Descartes, and Locke

A historical and textual examination of 17th- and 18th-century European philosophers, especially Descartes and Locke, as they address questions such as: What is mind? What is matter? Is there a God? 6 units.

Prerequisite: One course in philosophy, sophomore standing, or consent of instructor

PHIL 220

History of Philosophy: Berkeley, Hume, Kant, and Mill

An examination of selected works of 18th- and 19th-century philosophers. Epistemology, metaphysics, and ethics are emphasized. 6 units.

Prerequisite: One course in philosophy, sophomore standing, or consent of instructor

PHIL 230

History of Philosophy: Early Analytic Philosophy and British Idealism

An examination of the early 20th-century works of G. E. Moore and Bertrand Russell against the background of the then-dominant Hegelian Idealism. 6 units.

Prerequisite: One course in philosophy, sophomore standing, or consent of instructor

PHIL 240

History of Philosophy: The American Pragmatists

An examination of the attempts by pragmatists such as C. S. Peirce, William James, and John Dewey to reconceptualize "traditional" issues in Western philosophy. 6 units.

Prerequisite: One course in philosophy, sophomore standing, or consent of instructor

PHIL 300

Epistemology

An examination of some basic questions concerning

the nature and extent of human knowledge, focusing on the topics of skepticism, justification, certainty, the *a priori* and the *a posteriori*, and analyses of knowledge. 6 units.

Prerequisite: One course in philosophy, junior standing, or consent of instructor

PHIL 310

Metaphysics

An examination of some central philosophical questions about reality, such as: What basic kinds of things are there? Is truth always and only relative to a conceptual scheme? What is the nature of necessity and possibility? What is the nature of change over time? 6 units.

Prerequisite: One course in philosophy, junior standing, or consent of instructor

PHIL 320

Ethics

An examination of theories about how we should live. Issues include the role of rights, duties and virtues in decision making, the scope of morality, the limits of our obligations to others, and the foundations of morality. 6 units.

Prerequisite: One course in philosophy, junior standing, or consent of instructor

PHIL 330

Philosophy of Natural Science

An examination of the conceptual foundations of natural science. Topics include scientific explanation, the confirmation of scientific theories, laws of nature, and scientific realism. 6 units.

Prerequisite: One course in philosophy, junior standing, or consent of instructor

PHIL 340

Philosophy of Art

An examination of major theories of the essence of art, of the major 20th-century critique of the thesis that art has an essence, and of recent attempts to analyze art in light of the critique. 6 units.

Prerequisite: One course in philosophy, junior standing, or consent of instructor

PHIL 350

Political Philosophy

A seminar examining one topic in political philosophy, typically either distributive justice or war. If the topic

is distributive justice, the focus is on different accounts of the just distribution of social benefits and burdens. Issues include the right to health care and other social goods, as well as accounts of the ideals of equality, liberty, and community. If the topic is war, the focus is on political and moral dilemmas of warfare. Issues include war crimes, nuclear deterrence, the status of non-combatants, the use of economic sanctions, and terrorism. 6 units.

Prerequisite: One course in philosophy, junior standing, or consent of instructor

PHIL 360

Environmental Ethics

An examination of some ethical assumptions that might figure in discussions of environmental policy by economists, legal experts, philosophers, and policy scientists. 6 units.

Also listed as Environmental Studies 360

Enrollment limit: 30

Prerequisite: One course in economics, government, or philosophy; junior standing; or consent of instructor

PHIL 370

Advanced Studies in Bioethics

A seminar examining one particular issue or set of issues in bioethics. 6 units.

Also listed as Biomedical Ethics 370

Prerequisite: Philosophy 120

PHIL 400

Philosophy of Language

An examination of major theories of meaning, reference, and cognitive content, and an attempt to understand how language functions to relate "internal" psychological states to things in the "external" world. Contemporary philosophers are emphasized. 6 units.

Also listed as Linguistics 400

Prerequisite: One course in philosophy, junior standing, or consent of instructor

Philosophy 150 recommended

PHIL 410

Philosophy of Mind

An examination of our common sense conception of mental states and processes and of attempts to

answer the question, "Is our common sense conception of mental states and processes compatible with the methods and assumptions of cognitive science?" 6 units.

Prerequisite: One course in philosophy, Psychology 340, junior standing, or consent of instructor

PHIL 420

Topics in Logic

An investigation of topics selected from among the following: consistency and completeness theorems for both sentential and predicate logic, Gödel's Incompleteness Theorem, logical paradoxes (Russell's Paradox, the Liar Paradox, and Newcomb's Paradox), and modal-tense logic and its formal semantics. 6 units.

Also listed as Linguistics 420

Prerequisite: Philosophy 150 or consent of instructor

PHIL 430

Philosophy of Law

An exploration of questions such as: To what extent may a decision in a legal controversy be deemed uniquely correct (as contrasted with an exercise of the judge's discretion)? What purposes and assumptions underlie branches of the law such as criminal law or torts? What are the functions of precedent? What are the various relationships between morality and the law? 6 units.

Prerequisite: One course in philosophy, junior standing, or consent of instructor

PHIL 440

Morality, Rationality, and Self-Interest

If acting morally conflicts with my long-term self-interest, what is it rational for me to do? Why be moral? 6 units.

Enrollment limit: 30

Prerequisite: One course in philosophy, junior standing, or consent of instructor

PHIL 600

Studies in Philosophy

The topic in 2003-04 is Theories of Truth. 6 units.

Prerequisites: Three courses in philosophy or consent of instructor

PHIL 190, 390, 590, 690

Tutorial Studies in Philosophy

Advanced students of philosophy may elect one or more terms. Variable credit.

Prerequisite: Consent of instructor

PHIL 199, 399, 599, 699

Independent Study in Philosophy

Senior majors undertaking honors projects should elect one or more terms (see "Honors at Graduation," page 275). Variable credit.

Prerequisite: Consent of instructor

Recent tutorial topics in philosophy

Recent Ethical Theories

Sartre

History of Logic

Medieval Philosophy

Ethics in International Relations

PHYSICS

Professors: Brandenberger*, Cook (chair)
Associate professors: Collett, Stoneking
Assistant professors: Bunson, Kunz

Physics represents an inquiry, both theoretical and experimental, into the nature of the physical universe. The theoretical approach involves constructing and exploring abstract models of nature, while the experimental approach involves investigations of physical systems that provide avenues for evaluating theories and for suggesting new theories. Taken together, theory and experiment aim at the construction of a single, compact, and far-reaching conceptual framework that accounts for all properties of the physical universe.

The physics curriculum at Lawrence is structured to help the student develop a firm grasp of the important theories and a secure competence in contemporary experimental techniques. Requirements for the major reflect this structure. On the theoretical side, the major moves from a general survey to more detailed intermediate courses to advanced electives, possibly culminating in a theoretical research project. On the experimental side, the major moves from a study of standard techniques of data analysis to an intermediate laboratory in electronics to a project-oriented advanced laboratory, possibly culminating in an experimental research project. Throughout the curriculum, contemporary computational approaches to problems in physics play a significant role alongside the traditional approaches.

Prospective engineers will find that a major in physics automatically fulfills nearly all of the requirements for Lawrence's 3-2 engineering program (see page 31).

Students who have strong secondary interests in biology, chemistry, or geology may construct majors involving physics and one of the other three natural sciences, using the interdisciplinary major in the natural sciences (see page 163).

In addition, a minor in physics offers an

opportunity for those who wish to supplement a major in another discipline with a significant exposure to physics.

Required for the physics major

Physics 220, 225, 230, 310, 330, and three additional six-unit courses chosen from Physics 320 and above, excluding independent studies and capstone courses. Physics majors without advanced placement should start with Physics 150 and 160. Students who do not intend to pursue graduate study in physics may petition the department to substitute appropriate upper-level offerings in other departments for up to two of the required physics electives. The following program is typical:

Freshman: Physics 150, 160; Mathematics 140, 150, 160

Sophomore: Physics 220, 225, 230; Mathematics 210

Junior: Physics 310, 330; physics electives

Senior: Physics 599 or 699, physics electives

Additional courses in mathematics, chemistry, and computer science are often elected. The prospective major should consult early and regularly with the faculty in the department.

In the 1996-97 academic year the department launched a new effort called the Senior Capstone Experience program, which is designed to encourage seniors to engage in ambitious undertakings custom-tailored to their interests, needs, and career plans. All senior majors are encouraged to enroll in one term — normally the fall or winter term — of capstone endeavor by electing Physics 599 or 699: *Independent Study in Physics*. A detailed proposal must be submitted to the department well before the project is to be undertaken — e.g., in the spring term of the junior year. The proposal should

- (a) describe the proposed activity in detail;
- (b) explain why it is to be undertaken, including the role it plays in the student's overall plans;
- (c) identify a beginning set of resource materials;
- (d) lay out a schedule and specific objectives to be completed by the end of the first term of the activity. The extent to which stated objectives

*On leave Terms II, III

are met in the first term will be an important factor bearing on whether the study will continue into subsequent terms.

These plans are to be worked out in consultation with the intended faculty advisor, who must endorse them.

Required for the interdisciplinary major in the natural sciences in physics and a secondary discipline

1. Physics 150 and 160
2. Any two of
 - a. Biology 110 and 120 or Biology 110 and 140
 - b. Chemistry 115 and 116 or Chemistry 119 or equivalent
 - c. Geology 110 (any section) and Geology 210 chosen to include the secondary discipline.
3. At least ten six-unit courses in the sciences (biology, chemistry, geology, physics) numbered 200 or above, with at least five in physics and at least three in the secondary discipline. The five courses in physics must include Physics 225, 230, 310, and 330.

Required for the physics minor

1. Physics 150 and 160
2. Physics 225
3. Three additional six-unit courses in physics, at least two of which must be chosen from Physics 220, 230, and 310 and above, excluding independent studies and capstone courses, and no more than one of which can be chosen from Physics 103-115
4. C average in the minor
A student pursuing a minor in physics must consult with a member of the department early and often to plan and monitor progress in the minor.

Opportunities for non-majors

The physics curriculum offers non-majors the opportunity to take one or more terms of physics as part of their liberal education. Although every course is open to all suitably prepared students, Physics 103, 107, 110, 115, 120, 130, 150, 160, and 220 have traditionally attracted non-majors.

The laboratory science General Education Requirement

The following courses in the physics department satisfy the university's degree requirement of one laboratory course in a natural science: Physics 103, 107, 120, 130, 150, 160, 220, 330.

Graduate school

Majors preparing for graduate school in physics will probably take more courses in physics than the required minimum. Physics 320, 430, 440, and 460 are recommended for all such students. Other departmental offerings (Physics 340, 410, 500-570) are appropriate for students with particular interests in the topics of those courses. All students contemplating graduate studies in physics should undertake at least one term of independent study/research in the senior year and/or seek opportunities at Lawrence or elsewhere for full-time research during the summer after the junior year. Students contemplating graduate studies in physics should discuss their plans early and often with members of the department.

Certification for secondary teaching in physics

Majors seeking certification to teach physics at the secondary level should read the section of this catalog on teacher certification (page 87) and consult early and often with members of the Department of Education. Physics majors who plan to teach physics at the secondary level may petition the department to substitute physics courses numbered below 199 for up to two of the required physics electives.

Recommended courses outside the department

Courses in mathematics, chemistry, and computer science are frequently elected to support a major in physics, but courses in geology, biology, economics, philosophy, anthropology, and other areas have occasionally been chosen by physics majors whose post-graduation objectives have an interdisciplinary dimension. With departmental approval, up to two upper-level courses in other departments may be substituted for required physics electives.

Advanced placement

Students with strong backgrounds should seek advanced placement and credit, normally by submitting scores on the Physics Advanced Placement Examination of the Educational Testing Service.

Advanced placement without credit is awarded to students who submit satisfactory evidence that they both understand most of Physics 120 or 150 and are able to remedy weaknesses on their own initiative.

International and off-campus study

The Associated Colleges of the Midwest program at Oak Ridge National Laboratory is available to majors in physics. Further, with careful advance planning, physics majors at Lawrence can arrange to be off campus for a term — typically the winter or spring term of the junior year — without jeopardizing progress in the major. Thus, physics majors can participate in off-campus programs, even if those programs contain no scientific components. The Lawrence London Center, among others, has been a popular destination for physics majors.

Course numbering

Courses of general interest requiring minimal or no prerequisite are numbered 103-130. The introductory courses, 150 and 160, require elementary calculus. Intermediate courses are numbered between 200 and 300 and typically list calculus and differential equations as prerequisites. Advanced courses, many of which list one or more intermediate courses as prerequisites, are intended for juniors and seniors and are numbered above 300. Tutorial studies in physics and independent study in physics also are offered.

Courses

PHYS 103

Light! More Light!

Focuses on the nature of light and its interaction with matter. Topics include waves, quanta, lasers, modern optics, wave-particle duality, and the following paradox: While the theory of light is unsurpassed in elegance, predictive success, and heuristic influence, light remains mysterious and continues to defy common sense. 6 units.

Weekly laboratory on laser physics and modern optics

Enrollment limit: 20

Prerequisites: High school physics and trigonometry

Offered every two or three years

PHYS 105

Issues in Physics

A reading course on topics in the history and philosophy of science, the interaction of science and society, and environmental issues, particularly as they relate to physics. Designed for students who intend to teach physics at the secondary level. 3 units.

PHYS 107

Physics of Music

Explores the relationship between physics and music, covering such topics as vibrations, waves, interference, resonance, wave forms, scales and temperament, physics of musical instruments, characteristics of auditoriums, impact of electronics. 6 units.

Weekly laboratory

Enrollment limit: 32

Offered in 2003-04 and alternate years thereafter

PHYS 110

Topics in Astronomy

Treats selected topics in astronomy and cosmology: the solar system, stellar evolution and death, black holes, galaxies, the big bang theory of the early universe. Astronomical observations are interpreted in light of known physical laws to form a comprehensible picture of the universe. 6 units.

Enrollment limit: 35

Not offered in 2003-04

PHYS 115

Aspects of Physics: Energy Technology, Society, and the Environment

Treats topics selected for the non-scientist who wants one term of physics. In 2003-04, Physics 115 will explore the physics of energy production, storage, and usage as they are currently practiced. Certain emerging technologies will also be addressed. Environmental and socio-economic impact will be discussed in the context of limitations imposed by the laws of physics. No laboratory. 6 units.

Also listed as Environmental Studies 115

Enrollment limit: 20

PHYS 120

Foundations of Physics I

An algebra-based introduction to the fundamental concepts of classical physics: Newton's laws, particle motion, conservation laws, gravity, fluids, waves, optics, and thermodynamics. Weekly laboratories emphasize the acquisition, reduction, and interpretation of experimental data and the keeping of complete records. The course is designed to meet the needs of those students who do not intend to major in physics. 6 units.

Note: Students intending to major in physics or engineering must enroll in Physics 150 and 160. Other science majors with strong mathematics and physics backgrounds are also encouraged to enroll in Physics 150 and 160.

PHYS 130

Foundations of Physics II

A continuation of Physics 120. Physics 130 covers both classical and modern physics, including electricity and magnetism, circuits, special relativity, quantum aspects of nature, atomic and nuclear structure, and elementary particles. 6 units.

Weekly laboratory

Prerequisite: Physics 120

PHYS 150

Principles of Classical Physics

Treats the basic topics in classical physics developed prior to 1900: classical mechanics, thermal physics, electricity and magnetism, and waves. Weekly laboratory emphasizes the acquisition, reduction, and interpretation of experimental data and the keeping of complete records. The course is designed to serve the needs of physics and engineering students and is substantially more demanding than Physics 120 and 130. Only for students with strong backgrounds in mathematics and physics. 6 units.

Prerequisites: One year of high school physics and Mathematics 140

PHYS 160

Principles of Modern Physics

Treats basic ideas developed since 1900: quantum aspects of nature, special relativity, elementary wave mechanics, atomic and nuclear structure, fundamental particles. 6 units.

Weekly laboratory

Prerequisites: Physics 150 and Mathematics 140

PHYS 220

Physical Electronics

A laboratory course covering analysis, construction, and testing of circuits used in present-day experimental research. Strict adherence to standard laboratory practice required. Two laboratories and one lecture per week. 6 units.

Enrollment limit: 20

Note: To register you must sign up with instructor

Prerequisites: Physics 120 or 150 and Mathematics 130 or 140, or consent of instructor

PHYS 225

Computational Mechanics

Introduces symbolic and numerical computation through examples drawn mainly from classical mechanics but also from classical electromagnetism and quantum mechanics. This course emphasizes computer-based approaches to graphical visualization, the solution of ordinary differential equations, the evaluation of integrals, and the finding of roots, eigenvalues, and eigenvectors. 6 units.

Prerequisites: Physics 150 and Mathematics 210

PHYS 230

Electricity and Magnetism

Develops and explores charge and current densities, particle motions, electrostatics, magnetostatics, induction, Maxwell's equations, electromagnetic waves, responses of matter. 6 units.

Prerequisites: Physics 225 and Mathematics 210

PHYS 310

Quantum Mechanics

Develops the theoretical framework used to describe microscopic phenomena: wave-particle duality, wave functions, states and observables, Schrödinger equation, uncertainty relations, bound states, quantum scattering, angular momentum, spin, and stationary and time-dependent perturbation theories. 6 units.

Prerequisites: Physics 225, Mathematics 210, and some exposure to quantum mechanics (e.g., Physics 160, Chemistry 470)

PHYS 320

Thermal Physics

Treats elementary statistical mechanics, Bose-Einstein and Fermi-Dirac statistics, kinetic theory, and classical

thermodynamics. 6 units.

Prerequisites: Physics 160 and 225 and Mathematics 210

Offered in 2004-05 and alternate years thereafter

PHYS 330

Advanced Laboratory

Independent work on experiments selected from the following areas: optical, Mössbauer, alpha, beta, gamma ray, and x-ray spectroscopy; optical double resonance; magnetic resonance; vacuum techniques; solid-state physics; laser physics; nuclear physics. 6 units.

Three laboratories weekly; no lectures

Prerequisites: Physics 160, 220, and 225

Physics 310 recommended

PHYS 340

Optics

Treats geometrical optics, interference, diffraction, polarization, and various other topics in classical and contemporary optics. 6 units.

Prerequisites: Physics 160 and 230

Offered in 2003-04 and alternate years thereafter

PHYS 410

Advanced Mechanics

Treats various topics selected from: mechanics of rigid bodies, Lagrangian and Hamiltonian formulations, variational principles, fluids, classical scattering, relativistic mechanics, and theory of small vibrations. 6 units.

Prerequisites: Physics 225 and Mathematics 210

Offered in 2004-05 and alternate years thereafter

PHYS 430

Advanced Electricity and Magnetism

Treats several topics selected from: multipole expansions, radiation from accelerated charges, solutions to Laplace's equations, retarded potentials, wave guides, modern optics, and electron physics. 6 units.

Prerequisite: Physics 230

Offered in 2003-04 and alternate years thereafter

PHYS 440

Mathematical Methods of Physics

Treats several topics selected from: Fourier series and transforms, partial differential equations, special

functions, numerical methods, matrix methods, calculus of variations. 6 units.

Prerequisite: Physics 225 and Mathematics 210

Offered in 2004-05 and alternate years thereafter

PHYS 460

Advanced Modern Physics

Treats various topics selected from: atomic and nuclear physics, properties of atoms and nuclei, atomic and nuclear structure, the deuteron, nucleon-nucleon scattering, nuclear models, nuclear decay, elementary particles, special relativity. 6 units.

Prerequisites: Physics 310 and Mathematics 210

Offered every two or three years

PHYS 500

Special Topics in Physics: Elementary Particle Physics

Treats selected topics in advanced physics. In 2003-04, Physics 500 will focus on the relativistic quantum mechanical description of elementary particles. Topics include internal symmetries and conservation laws, quantum electrodynamics, weak interactions, and electroweak unification. 6 units.

Prerequisite: Physics 310

PHYS 520

Plasma Physics

Explores the properties of hot, ionized gases: motion of charged particles in electric and magnetic fields, plasma kinetic theory, fluid models, waves and instabilities, wave-particle interactions (Landau damping), and plasma confinement and transport. 6 units.

Prerequisite: Physics 230

Offered every two or three years

PHYS 530

Solid State Physics

Explores the fundamental properties of crystalline solids: crystal structures and the reciprocal lattice, phonons, quantum theory of electronic band structure, and some properties of semiconductors. Each student will pursue an independent investigation of an advanced topic. 6 units.

Prerequisite: Physics 310

Offered every two or three years

PHYSICS

PHYS 550

Laser Physics

An advanced seminar on various topics in atomic physics, electrodynamics, classical optics, and modern optics that, collectively, constitute the basic principles and major underpinnings of laser physics. Students assume considerable responsibility for leading discussions and performing demonstrations. 6 units.

Prerequisites: Physics 230 and 310

Offered every two or three years

PHYS 190, 390, 590, 690

Tutorial Studies in Physics

Readings of texts and/or current literature to study a topic not covered in regular offerings. Topics must be carefully defined and a bibliography assembled before permission to enroll is granted. Variable credit.

PHYS 199, 399, 599, 699

Independent Study in Physics

Theoretical or experimental independent study. A written proposal must be submitted to the department at least one term before enrolling. Recent independent studies have been undertaken in fluid mechanics, general relativity, atomic systems coupled to electromagnetic fields, phase transitions in liquid crystals, plasma physics, and robotics. Variable credit.

Recent tutorial topics in physics

General Relativity
Musical Acoustics
Fluid Mechanics
Philosophy of Quantum Mechanics
Cosmology
Atomic Physics

PSYCHOLOGY

Professors: Glick*, Hetzler, Rew-Gottfried
Associate professors: Haines, Metalsky
Assistant professor: Ansfield*
Adjunct associate professor: Fuchs (director of counseling services)
Lecturer: Short-Meyerson
Adjunct lecturer: Kahl (associate director of counseling services)

Psychology is the science of mind and behavior. The psychology curriculum is well-balanced to represent the breadth of the core areas of psychology (neuroscience, cognitive, developmental, personality, social, health, and clinical psychology) and provide opportunity for the in-depth study of specific topics (e.g., pharmacology, music, language, psychopathology, adolescent development, prejudice). Research, through which psychological theories are developed and tested, is emphasized throughout the curriculum.

Opportunities for non-majors

Non-majors are encouraged to take Psychology 100, which provides an overview of the field, but they may take courses at the 200 and 300 levels and above without having taken Psychology 100 once they have sophomore standing. Psychology 240: *Personality Psychology* is specifically intended for non-majors. The 400-level courses are also accessible to non-majors who have the appropriate prerequisites. Topics courses numbered 450 and above, however, are primarily designed for junior and senior majors or minors; others who wish to enroll in these courses should consult the instructor before registering.

All non-majors should find the Group I courses (see Required for the Psychology Major) highly accessible; they may be of particular interest to students majoring in the humanities or social sciences. Non-majors in the natural sciences and philosophy may be particularly interested in Group II courses. Those in the fine arts may be especially interested in Psychology 370 and/or 230.

The psychology major

Psychology faculty members are committed to a broad approach in designing the major. The requirements reflect our concern that majors experience the variety of approaches psychology offers, while allowing for flexibility at the advanced level, so that students may pursue areas of individual interest in sufficient depth. The major program provides students with a theoretical and methodological base that enhances their ability to understand and explore human psychology and behavior. Students interested in a psychology major should obtain the *Psychology Major Manual* from the chair of the department or from the departmental home page (www.lawrence.edu/dept/psychology/).

Required for the psychology major

1. Psychology 100, 280, 281, and 600, and Mathematics 117 or 207
2. Two courses from Group I and two courses from Group II:
 - a. Group I: Psychology 250, 260 or 265, 245 or 270
 - b. Group II: Psychology 380, 350 or 360, 370 or 340
3. One six-unit course from Group III: Psychology 530 through 580
4. Another six units in psychology
(This may include independent study or practicum credit accrued over more than one term.) Students who complete both UNIC 250 and UNIC 251: *Self Interest and Social Behavior* can use these courses to fulfill the psychology elective.
5. One laboratory course in addition to the *Research Methods* sequence. Usually, this laboratory course is taken within Group I or Group II (and simultaneously fulfills two requirements).

Majors are strongly advised to complete the *Research Methods* sequence, which instills basic research skills essential to a sophisticated understanding of the field, in the sophomore year (and, certainly, no later than the junior year).

*On leave Term I

Research Methods should be completed before majors take other laboratory courses or the advanced 400-level courses. Previous or concurrent enrollment in Mathematics 117 (with the Psychology Statistics Laboratory) or Mathematics 207 is a prerequisite for Psychology 280: *Research Methods I*. Mathematics 117 should be taken concurrently with *Research Methods I*.

Research opportunities

Majors are encouraged to engage in their own empirical research projects in *Research Methods*, in laboratory and topics courses, and in close collaboration with faculty members in research seminar courses or independent study. Students have access to the department's extensive laboratory facilities for research in neuroscience, acoustical analysis, child development, animal and human learning, social, personality, and clinical psychology. We highly recommend that students who wish to pursue honors projects begin them in their junior year.

Applied opportunities

Several opportunities to receive course credit for work within applied settings (e.g., working in a clinical setting in the community) are regularly available — see Psychology 210 and 296, 385, and 451. Other practica that similarly combine academic and applied components may be arranged. For information on such practica, contact the Career Center (ext. 6561), Kathleen Fuchs (ext. 6574), or Beth Haines (ext. 6708).

The psychology minor

Students whose interests in psychology may be less broad or linked more to specific topics might choose to pursue a minor in psychology rather than a major. Courses in the minor program provide background in a variety of the methods and approaches to psychology, while allowing students to pursue interests in other disciplines as well.

Required for the psychology minor

1. Psychology 100: *Principles of Psychology* and Mathematics 117 with Psychology Statistics Laboratory
2. One course from Group I and one course from Group II:
 - a. Group I: Psychology 240 or 250, 260 or 265, 245 or 270

- b. Group II: Psychology 340, 350, 360, 370, 380
3. One course from Group III: Psychology 530, 540, 550, 560, 570
 4. One additional course in psychology
One of the courses must have a lab (viz., Psychology 265, 280-281,† 340, 380, 530).
 5. Psychology 240 and Psychology 250 cannot both be taken to fulfill the minor.
 6. C average in the minor

†The student must complete both terms of *Psychology 280-281* to meet this lab requirement.

Preparation for graduate school

Students interested in mental health careers should pay particular attention to the department's clinical psychology sequence: Psychology 250, 450, and 451. Students are encouraged, but not required, to take Psychology 450 and 451 in consecutive terms. Psychology 451 allows students to gain supervised practical experience at a local mental health facility. Students interested in mental health careers are encouraged to take Psychology 550: *Topics in Mood Disorders* in addition to the clinical psychology sequence noted above.

The major program prepares students well for graduate study in psychology or related fields. Students interested in graduate study and secondary-school teaching certification in psychology should take Psychology 480: *Historical Origins and Contemporary Viewpoints of Psychology* during their junior or senior year. For those who pursue other careers, the research skills learned by majors are widely applicable. Students who are interested in the major program or curious about what kind of career opportunities exist in the field of psychology are urged to visit the departmental home page (www.lawrence.edu/dept/psychology/) for more information.

Off-campus study

See Urban Studies, page 253.

Advanced placement

Students who score 4 or better on the Psychology Advanced Placement Examination of the College Entrance Examination Board are given credit for Psychology 100 (which fulfills one of the major requirements). Students who plan to major in psychology and place out of Psychology 100 are

advised to take one or two courses in Group I during their freshman year.

Courses

PSYC 100

Principles of Psychology

An introduction to the science of mind and behavior with an emphasis on empirical approaches. Includes a survey of the contributions to our understanding of behavior by research and theory in the various topical areas of psychology and careful consideration of continuities between those topical areas. 6 units.

Enrollment limit: 50

PSYC 210

Applied Psychology: Peer Education

Applied work in community psychology, carried out in conjunction with Counseling Services, in preparation toward becoming a Peer Educator. Focus is on learning strategies for assessing and developing community, group process, and communication. Students investigate topics such as interpersonal decision-making, sexual assault, and substance abuse. Through assigned readings, class discussions, presentations, and guest speakers, students will develop interpersonal facilitation skills, learn aspects of community and campus culture, and collaborate in the planning of educational programs. 3 units.

Also listed as Education 210

Enrollment limit: 10

PSYC 220

The Holocaust

An interdisciplinary examination of the social psychological and religious dimensions of the Holocaust. Topics include social psychological and cultural origins of the Holocaust (including the role of Christian anti-Semitism); social psychological and religious aspects of Nazi ideology; understanding perpetrators, victims, and bystanders; and theological responses to the Holocaust. 6 units.

Also listed as Religious Studies 370

Enrollment limit: 40

Prerequisite: Sophomore standing

PSYC 230

Psychology of Music

A scientific approach to questions about musical structure and its effect on human behavior and

mental experience. Topics include the physical characteristics of sound that specify pitch, loudness, and timbre; the perception of melody and rhythm; the universality of musical structures; the psychology of musical ability and performance; and the effect of music on emotions. 6 units.

Enrollment limit: 40

Prerequisite: Psychology 100 or sophomore standing

Ability to read music and familiarity with the basics of music theory recommended

PSYC 240

Personality Psychology

A survey and evaluation of the major theories of personality in the context of current research and application. Deviant personality functioning will also be examined. This course is intended for non-majors. 6 units.

Enrollment limit: 40

Prerequisite: Psychology 100 or sophomore standing

Not offered in 2003-04

PSYC 245

Health Psychology

This course explores the link between mind and body from various psychological perspectives such as social, clinical, and psycho-biological. We will survey the role of stress, emotion, self-regulation, and individual differences as predictors of health and illness. We also will examine assessment, diagnostic, treatment, and ethical issues in psychophysiological disorders. 6 units.

Enrollment limit: 40

Prerequisite: Psychology 100 or sophomore standing

PSYC 250

Psychopathology

A study of the major psychological disorders. Theory and research into the origins of each disorder are examined from a variety of perspectives (psychoanalytic, physiological, cognitive, behavioral, and humanistic). 6 units.

Enrollment limit: 40

Prerequisite: Psychology 100 or sophomore standing

PSYC 260

Developmental Psychology

A study of the development of behavior and mental processes from conception through middle childhood.

Topics include prenatal development, attachment, children's language skills, and social and cognitive development. A variety of theoretical perspectives are covered. 6 units.

Enrollment limit: 40

Prerequisite: Psychology 100 or sophomore standing

PSYC 265

Developmental Psychology

Identical in content to Psychology 260, but requiring a weekly three-hour laboratory that involves systematic work with children to learn and apply assessment techniques and experimental methodologies for the study of development. 6 units.

Enrollment limit: 20

Prerequisite: Psychology 100 or sophomore standing

PSYC 270

Social Psychology

A psychological approach to the study of individuals in a social context. Research and theories concerning personality, emotion, cognition, and perception are used to understand such topics as self-identity, perception of others, prejudice, social influence, and personal relationships. 6 units.

Enrollment limit: 40.

Prerequisite: Psychology 100 or sophomore standing

PSYC 280

Research Methods I

The first course in a two-term sequence designed to introduce psychology majors to the principles of research design, data collection, data analysis, and research report writing. This term focuses on philosophy of science, the role of theory in research, and research design. Students design an empirical project to be executed during *Research Methods II*. Sequence should be taken in the sophomore year and must be taken in consecutive terms. 6 units.

Enrollment limit: 40

Prerequisite: Sophomore standing and previous or concurrent enrollment in Mathematics 117 or Mathematics 207

PSYC 281

Research Methods II

The second course in a two-term sequence for psychology majors (see Psychology 280). This term focuses on the execution of empirical research projects, analysis of data, inferential and advanced

correlational statistics, and interpretation of results. Students present both written and oral reports on their projects. Sequence should be taken in the sophomore year and in consecutive terms. 6 units.

Enrollment limit: 40

Prerequisite: Psychology 280

PSYC 296

Practicum: Peer Education

A continuation of work begun in Psychology 210.

Students carry out peer education programs on various topics. Variable credit.

Prerequisite: Psychology 210 and consent of instructor

PSYC 310

Psychology of Gender

An examination of theory and research on gender identity, gender roles, and gender similarities and differences in our society. Topics include gender stereotypes, gender role development, and psychological androgyny, as well as sex differences in cognitive abilities, aggression, mental and physical health, sexuality, and family roles. 6 units.

Also listed as Gender Studies 314

Enrollment limit: 35

Prerequisite: Any of the following: Psychology 240, 250, 260, 265, 270, or Gender Studies 100

PSYC 340

Cognitive Psychology

An investigation of the mental processes involved in the acquisition, organization, and use of knowledge. Information-processing and other approaches are used to study pattern recognition, attention, memory, imagery, problem-solving, and related topics. One laboratory per week involving class demonstrations and experiments. 6 units.

Enrollment limit: 30

Prerequisite: Psychology 100 or sophomore standing

PSYC 350

Psychopharmacology and Behavior

An interdisciplinary examination of the ways in which behaviorally active drugs exert their effects, drawing on research in pharmacology, psychology, biochemistry, anatomy, and neuro-physiology. Provides an understanding and appreciation of the role of behaviorally active drugs in people's lives, today and in the past. 6 units.

Enrollment limit: 50

Prerequisite: Psychology 100 or sophomore standing; at least one biology course recommended

PSYC 360

Brain and Behavior I

An introduction to the structure and function of the nervous system and its relationship to behavior. Topics include cellular physiology, neuroanatomy, sensory processes, and neuropharmacology. No laboratory. 6 units.

Enrollment limit: 50

Prerequisite: Psychology 100 or sophomore standing. At least one biology course recommended

PSYC 370

Perception

An introduction to the physiological and psychological processes by which we receive, transform, and use the information from the world acquired through our senses. Special emphasis on visual and auditory perception to allow a more in-depth study of two perceptual systems and to provide information useful to those interested in the visual arts and music. 6 units.

Enrollment limit: 40

Prerequisite: Psychology 100 or sophomore standing

PSYC 380

Learning and Conditioning

An investigation of the basic principles of learning, including classical conditioning, operant conditioning, punishment, biological constraints on learning, and behavior modification. One laboratory per week involving animal learning experiments. 6 units.

Enrollment limit: 24

Prerequisite: Psychology 100 and sophomore standing

PSYC 385

Practicum: Language Assessment

Students work with preschoolers learning English as a second language at a local child care center. Students provide language enrichment and assess the children's progress. Variable credit.

PSYC 450

Clinical Psychology

An examination of the major approaches to psychotherapy (e.g., psychodynamic, cognitive, behavioral, humanistic). Students also learn basic interviewing techniques and examine ethical and professional issues. 6 units.

Enrollment limit: 15

Prerequisites: Psychology 250, 280, 281 or consent of instructor

PSYC 451

Clinical Field Experience in Psychology

Practical experience working in clinical settings in the local community. Students spend a minimum of ten hours per week at assigned settings, attend weekly supervision meetings with instructor, complete complementary readings, and write a final paper. Applications must be submitted by the end of the fifth week of Term II. 6 units.

Prerequisites: Junior standing as a psychology major, Psychology 250, 450, and consent of instructor

PSYC 460

Adolescent Psychology

A psychological approach to the study of development during the years between the onset of puberty and early adulthood. Topics include theories of adolescence, cognitive development, identity formation, moral reasoning, sexuality, and family and peer relations. 6 units.

Enrollment limit: 20

Prerequisite: Psychology 260 or 265

PSYC 480

Historical Origins and Contemporary Viewpoints of Psychology

A survey of the origins of modern psychology, examining the influence of various philosophical perspectives and the transition to current scientific approaches. Works by authors of historical significance and current trends in psychological theory and practice are read and evaluated. 6 units.

Prerequisites: Junior standing and at least three courses in psychology, or consent of instructor

Not offered in 2003-04

PSYC 530

Brain and Behavior II

An examination of interrelationships between the brain and behavior. Topics include sleep, language, motivation, emotion, learning, and mental disorders. One laboratory per week on basic neuroscience techniques. 6 units.

Enrollment limit: 12

Prerequisite: Psychology 360

Not offered in 2003-04

PSYC 540

Topics in Psycholinguistics

An examination of the nature and structure of language, integrating knowledge from linguistics, psychology, neurophysiology, and sociology. Focus on the psychological theories and experimental evidence about language production and perception. 6 units.

Also listed as Linguistics 450

Enrollment limit: 15

Prerequisite: Psychology 340, Linguistics 150, or consent of instructor

PSYC 550

Topics in Mood Disorders

An examination of the primary theories and research on Mood (Depressive) Disorders. We will examine issues pertaining to the origins of depression, assessment and diagnosis of depression, and the effectiveness of different treatments. Emphasis will be placed on cognitive, interpersonal, behavioral, psychodynamic, and biological perspectives. 6 units.

Enrollment limit: 15

Prerequisites: Psychology 250, 280, 281 or consent of instructor

PSYC 560

Topics in Social Development

Intensive study of social development in childhood and adolescence. Issues explored include achievement motivation, early emotional development, and gender. Additional topics are chosen by the class. 6 units.

Enrollment limit: 15

Prerequisites: Psychology 260, 265; Mathematics 117; or consent of instructor

PSYC 570

Topics in Prejudice

Examination of the psychology of prejudice. Readings and discussions cover general theories of prejudice as well as the dynamics of specific types of prejudice (e.g., racism, sexism). The specific areas covered may shift from year to year. 6 units.

Enrollment limit: 15

Prerequisite: Psychology 270 or consent of instructor

PSYC 575

Topics in Emotion and Health

This seminar will explore the psychology of human emotion from scientific, philosophical, and phenomenological perspectives and examine the implications of emotions for mental and physical well-being. During the first half of the term, we will examine various theories of emotion. During the second half, each class will focus on a specific emotion or set of related emotions. 6 units.

Enrollment limit: 15

Prerequisite: Psychology 270 or consent of instructor

PSYC 580

Topics in Neuroscience

A study of the nervous system from the perspectives of psychology, biology, and chemistry. Topics vary year to year and may include neuronal integration, chemistry of neural membranes, alcohol and the brain, and chemical aspects of psychoses. 6 units.

Also listed as Biology 340

Prerequisites: Chemistry 116, and either Biology 140 and one course in psychology, or Psychology 360 and one course in biology; or consent of instructor

May be repeated with consent of instructor

PSYC 600

Senior Seminar in Psychology

Debate and discussion of central issues in psychology — e.g., ethical issues in psychological research and practice, is human aggression inevitable?, the efficacy of psychotherapy, and gender issues in psychology. Students report on a project — a literature review, empirical study, or applied experience — in written and oral presentations. 6 units.

Prerequisite: Senior standing as a psychology major

PSYC 190, 390, 590, 690

Tutorial Studies in Psychology

Advanced study arranged and carried out under the direction of an instructor. Variable credit.

PSYC 195, 395, 595, 695

Practicum in Psychology

Practica include a wide variety of fieldwork opportunities in psychology. For example, students might do applied work in the areas of domestic violence, mental health treatment, family legal services, victim assistance, developmental disabilities, human resources, or school psychology. Practica can be done during the academic year (at local placements or on campus) or during the summer. Variable credit.

PSYC 199, 399, 599, 699

Independent Study in Psychology

Advanced research, arranged in consultation with the department. Students considering an honors project should register for this course, for one or more terms (see "Honors at Graduation," page 275). Variable credit.

Recent tutorial topics in psychology

Ambivalent Sexism and Attitudes about Sexuality

Experimental Phonetics and Phonology

Cognitive Risk Factors for Depression

Feminist Ethics

Children's Understanding of Anger

Identity, Self-Concept, and Depression in

Adolescent Girls

Optimism and Athletic Performance

The Psychology of Embarrassment

Attributional Style in Children

Cognitive and Personality Risk Factors for Bulimia

The Internet and Mental Health Services

Reassurance Seeking and Depression

RELIGIOUS STUDIES

Professor: Carr

Associate professors: Kueny*, Vorenkamp (chair)

Instructor: Park-Koenig

Courses in Christianity, religions of Asia, and Islam form the core offerings in the department. Students examine cultural and social expressions of those religions (sacred texts, rituals, instances of ecstasy and enthusiasm, reflective writings, institutions) at a particular period, over time, and in relation to broader historical, philosophical, and ethical issues.

Religious studies for non-majors

Courses acquaint students with texts, issues, and kinds of analysis that will benefit their work in other departments — especially in literature and the arts, history, music, anthropology, psychology, and political science.

Note: With the consent of the instructor, most courses may be taken without previous work in religious studies.

Required for the religious studies major

Extensive study of religion requires a comparative approach: in the words of Max Müller, to know one religion is to know none. Comparative study begins with the introductory course (Religious Studies 100); it is required of all majors. Eight additional courses are required. Students choose two of the following areas; at least two courses must be taken in each area chosen.

1. Christianity: Religious Studies 260, 270, 300, 310, 400, 500
2. Islam: Religious Studies 240, 250, 280, 620
3. South Asia: Religious Studies 210, 220, 350, 360, 410
4. East Asia: Religious Studies 200, 220, 230, 360, 420

A course may only count for one area; designated seminars and appropriate tutorials may also fulfill these requirements. Whenever possible, majors should take courses in other departments that will enhance their knowledge of the religious traditions

that they select. Religious Studies 600: *Seminar in Methodology*, required of all majors, builds upon the introductory course by examining in greater depth selected approaches to the study of religion. *Seminar in Methodology* is normally taken in the junior or senior year. Although tutorials and independent studies are not required, advanced majors are encouraged to discuss with their advisor the possibility of doing a tutorial (Religious Studies 590) or independent study for honors (Religious Studies 599).

Required for the religious studies minor

The minor in religious studies is intended to enable students in related fields to concentrate on the religious tradition connected to their area of interest. Requiring both the introductory course and at least one course outside that tradition ensures that religious studies minors will also develop some expertise in the overall study of religion. The minor requires a minimum of five courses, to include:

1. Religious Studies 100: *Introduction to Religious Studies*
 2. Two courses in one of the following areas: East Asian religions, South Asian religions, Islam, Christianity
 3. A seminar-level course
 4. One additional course outside the chosen area
- A C average in the minor is also required.

Graduate school

Students considering graduate work in religious studies should note that completion of a graduate degree typically requires demonstrated proficiency in at least one modern foreign language (normally French or German) as well as one or more additional languages (depending on the area of concentration). College work leading toward graduate study should be planned with these requirements in mind.

*On leave Terms I, II, III

Courses

RLST 100

Introduction to Religious Studies

An introduction to the academic study of religion exploring cross-culturally some of the fundamental ways in which people experience and understand religion. Questions addressed include: What is religion? What are the basic forms of religious life? What connections exist among self-identity, the sacred, and society? How do those connections help to establish meaning and values in human existence? How is religious knowledge possible? Readings include primary religious texts and critical reflections on religion. Intended primarily for freshmen and sophomores or students with no prior work in the religious studies department. 6 units.

Enrollment limit: 35

RLST 200

East Asian Religious Traditions

A survey of the major religious traditions of China and Japan (ancient Chinese spirit worship, Taoism, Confucianism, Shinto, and Buddhism). Attention centers on the religious experience, patterns of ritual, world views, philosophy, and ethical insights of the traditions. 6 units.

Also listed as East Asian Languages and Cultures 210

RLST 210

Hinduism

A survey of the religious and philosophical elements that constitute the broad system of beliefs known as Hinduism. Emphasis is placed on intellectual history, but dominant patterns of ritual and religious experience are also covered. Readings include primary texts and associated commentaries. 6 units.

RLST 220

Buddhism

A survey of Buddhist thought, focusing on both the Theravada and Mahayana traditions. Attention to the evolution of key religious and philosophical ideas and their impact on Buddhist practices and institutions from India to Eastern Asia. Readings include sections from the *Tripitaka*, or canonical works, as well as allied literary and philosophical works. 6 units.

Also listed as East Asian Languages and Cultures 220

Prerequisite: Sophomore standing

Religious Studies 200 or East Asian Languages and Cultures 210 recommended

RLST 230

Taoism and Confucianism

An exploration of the development of Taoism and Confucianism, the dominant religious and intellectual traditions of China. Focus on literary and philosophical texts, including such classics as the *Dao De Jing* and *Analects*, to discern the beliefs, and thus the larger world views or perspectives, of each tradition. 6 units.

Also listed as East Asian Languages and Cultures 230

Prerequisite: Sophomore standing

East Asian Languages and Cultures 140 or 210 recommended

RLST 240

Islam

A general introduction to Islam, not only in terms of theology, law, and practice but also in terms of popular devotion. By moving from its basic scriptural assertions (such as divine unity, moral practice, final judgment, and communal responsibility) to the ways in which these assertions have been articulated in Muslim societies through art, architecture, mysticism, and daily ritual, students will gain insight into one of the world's largest religious traditions. 6 units.

RLST 250

Sufism

An exploration of the mystical dimension of Islam through the poetic voices and ascetic/ecstatic practices of those who claim to “die before death.” From wandering ascetics to whirling dervishes, this course surveys the individuals and communities who tread the Sufi path and examines their complementary but often inimical relationship with orthodox Islam. 6 units.

Prerequisite: Sophomore standing

RLST 260

Christianity through the 15th Century

An examination of the major developments in Christian thought and practice from its origin to the late Middle Ages. Topics include the formation of doctrine in the early church, Christian heresies, the cult of martyrs, the development of the monastic tradition, and the rise of the papacy. 6 units.

RLST 270

Christianity in the Modern World

A study of Christian history from the Reformation to the present. Topics include the origins of Protestantism, the Counter Reformation, Pietism, Deism, Liberal Theology, the Vatican Councils, Dialectical Theology, Fundamentalism. Special attention to the impact of modernity (e.g., the rise of science, the development of the historical critical method, pluralism, secularization). 6 units.

RLST 275

History of Catholicism in America

An examination of the history and development of Catholicism in America from the Colonial Period through the present day. Themes to be addressed include: the roles of women, characteristics of material culture, devotional practices, racism and ethnic discrimination, "threats" to the Republic, and continuities and discontinuities between American Protestant culture and Catholicism. 6 units.

Also listed as Ethnic Studies 270

Enrollment limit: 20

Prerequisite: Sophomore standing

RLST 280

Quran

An introduction to the structure, content, and historical context of the *Quran*. In addition to an examination of the text, other issues will also be considered, such as the Islamic view of prophets and prophecy, the idea of scripture not as written but as "spoken book," and the role of the *Quran* in Muslim piety and practice. 6 units.

Prerequisite: Sophomore standing

RLST 300

Biblical Literature in Translation: Hebrew Bible

An examination of the various genres of literature composing the Hebrew Bible, most notably narrative history, prophecy, and song. Particular emphasis will be placed upon situating the texts in their social, religious, and historical contexts, while considering their subsequent reception and reinterpretation. 6 units.

RLST 310

Biblical Literature in Translation: New Testament

An introduction to the literature that composes the New Testament. Not only will students analyze the canonical writings of this text in light of modern

scholarship, but so too will they examine them in comparison with a selection of non-canonical and non-Christian texts to gain insight into the social world and religious imagination of early Christians. 6 units.

RLST 330

Rationality and Religious Belief

An examination of the range of views on the relationship between reason and religion, focusing in particular on theistic belief. Questions addressed include: Can God's existence be proven? Is faith different from ordinary belief? Does mystical experience provide adequate grounds for religious belief? 6 units.

Enrollment limit: 20

Prerequisite: Sophomore standing

RLST 340

Ritual, Power, and Ecstasy

An introduction to classical and contemporary approaches to the interpretation of myth, ritual, belief, and religious experience. Though the course reviews a wide variety of religious forms, special attention is paid to mystical and ecstatic experiences, spirit possession, and altered states of consciousness. Additional focus on the relationships among religion, power, and social hierarchies. 6 units.

Enrollment limit: 35

Also listed as Anthropology 304

Prerequisite: One course in either anthropology or religious studies

Not offered in 2003-04

RLST 345

Conversion and Conquest: Spanish, French, and British Encounters with "The Other"

An exploration of three distinct "frontiers" of conversion and conquest in the New World during the 16th and 17th centuries. The Spanish Conquistadores, the French Jesuits, and the English Puritans brought their very different ideas about Christianity to native peoples with their own distinct religious traditions. The course will examine key aspects of these complex encounters. 6 units.

Enrollment limit: 20

Prerequisite: Sophomore standing or consent of instructor

RLST 350

Gandhi

An examination of the life, times, and thought of Mohandas Gandhi, emphasizing the religious concept of *satyagraha* (holding fast to the truth) and the philosophy of non-violence as the central precepts in his effort to transform Indian society and ultimately of his global influences. 6 units.

Enrollment limit: 15

Prerequisite: Sophomore standing

RLST 360**Women in Asian Religions**

Examination of the role of women in Asian societies by exploring issues pertaining to women in the religions of Indian, Chinese, and Japanese societies. Students will examine the role, influence, and impact of (and upon) women in Hinduism, Taoism, Confucianism, and Shintoism to learn how each religion and culture has responded to women's issues. 6 units.

Also listed as Gender Studies 365

Prerequisite: One course in Asian religions

RLST 370**The Holocaust**

An interdisciplinary examination of the social psychological and religious dimensions of the Holocaust. Topics include social psychological and cultural origins of the Holocaust (including the role of Christian anti-Semitism); social psychological and religious aspects of Nazi ideology; understanding perpetrators, victims, and bystanders; and theological responses to the Holocaust. 6 units.

Also listed as Psychology 220

Enrollment limit: 40

Prerequisite: Sophomore standing

RLST 380**Jerusalem**

A walk through the holy city from its origins to the present. Emphasis on the city as an essential religious center for Judaism, Christianity, and Islam. Topics include present and past conflicts over claims to sacred space; the tangled web of sacred figures and their shared histories; religious geography, art, and architecture; the Zionist movement and the Palestinian crisis in recent times; and the politics surrounding archaeological discovery. 6 units.

Prerequisite: Sophomore standing

RLST 400**Themes in Modern Western Religious Thought**

A critical survey of one or more of the distinctive themes in the religious thought of the West since the Reformation. Topic varies year to year; course may be repeated. 6 units.

Prerequisite: Religious Studies 270 or consent of instructor

RLST 410**Systems of Hindu Philosophy**

Focusing on six systems at the philosophical core of Brahmanical Hinduism, this course examines each school's explanation of the structure of reality and the way humans come to know that reality. This allows a detailed look at each school's view of the religious problems confronting every individual and their solutions to those problems. Readings emphasize primary texts (in translation). 6 units.

Prerequisite: Religious Studies 210

RLST 420**Systems of Buddhist Philosophy**

A detailed examination of five schools of Buddhist philosophy. Close study of each school's explanation of key doctrines such as no-self, interdependent arising, samsara, nirvana, and enlightenment further clarifies the historical development of Buddhist thought in India and China. Readings emphasize primary texts (in translation). 6 units.

Enrollment limit: 15

Prerequisites: Religious Studies 220 and sophomore standing

RLST 500**Seminar: Kierkegaard**

Intensive study of the works of the Danish philosopher/theologian considered to be the father of Existentialism. Concentration on Kierkegaard's view of the self and its relation to his stages of existence, with particular attention to his view of faith. Some consideration to the historical context of his thought and his influence on 20th-century theology and philosophy. 6 units.

Prerequisite: Consent of instructor

RLST 510**Seminar: Zen Buddhism**

Zen Buddhism is perhaps the most widely known form of Buddhism in the West — and also the most widely misunderstood. This course provides a detailed look at the history and doctrines of Zen Buddhism in China and Japan. Combining the use of original source materials (in translation) with an emphasis on intellectual history, the course covers specific doctrines that have differentiated the major schools of Zen. 6 units.

Enrollment limit: 15

Also listed as East Asian Languages and Cultures 510

Prerequisite: Religious Studies 220 or consent of instructor

RLST 520

Seminar: Women and Gender in Islam

A critical examination of the constructs, institutions, and modes of thought that have played a crucial role in defining women's roles in Muslim societies. An in-depth focus on Islamic discourses on gender from the time of the prophet Muhammad to the present, and an examination of some of the key debates that have shaped the status of women across Islamic cultures. 6 units.

Also listed as Gender Studies 555

Prerequisite: Two courses in religious studies or consent of instructor

RLST 530

Seminar: Blood Sacrifice

This course will examine some of the intricate relationships between violence, the sacred, and sacrificial practices in several religious traditions. Drawing upon theories and myths of sacrifice, students will develop methods for studying this ambivalent expression of religious piety. 6 units.

Enrollment limit: 15

Prerequisite: Sophomore standing

RLST 540

Eve, Adam, and the Serpent

A close analysis of the Genesis story and a survey of its exegesis in the three Abrahamic traditions: Judaism, Christianity, and Islam. Students will compare how these three distinct but related traditions define and sanction gender roles through sacred scripture, commentary, law, historical (re)vision, and modern feminist critique. 6 units.

Enrollment limit: 15

Prerequisites: Sophomore standing and one course in one of the relevant traditions.

RLST 600

Seminar in Methodology

An examination of approaches to the study of religion selected from a school of thought or a more eclectic group of authors. Students are encouraged to draw upon previous coursework. 6 units.

Prerequisites: Two courses in religious studies or consent of instructor

RLST 190, 390, 590, 690

Tutorial Studies in Religious Studies

Advanced research, arranged and carried out under the direction of an instructor. Variable credit.

RLST 199, 399, 599, 699

Independent Study in Religious Studies

Advanced research, arranged in consultation with the department. Students planning an honors project should register for this course, for one or more terms (see "Honors at Graduation," page 275). Variable credit.

Recent tutorial topics in religious studies

Eschatological Aspects of Zoroastrianism

Nietzsche's Critique of Christianity

Gnosticism and the Early Church

Feminist Theology

Nineteenth Century German Idealism

Introduction to Arabic

Introduction to Biblical Hebrew

The Philosophy of Dogen

RUSSIAN

Professor: Yatzeck

Associate professor: Matveyev* (chair)

Instructor: Krizenesky

Lecturer: Sendelbach

Lawrence offers a major in Russian studies, a major in Russian language and literature, and a minor in Russian. Requirements for each program are outlined below.

Russian is one of the world's most important and widely spoken languages. Knowledge of the Russian language helps broaden students' career opportunities and options in a variety of fields, including business and government service. Students who achieve a high level of language proficiency may wish to pursue internship opportunities available as a result of Lawrence's connections with Appleton's sister city in Russia.

In addition, Russian culture, music, art, and literature are extraordinarily rich. While the culture may be best appreciated by those who know the language, those who have no knowledge of Russian can also find much of value and interest in the study of Russian culture.

Students taking Russian at the beginning and intermediate levels concentrate on acquiring skills in speaking, listening comprehension, reading, and writing. Majors are strongly encouraged to spend a term studying in Russia. Back on campus, upper-level courses and tutorials enable students to improve their critical and analytical skills, learn more about Russia's rich literary and cultural traditions, and gain additional speaking practice. At all levels, students have the opportunity to work with tutors from the former Soviet Union and to take advantage of extracurricular activities, such as Russian Table, film showings, and immersion weekends.

Culture and literature courses taught in translation are designed not only for those studying Russian but for all students. These courses have no prerequisites, and they fulfill a number of general education requirements.

Required for the Russian studies major

1. First-year Russian: 101, 102, 201 (or the equivalent)
 2. Second-year Russian: 211, 212, 250
 3. Two courses in literature and culture, selected from the following:
 - Russian 300: *Seduction, Marriage, and Adultery in 19th-Century Literature in Translation*
 - Russian 305: *Repression and Resistance in Soviet/ Post-Soviet Literature in Translation*
 - Russian 330/Music History 140: *Russian Culture through Music*
 - Russian 335/Gender Studies 260: *Women and Gender in Russian Culture*
 4. Two courses in history and/or government, selected from the following:
 - History 315: *Empire and Nation in Russian History*
 - History 320: *Imperial Russia, 1800-1917*
 - History 325: *The Soviet Union, 1917-1991*
 - Government 330: *Soviet and Post-Soviet Politics*
 5. One course that allows students to understand Russia in a larger context, either by studying the literature or history of a neighboring country or countries or by placing Russia in a broader political and economic context as an important participant in international affairs. This course is to be selected from the following:
 - University Course 240: *Modern Literature of Central Europe in Translation*
 - History 277: *Eastern Europe in the 20th Century*
 - History 435: *Nazism and Stalinism in Comparative Perspective*
 - Government 140: *International Studies*
 - Government 275: *Global Economic Relations*
 - Government 280: *U.S. Foreign Policy*
 - Government 340: *International Politics*
 - Economics 200: *Economic Development*
- Alternatively, students with a primary interest in language could complete an upper-level course based on Russian-language materials: Russian 361, 362, or 363 or a tutorial focusing on some aspect(s) of Russian culture or history.

*On leave Term I

6. A senior-level independent study that results in the completion of a substantial research paper. Students with sufficiently advanced Russian language skills are encouraged to use some Russian language sources in conducting their research. Topics for this capstone experience are to be derived from work done in one of the following courses: Russian 300, 305, 330, 335; History 315, 320, 325; Government 330. Other topics could be approved through consultation with program faculty.

In addition to the requirements listed above, majors are encouraged to further strengthen their Russian-language skills by studying in the former Soviet Union and/or in an intensive summer language program offered in the U.S.

Students with prior background in Russian who place out of the first-year sequence are required to complete additional language study for the major.

Required for the Russian language and literature major

1. First-year Russian: 101, 102, 201 (or the equivalent)
2. Second-year Russian: 211, 212, 250
3. Two courses in Russian literature taught in translation, selected from the following:
Russian 300: *Seduction, Marriage, and Adultery in 19th-Century Literature in Translation*
Russian 305: *Repression and Resistance in Soviet/Post-Soviet Literature in Translation*
Russian 309: *Two Masterpieces in Translation*
4. Two courses in Russian literature, taught in the original, selected from the following:
Russian 361: *Survey of 19th- and 20th-Century Russian Prose*
Russian 362: *Survey of 19th- and 20th-Century Russian Poetry*
Russian 363: *Survey of 19th- and 20th-Century Russian Drama*
5. A senior-level independent study that results in the completion of a substantial research paper. Students would be required to analyze some work or works of Russian literature, to be read in the original.

In addition to the requirements listed above, majors are strongly encouraged to further strengthen their Russian language skills by studying in the former

Soviet Union and/or in an intensive summer language program offered in the U.S.

Students with prior background in Russian who place out of the first-year sequence are required to complete additional language study for the major.

Required for the Russian minor

1. First-year Russian: 101, 102, 201 (or the equivalent)
2. Second-year Russian: 211, 212, 250
3. Any two courses selected from Russian 300, 305, 309, 330, 335; History 315, 320, 325; Government 330
4. C average in the minor

International and off-campus study

After two years of language study on campus, majors are strongly encouraged to spend a term studying in Russia. Study abroad provides an unparalleled opportunity to make gains in language proficiency and to become familiar with Russian life and culture.

The ACM's Russia Seminar in Krasnodar, held in Term I, provides an excellent educational opportunity; the program includes a ten-day field trip to Moscow and St. Petersburg. Lawrence also has a direct exchange program, also during Term I, with Kurgan State University, located in Appleton's sister city. For both of those programs students live with Russian families.

During Terms I, II, and/or III — as well as during the summer — students may participate in other programs sponsored by such organizations as the Council on International Educational Exchange (CIEE) and the American Council of Teachers of Russian (ACTR).

Students are also encouraged to participate in intensive summer language programs offered in the United States, especially immediately prior to spending a fall term in Russia.

Courses

RUSS 101

Beginning Russian I

The first course of a three-term sequence. Once students learn the alphabet and pronunciation, they acquire a basis for speaking, understanding, reading, and writing spoken Russian. Cultural information is incorporated throughout the course. 6 units.

RUSS 102

Beginning Russian II

Continued practice in speaking, reading, writing, and listening comprehension. Cultural information is incorporated throughout the course. 6 units.

Prerequisite: Russian 101 or consent of instructor

RUSS 201

Intermediate Beginning Russian

Students acquire a wider range of linguistic structures, which enables them to start speaking, reading, and writing on a higher level. 6 units.

Prerequisite: Russian 102 or consent of instructor.

RUSS 211

Intermediate Russian I

Grammar review and introduction of more complex grammatical concepts. Students read some authentic literary texts. Cultural information is presented through texts and audio-visual/computer materials. 6 units.

Prerequisite: Russian 201 or consent of instructor

RUSS 212

Intermediate Russian II

A continuation of Russian 211. More exposure to literary texts, along with newspaper articles. Video clips continue to improve students' listening comprehension skills and cultural knowledge. 6 units.

Prerequisite: Russian 211 or consent of instructor

RUSS 250

Advanced Intermediate Russian

A continuation of Russian 212. More intensive reading, writing, and conversational practice to provide a transition to study abroad. 6 units.

Prerequisite: Russian 212 or consent of instructor

RUSS 300

Seduction, Marriage, and Adultery in 19th-Century Literature in Translation

The texts studied in this course are thematically unified by their examination of romantic and sexual relationships, many of which are limited by social restrictions. Some works will be studied in conjunction with film versions. No knowledge of Russian required. 6 units.

Offered every other year

RUSS 305

Repression and Resistance in Soviet and Post-Soviet Literature in Translation

Survey of Soviet and post-Soviet literature from 1920 to the present. Course will explore ways in which writers responded to, helped shape, and reacted against the Soviet system. Works will be set in historical and cultural context. No knowledge of Russian required. 6 units.

Offered every other year

RUSS 309

Two Masterpieces in Translation

Two novels that lie at the heart of Russian literature, Tolstoy's *War and Peace* and Dostoevsky's *Brothers Karamazov*, will be read in translation. No knowledge of Russian required. 6 units.

Offered every other year

RUSS 330

Russian Culture through Music

Important issues and episodes in Russian cultural history, explored through 19th- and 20th-century orchestral music, opera, and ballet. Themes include: Russia's ambiguous self-identity *vis-à-vis* the West, Russia's ambivalence toward Central Asia, and the uneasy partnership between Russian Orthodoxy and nationalism. No knowledge of Russian required. 6 units.

Also listed as Music History 140

Offered every other year

RUSS 335

Women and Gender in Russian Culture

An interdisciplinary examination of gender roles and gender identity in Russian culture and society. Materials from a variety of fields, including literature and film, are included. No knowledge of Russian required. 6 units.

Also listed as Gender Studies 260

Offered every other year

RUSS 350

Kurgan Exchange Term

Courses in Russian phonetics, grammar, conversation, translation, literature, and folklore taken at Kurgan State University in Russia. 18 units.

Prerequisite: Two years of college Russian

Offered every year

RUSS 361

Survey of 19th- and 20th-Century Russian Prose

Primary goals are to read, discuss, and analyze selected short stories and novel excerpts by some of Russia's major writers. 6 units.

Prerequisite: Two years of college Russian

RUSS 362

Survey of 19th- and 20th-Century Russian Poetry

Primary goals are to read, analyze, and discuss lyric poems by some of Russia's major poets. 6 units.

Prerequisite: Two years of college Russian

RUSS 363

Survey of 19th- and 20th-Century Russian Drama

Primary goals are to read, discuss, and analyze several plays. 6 units.

Prerequisite: Two years of college Russian

RUSS 190, 390, 590, 690

Tutorial Studies in Russian

Advanced work, in Russian, arranged and carried out in consultation with the faculty. Topics depend on the student's interest, the instructor, and the subject. Tutorials are not substitutes for courses offered elsewhere in the curriculum. Variable credit.

Prerequisite: Junior standing or consent of instructor

RUSS 195, 395, 595, 695

Internship in Russian

An opportunity for students to apply their Russian language skills in business, government, and the nonprofit sector on the regional, national, and international levels. Arranged in collaboration with and supervised by a member of the department. Includes discussion, report, and/or portfolio. Advance consultation and application required. Credit may be given for internships completed during a period of study abroad. Variable credit.

Prerequisite: Completion of two years of college Russian and previous or concurrent study in a Russian-speaking country

Offered on demand

RUSS 199, 399, 599, 699

Independent Study in Russian

Individualized advanced research carried out in consultation with a faculty member. Students considering an honors project in their senior year should register for an upper-level independent study for one or more terms (see Honors at Graduation, page 275). Variable credit.

Limited to junior and senior majors

Recent tutorial topics in Russian

Reading the Russian Press

Current Events in Russia

Conversational Practice

SPANISH

Associate professors: Fares (chair), Vilches

Assistant professors: Jura, Tapia

Instructors: Mena, Palomino

Offerings in the Spanish department include a wide range of courses in the language, cultures, and literatures of Spain and Latin America. All readings, class discussions, and written work in courses beyond the intermediate level (Spanish 201) are in Spanish, unless specified otherwise. At the advanced level, students examine a variety of significant language and cultural issues through intensive reading, writing, listening, and speaking in Spanish. This preparation provides the necessary background for careers in foreign language teaching, in bilingual education, in government service, and in the international marketplace and for graduate study in such fields as languages, library science, or literature, to name a few. Spanish is already the second language of business in the United States, and, in conjunction with another area of specialization, the competence gained in the Spanish major program prepares the student for careers in fields such as international business and commerce, law, and communications.

Goals

The general goals of the Spanish department's offerings include the development and improvement of the student's ability to communicate, to know and understand different cultures, to establish connections with additional bodies of knowledge, and to make comparisons between Spanish and his/her native language — in short, to enable the student to participate in multilingual communities. These goals are attained through a reasonably high competency in the Spanish language and an introduction to Latin American and Peninsular literatures and cultures. From the beginning, Spanish is used extensively, if not totally, in the classroom and, except where specified, all class discussion, essays, and examinations are conducted in Spanish.

Placement

Students interested in taking Spanish for the first time at Lawrence are required to take a placement examination. Students will be placed in courses according to their grade in the placement test. Registration in Spanish 101 is based on a required placement examination. At the course level of 300 and above, students should be mindful of the prerequisites to take a particular course and need to consult with a Spanish instructor before registering for the course. At whatever level students place, they should plan to begin their study of Spanish in the freshman or sophomore year.

Satisfying the language requirement

As part of its General Education Requirements, Lawrence requires all students to attain a foreign language competency at the minimum level equivalent to three college terms of study (*i.e.*, equivalent to successful completion of Spanish 201).

Students can satisfy this requirement in several different ways. The options include:

- Successfully completing all, or appropriate sections of, the Spanish 101-102-201 sequence, depending on the results of the Lawrence placement examination in Spanish.
- Placing above the level of Spanish 201 on the Lawrence placement examination in Spanish.
Note: This option satisfies the language requirement but carries no additional academic credit.
- Obtaining the score equivalent to the level of second year on the CLEP examination in Spanish.

Note: The CLEP satisfies the language requirement but carries no additional academic credit. Placing below the second-year level will require taking the Lawrence placement test before being allowed to enroll in Spanish courses. CLEP at the level equivalent to one year's college work is sufficient for Conservatory of Music majors.

- Obtaining a score of 630 or higher on the SAT II

Spanish or Spanish with Listening examination.

Note: This option satisfies the language requirement but carries no additional academic credit; placing below the 630 level will require taking the Lawrence placement test before being allowed to enroll in Spanish courses.

- Obtaining a score of 4 or 5 on the Advanced Placement (AP) examination in Spanish Language or Spanish Literature. This option satisfies the requirement and carries credit equivalent to one 6-unit course. The AP Literature score of 4 or 5 will be transferred as part of the Spanish major/minor as equivalent to Spanish 320: *Introduction to Literary Texts*.
- Obtaining a score of 6 or higher on the Spanish International Baccalaureate Examination at the advanced level. This option satisfies the requirement and carries credit equivalent to one six-unit course.

Note: Lawrence does not conduct the CLEP, SAT, AP, or IB examinations. They can be taken at numerous authorized centers on a fee basis.

Required for the Spanish major

Ten standard courses (or a minimum of 60 units) above the level of Spanish 202, to include:

One of the following:

Spanish 320: *Introduction to Literary Texts*

Spanish 330: *Literatures in Spanish as Film*

One of the following:

Spanish 340: *Spanish Phonetics*

Spanish 350: *Spanish Linguistics*

One of the following:

Spanish 400: *Latin American Civilization and Culture*

Spanish 405: *Spanish Civilization and Culture*

Spanish 410: *Current Events in Spanish*

Two of the following:

Spanish 510: *Survey of Peninsular Spanish Literature I*

Spanish 511: *Survey of Peninsular Spanish Literature II*

Spanish 520: *Survey of Latin American Literature I*

Spanish 521: *Survey of Latin American Literature II*

Five electives, 400 or above, from departmental offerings. These must include at least 12 units from departmental 500-level courses. The electives may include up to six units for internship and up to six

units chosen from Spanish 341, 560, 565, 571, 575 or from the following courses:

Art History 230: *Baroque Art*

Art History 270/271: *Latin American Visual Art*

Anthropology 352: *Ethnography of Latin America*

History 155: *Gender in Latin American History 1490-1800*

History 260: *Culture and Power in Renaissance Europe*

History 261: *Rebellion and Discipline in Reformation Europe*

+ Approval of completed portfolio

At least four of the advanced courses must be taken on the Appleton campus. As part of the Spanish major, students need to take one writing-intensive course *and* one speaking-intensive course, both in Spanish (or one Spanish 315: *Advanced Composition and Conversation* when studying abroad).

Portfolio requirement

In addition to the coursework specified in the core, students majoring in Spanish will be required to assemble a portfolio. The portfolio will provide evidence that demonstrates how the students, while enrolled in the program, have developed a number of the qualities and skills essential to their future success. The portfolio is a collection of evidence that constitutes a compelling argument that a student is proficient and has made steady progress toward a goal.

By the third week of their final term prior to graduation, Spanish majors are required to submit to the department for approval the portfolio of written work that they have done in departmental courses at Lawrence University or abroad. At least two Spanish department faculty members assigned by the chair will evaluate the portfolio and communicate the evaluation to the student by the seventh week of the term. Unapproved portfolios must be revised before the end of the term, and successful completion of this requirement is a condition for completion of the major.

The portfolio of a student's work should consist of the following:

- A cover letter, in Spanish, describing the content of the portfolio.
- A list of courses taken for the major.
- A reflective statement, in Spanish, of two or more

pages, in which the student evaluates his or her development during the years as a Spanish major.

- A minimum of 15 pages written in Spanish from three different courses, 300-level and above, chosen by the student.
- Two oral samples (two minutes each) prepared independently by the student in a computer lab.
 - One reading of a text in Spanish and
 - One impromptu speech sample, performed in consultation with the student's academic advisor.

The portfolio should be submitted in electronic format. Students should familiarize themselves with the departmental requirement at the time of declaring a major.

Required for the Spanish minor

Six standard courses (or a minimum of 36 units) above the level of Spanish 202, to include:

One of the following:

Spanish 320: *Introduction to Literary Texts*

Spanish 330: *Literatures in Spanish as Film*

One of the following:

Spanish 340: *Spanish Phonetics*

Spanish 350: *Spanish Linguistics*

One of the following:

Spanish 400: *Latin American Civilization and Culture*

Spanish 405: *Spanish Civilization and Culture*

Spanish 410: *Current Events in Spanish*

One of the following:

Spanish 510: *Survey of Peninsular Spanish Literature I*

Spanish 511: *Survey of Peninsular Spanish Literature II*

Spanish 520: *Survey of Latin American Literature I*

Spanish 521: *Survey of Latin American Literature II*

Two electives, 400 or above, from departmental offerings. These may include up to six units for internship or up to six units from outside the department (possibilities are the same as for the major).

A C average in the minor is required.

At least three of the advanced courses must be taken on the Appleton campus. As part of the Spanish minor, students need to take one writing-intensive course and one speaking-intensive course, both in Spanish (or one Spanish 315: *Advanced Composition*

and *Conversation* when studying abroad).

Teaching certification in Spanish

The Spanish department offers a course of study that prepares its majors to teach Spanish at the elementary and secondary levels. Students interested in becoming licensed to teach Spanish, K-12, should plan to complete the major and should consult with the education department (page 87) about certification requirements.

Study abroad

The department recommends that majors and minors spend time studying in a Spanish-speaking country and advises them to view Lawrence's programs in Latin America or Spain as a way of fulfilling and complementing departmental requirements.

Non-majors with sufficient linguistic preparation are also encouraged to participate in these programs.

Lawrence University offers a variety of off-campus courses in languages and in other disciplines through the Institute for International Education for Students (IES), International Study Abroad (ISA), and the Associated Colleges of the Midwest (ACM). Contact the department chair or the director of international and off-campus programs for more information.

Numbering

At the beginning and intermediate levels, courses are numbered to indicate relative difficulty, the lowest numbers identifying those that require the least proficiency in Spanish. Courses numbered 101-202 are primarily language courses. They introduce the student to the most important grammatical concepts and linguistic skills. Courses in the 300s provide continued practice in the language and introduce the student to literary analysis and the major literary genres. The 400-level courses provide continued practice in all four language skills and deal with the culture and civilization of Spanish-speaking countries. Courses in the 500 level focus on literary and cultural analysis. Capstone courses (600s) deal with topics explored in 500-level courses, bringing together all the areas of knowledge and proficiency in order to explore different topics. Tutorial studies and independent projects can be pursued in courses numbered in the 90s, with approval of the department chairperson.

Native speakers are encouraged to take Spanish

courses above 500; *they will not be allowed to take 300- or 400-level courses.*

Courses

SPAN 101

Beginning Spanish

An introduction to Spanish. Special emphasis on understanding, speaking, reading, and writing. Students work on pronunciation and vocabulary-building. 6 units.

Enrollment limit: 20

Prerequisite: Registration in Spanish 101 is based on a required placement examination.

SPAN 102

Beginning Spanish

A continuation of Spanish 101 with intensive practice in the language skills. Some use of cultural materials. 6 units.

Enrollment limit: 20

Prerequisite: Spanish 101, its equivalent, or consent of instructor

SPAN 201

Intermediate Spanish

A comprehensive review of language skills with emphasis on mastery of forms and structures. Selected readings serve to develop conversational and writing skills. 6 units.

Enrollment limit: 20

Prerequisite: Spanish 102, its equivalent, or consent of instructor

SPAN 202

Intermediate Spanish

Discussions in Spanish of Hispanic texts and their cultural contexts. Emphasis on acquisition of language skills needed for advanced study. Selective review of forms and structures. 6 units.

Enrollment limit: 20

Prerequisite: Spanish 201, its equivalent, or consent of instructor

SPAN 315

Advanced Composition and Conversation

The goal of this course is to develop students' abilities to communicate, both orally and in writing. The objectives are to improve writing skills, including expansion of vocabulary and control of grammar, to

begin mastering rhetorical techniques for organizing information, and to provide intensive practice of oral communication skills. 6 units.

Enrollment limit: 15

Prerequisite: Spanish 202, its equivalent, or consent of instructor

SPAN 320

Introduction to Literary Texts

A bridge between intermediate and advanced courses, with readings from across the centuries of Latin American and Spanish literature. Reading and composition tasks prepare the student for the literature courses required for the minor and the major. Intensive reading practice using short texts from a variety of genres (short stories, fables, fairy tales, poems, and non-fiction). Includes grammar review and vocabulary building. 6 units.

Enrollment limit: 15

Prerequisite: Spanish 202, its equivalent, or consent of instructor

SPAN 330

Literatures in Spanish as Film

A study of literature in Spanish that has been adapted, or referenced, in films. Emphasis on the interconnections between dramatic and narrative modes of cinematic representation, as well as on the exploration of literature and film as different media. 6 units.

Also listed as Theatre Arts 352

Enrollment limit: 15

Prerequisite: Spanish 202, its equivalent, or consent of instructor

SPAN 340/341

Spanish Phonetics

Spanish Phonetics will immerse students in the pronunciation and general phonetics of the Spanish language as it is spoken in Spain and Latin America. The course will help students perfect their accent in Spanish and make them aware of the different accents of spoken Spanish. It also will serve Conservatory of Music students who desire to practice their diction in Spanish. Taught in Spanish (340) and in English (341). 6 units.

Also listed as Linguistics 375/376

Enrollment limit: 15

Prerequisites: When taught in Spanish, Spanish 202, its equivalent, or consent of instructor. When taught in English, sophomore standing or consent of instructor

SPAN 350

Linguistics of the Spanish Language

A broad study of the concepts and terminology of synchronic linguistics, including different levels of language analysis (*e.g.*, phonology, morphology, syntax, semantics), discourse analysis, and interdisciplinary areas of interest (*e.g.*, sociolinguistics, language policy, cognitive science). Emphasis on the application of linguistic issues within the context of the Spanish language. 6 units.

Also listed as Linguistics 377

Prerequisites: Spanish 202, placement, or consent of instructor

SPAN 400

Latin American Civilization and Culture

A broad introduction to the culture of the Latin American continent and its relations to North American culture. The course presents Latin American civilization, history, economic and political situation, and diverse culture. Emphasis is placed on high cultural manifestations such as art and literature, as well as on the everyday habits of the people. 6 units.

Recommended for students who plan to participate in one of our study-abroad programs to Latin America.

Enrollment limit: 15

Prerequisite: One 300-level Spanish course, its equivalent, or consent of instructor

SPAN 405

Spanish Civilization and Culture

An overview of Spanish history followed by examination of various aspects of Spanish culture. A broad introduction to the culture of Spain and its relations to North American culture. The course presents Spanish civilization, history, economic and political situation, and diverse culture. Emphasis is placed on high cultural manifestations such as art and literature, as well as on the everyday habits of the people. 6 units.

Recommended for students who plan to participate in our study-abroad program to Spain.

Enrollment limit: 15

Prerequisite: One 300-level Spanish course, its

equivalent, or consent of instructor

SPAN 410

Current Events in Spanish Latin America

A critical analysis of current events in the Latin American Spanish-speaking world, through discussions of recent newspaper and magazine articles as well as selected radio and television broadcasts from the Latin American Spanish-speaking media, with emphasis on oral communication. The course allows students to develop their oral communication skills in the target language and to work with a wide range of topics and interests toward an understanding of the issues facing the Latin American Spanish-speaking world in the 21st century. 6 units.

Enrollment limit: 15

Prerequisite: One 300-level Spanish course, its equivalent, or consent of instructor

SPAN 415

Current Events in Spain

A critical analysis of current events in Spain, through discussions of recent newspaper and magazine articles as well as selected radio and television broadcasts from Spanish media, with emphasis in oral communication. The course allows students to develop their oral communication skills in the target language and to work with a wide range of topics and interests toward an understanding of the issues facing Spain in the 21st century. 6 units.

Enrollment limit: 15

Prerequisite: One 300-level Spanish course, its equivalent, or consent of instructor.

SPAN 435

Spanish for Special Purposes

An advanced language-acquisition course intended to familiarize students with specialized vocabulary and communicative practices in Spanish-speaking countries. Emphasis on intensive reading practice and listening proficiency, as well as on appropriate oral and written discourse. Thematic focus will vary; possible topics include the language of business, politics, law, the environment, music, the visual arts, etc. 6 units.

Enrollment limit: 15

Prerequisite: One 300-level Spanish course, its equivalent, or consent of instructor.

SPAN 510

Survey of Peninsular Spanish Literature I: Medieval, Renaissance, and Baroque

An introduction to Medieval, Renaissance, and Baroque Spanish literature, culture, and society. Reading and discussion of poetry, prose, and theatre from Spain in their historical and cultural contexts. Introduction to basic concepts of literary theory. Texts, discussion, and written assignments in Spanish. Additional materials such as films and paintings may be used for class discussions in order to contextualize readings. 6 units.

Enrollment limit: 15

Prerequisite: One 400-level Spanish course, its equivalent, or consent of instructor

SPAN 511

Survey of Peninsular Spanish Literature II: Romanticism through 20th Century

An introduction to Romanticism, Realism, Modernism, Generations of '98 and '27, and Post-Civil War Spanish literature, culture, and society. Reading and discussion of poetry, prose, and theatre from Spain in their historical and cultural contexts. Introduction to basic concepts of literary theory. Texts, discussion, and written assignments in Spanish. Additional materials such as films and paintings may be used for class discussions in order to contextualize readings. 6 units.

Enrollment limit: 15

Prerequisite: One 400-level Spanish course, its equivalent, or consent of instructor

SPAN 520

Survey of Latin American Literature I

A study of texts from Pre-Columbian and Spanish-speaking cultures from the 15th to 19th centuries, the period of "discovery writing" of Spanish colonies in Latin America, focusing on development and elaboration of genres and on the search for cultural and political emancipation from Spain. 6 units.

Enrollment limit: 15

Prerequisite: One 400-level Spanish course, its equivalent, or consent of instructor

SPAN 521

Survey of Latin American Literature II

A study of major Latin American writers and literary movements from the period of Independence (ca. 1810) to the 20th century. 6 units.

Enrollment limit: 15

Prerequisite: One 400-level Spanish course, its equivalent, or consent of instructor

SPAN 530

Advanced Grammar Studies

In-depth study of grammar, syntax, and composition that builds on concepts learned in the intermediate courses. Problem areas, particularly at the advanced level of the language, are studied systematically. 6 units.

Enrollment limit: 15

Prerequisite: One 400-level Spanish course, its equivalent, or consent of instructor

SPAN 535

Topics in Literature and Culture

Topics for special study in Spanish of Peninsular and Latin American literatures and cultures. Topics in this series vary from year to year, according to students' and instructor's needs and interests. The course may be repeated with consent of the instructor, if the topic has changed. 6 units.

Enrollment limit: 15

Prerequisite: One 400-level Spanish course, its equivalent, or consent of instructor

SPAN 545

Women's Writings

A course on women's writing from different times and Spanish-speaking cultures. It will emphasize theoretical approaches to women's writings and closely read some relevant authors, from colonial times to contemporary ones. Taught in English and/or Spanish. 6 units.

Also listed as Gender Studies 548

Enrollment limit: 15

Prerequisite: When taught in Spanish, one 400-level Spanish course, its equivalent, or consent of instructor. When taught in English, none

SPAN 550

Cervantes: Don Quijote

Close reading and discussion of *Don Quijote*, Parts I and II. Attention is given to the social and political context of the work. 6 units.

Enrollment limit: 15

Prerequisite: One 400-level Spanish course, its equivalent, or consent of instructor

SPAN 555**20th-Century Spanish Fiction**

A study of modern Spanish fiction in post-Franco Spain through works dealing with issues of memory and national identity. Authors include Juan Marsé, Eduardo Mendoza, Manuel Vázquez Montalbán, Manuel Rivas, and Nuria Amat. 6 units.

Enrollment limit: 15.

Prerequisite: One 400-level Spanish course, its equivalent, or consent of instructor

SPAN 560**The Romance Languages and Their Histories**

An introduction to the development of Romance languages from Latin. Emphasis on a comparative study of the structures of the modern Romance languages. Taught in English. 6 units.

Also listed as Classics 520 and Linguistics 510

Prerequisite: Knowledge of Latin or a Romance language beyond the intermediate level, or consent of instructor

SPAN 565/566**Hispanic Issues**

This course covers the main cultural issues in the contemporary Hispanic world. It concentrates on both the Hispanics of Latin America and those of the United States. Through theoretical materials as well as literature, film, historical documents, testimony, etc., this course addresses a variety of subjects related to the Hispanic culture. Taught in Spanish (566) and in English (565). 6 units.

Also listed as Ethnic Studies 582/583

Enrollment limit: 15

Prerequisites: When taught in Spanish, one 400-level Spanish course, its equivalent, or consent of instructor. When taught in English, sophomore standing or consent of instructor

SPAN 570/571**Narrative: Text and Theory**

An advanced study of narrative texts in Spanish (primarily literature), alongside a survey of theoretical approaches to narrative. Emphasis on the application of key concepts in narratology and stylistics to selected texts. Taught in Spanish (570) and in English (571). 6 units.

Enrollment limit: 15

Prerequisites: When taught in Spanish, one literary

survey (e.g., 510, 511, 520, 521), the equivalent, or consent of instructor. When taught in English, one course in English at the 230-level or above, its equivalent, or consent of instructor

SPAN 575/576**Latin American Visual Art**

The course introduces the cultures of Latin America through a survey of its major movements and artists from the early 19th century to the present.

Image-based lectures will be accompanied by discussion of visual and thematically related texts (*i.e.*, biographies, letters, scholarly articles) and carefully selected fragments of videos. Taught in Spanish (576) and in English (575). 6 units.

Also listed as Art History 270/271

Enrollment limit: 15

Prerequisites: When taught in Spanish, one 400-level Spanish course, its equivalent, or consent of instructor. When taught in English, Art History 102, its equivalent, or consent of instructor

SPAN 190, 390, 590, 690**Tutorial Studies in Spanish**

Topic of study and the term's work depend on the interest of the student and the instructor and on the subject matter. Tutorials are not substitutes for courses but opportunities to pursue topics suggested by courses. May be taken for more than one term; may be taken for full or partial credit. There are no tutorials for language courses numbered 202 and below. All tutorials must be approved by the department chair.

SPAN 195, 395, 595, 695**Internship**

An opportunity for students to apply their Spanish language and culture skills in business, government, and the non-profit sector, on the regional, national, and international level. Arranged in collaboration with and supervised by a member of the department. Includes readings, discussions, and a report and/or portfolio. Internships in Spanish-related fields are available during the summer or the academic year and may carry academic credit if they meet the guidelines for academic internships and receive prior approval from the Spanish department chair. Variable credit.

Prerequisite: One 400-level Spanish course, its

equivalent, or consent of instructor

Offered on demand

SPAN 199, 399, 599, 699

Independent Study in Spanish

A thorough investigation of a topic of the student's choice, carried out in consultation with an instructor. Recent independent studies in Spanish have included: Chicano Identity in Chicano Literature, Feminism in the Writings of Isabel Allende, and Inca Religion in Colonial Literature. All independent studies in Spanish

must be approved in advance by the Spanish department chair. Variable credit.

Recent tutorial topics in Spanish

Literature and History of Venezuela
Women Writers of Latin America
Chicano Literature and Culture
Representation of Women in Isabel Allende's Works
Literatura de los Gauchos

THEATRE ARTS

Professor: Gaines (*emeritus*)

Associate professors: Frielund (chair), Troy

Assistant professor: Privatt*

Lecturer: Owens

Students arrive at Lawrence with a wide variety of theatre experiences and nearly as wide a set of expectations. Many have had a high-school experience of working in theatre productions. Some see their college years as the first step toward a career in theatre. Others see theatre as a rewarding extracurricular activity, and they hope to continue enjoying that involvement. To meet the interests of the first group, the Department of Theatre Arts has designed a curriculum that allows the student to deepen his or her general knowledge of the field while beginning the process of specialization within a particular focus area.

To meet the expectations of the second group, the department produces a wide variety of plays and musicals and sponsors a theatre club that actively participates in visits to some of the professional theatre companies in the area.

Because the study of dramatic art requires a grounding in the study of production methods, past and present, and must be intimately connected to and supported by the study of theatre history and dramatic literature of various periods, the department has developed a core curriculum of introductory courses in those areas required of all majors. Because we recognize that our students hope to achieve a specialization within their general study of dramatic art, we also have created three areas of concentration — performance; design and technical theatre; and dramatic theory, history, and literature — that allow each student to pursue a specific interest within the major.

Normally, students complete most of their studies in the core curriculum by the end of the sophomore year. At that time, students select an appropriate advisor in their area of concentration and begin to work toward a finalizing senior project in

that area. The senior project is required of all majors in the department and is designed to exhibit the student's strengths in the area in which he or she hopes to continue studies or seek employment. Students anticipating graduate study in an area of concentration should consult with their advisor to ensure that their auditions, résumés, or portfolio presentations are prepared, depending on their area of concentration. In addition, students are strongly encouraged to participate in one or more off-campus programs, such as the Lawrence London Center or the Chicago Semester in the Arts, to deepen their understanding of the demands of the various areas of concentration prior to designing their senior projects. Students hoping to become certified as secondary-school teachers of theatre should consult with an advisor in the Department of Education to ensure that they have completed the necessary courses for that certification. Additional details about certification are contained in the education department's description of courses on page 87.

Core curriculum — required of all theatre arts majors

1. Theatre Arts 231: *Introduction to Design for the Theatre*
2. Theatre Arts 212: *Theatre Traditions I: Greeks through the 18th Century*
3. Theatre Arts 224: *Theatre Traditions II: Romanticism through the Present*
4. Theatre Arts 327: *Playscript Analysis*
5. Theatre Arts 187: *Introduction to Acting*
6. Six terms of participation in either Theatre Arts 355: *Theatre Production Laboratory* or Theatre Arts 357: *Musical Theatre Production Laboratory*

Focus areas (Choose one)

Performance

1. Theatre Arts 447: *Advanced Acting*
2. Theatre Arts 527: *Introduction to Play Directing*
3. Twelve additional units from among the following:
Theatre Arts 479: *Styles of Acting*
Theatre Arts 627: *Advanced Play Directing*

*On leave Term I

Theatre Arts 475: *Musical Theatre Scenes: Duets and Ballads*

Theatre Arts 227: *Voice and Diction*

Theatre Arts 415: *The Director in Modern and Post-Modern Theatre*

Theatre Arts 161: *Stage Make-Up*

Theatre Arts 143, 145, 147, 149: *Movement for the Theatre*

MURP 203: *Voice*

4. Theatre Arts 681: *Senior Project*
5. Students with a performance focus should take additional classes in the areas of dramatic literature, history, and art history.

Design and Technical Theatre

1. Theatre Arts 135: *Stagecraft*
2. One course in an area of theatre design:
Theatre Arts 551: *Costume Design*
Theatre Arts 553: *Stage Lighting*
Theatre Arts 555: *Set Design*
3. One course in an area of theatre technology:
Theatre Arts 557: *Sound for the Stage*
Theatre Arts 573: *Computing in Stage Design and Production*
4. Theatre Arts 679: *Advanced Design Studio*
5. Theatre Arts 681: *Senior Project*
6. Students with a design focus are encouraged to take additional courses in studio art and the history of art.

Dramatic Theory, History, and Literature

1. Theatre Arts 611: *Dramatic Theory and Criticism*
2. One additional course in theatre history
3. Twelve additional units in dramatic literature taken in the Department of Theatre Arts, the English department, or a foreign language department
4. Theatre Arts 681: *Senior Project*
5. Students anticipating graduate studies in this area are encouraged to continue their foreign language studies to the level of advanced proficiency.

Required for the theatre arts minor

1. Theatre Arts 111: *Introduction to the Theatre*
2. Theatre Arts 113: *Stagecraft*
3. Theatre Arts 327: *Playscript Analysis*
4. Theatre Arts 212 or 224: *Theatre Traditions*
5. Theatre Arts 187: *Introduction to Acting*

6. Theatre Arts 477: *Advanced Acting* or Theatre Arts 231: *Introduction to Design for Theatre*

7. Theatre Arts 355 or 357: *Theatre Production Laboratory* (3 terms of participation)

8. C average in the minor

Courses

THAR 111

Introduction to the Theatre

A survey of the traditions of dramatic form and the contributing arts of the theatre presented in historical context. Students read representative playscripts, attend performances, and participate in mounting a production. 6 units.

THAR 135

Stagecraft

An introduction to the technical aspects of theatre production. Laboratory experience in scenic construction and rigging, painting, lighting, sound, backstage organization, and management. 6 units.

Enrollment limit: 25

Movement for the Theatre

Movement for the Theatre introduces students to the basic movement and gestural vocabulary of the dance discipline and promotes a fundamental understanding of how dance and movement serve as one of the contributing arts to the theatre. In each section, emphasis will be placed on basic technique, historical context, and their relationship to common theatre, musical, and opera production practices. Recommended for students who wish to participate in theatre, opera, and musical productions. Offered S/U only. Only 6 full units can count toward the theatre arts major.

THAR 143

Fundamentals of Movement

3 units.

THAR 145

Ballet

3 units.

THAR 147

Modern Dance

3 units.

THAR 149

Social Dance

3 units.

THAR 161

Stage Make-Up

A hands-on course offering experience in the proper design and application of stage make-up for students interested in theatre or music-theatre performance. 3 units.

Enrollment limit: 16

THAR 187

Introduction to Acting

We present a demystified, participatory approach to the craft of acting. Using the methods of Viola Spolin, students master the fundamental concepts of Stanislavsky and explore acting tools in the traditions of Grotowski and Meisner. 6 units.

Enrollment limit: 16

THAR 212

Theatre Traditions I: Greeks Through the 18th Century

A survey of theatre in its cultural context from its Greek origins through the 18th century. Extensive readings from the dramatic literature of each period supplement the study of the physical theatre and production practices. 6 units.

Prerequisite: Sophomore standing or consent of instructor

THAR 224

Theatre Traditions II: Romanticism Through the Present

A survey of theatre in its cultural context from Romanticism through the present day. Extensive readings from the dramatic literature of each period illustrate the ideas, aesthetic values, and staging innovations that led to the theatre of the 21st century. 6 units.

Prerequisite: Sophomore standing or consent of instructor

THAR 226

Study of the Avant-Garde Theatre

A study of theatre and drama from the end of the 19th century to the present, focusing on the development of new forms in drama. 6 units.

Prerequisite: Sophomore standing

THAR 227

Voice and Diction

The spoken word is the most fundamental means of

human communication. This course will introduce students to a practical approach to speech and voice dynamics in the tradition of Arthur Lessac. 3 units.

THAR 231

Introduction to Design for the Theatre

A survey covering all aspects of visual design for the theatre. Emphasis on the necessary techniques of drafting, painting, and modelmaking, with attention to aesthetic and practical problems of theatre design. 6 units.

THAR 260

The Art of Film

A study of the narrative and visual techniques in films selected from masterpieces of modern cinema. Readings in film history, film theory, and film aesthetics along with viewings of approximately ten movies from various periods and countries, by directors such as Eisenstein, Wells, Fellini, Kurasawa, and Truffaut. 6 units.

Prerequisite: Sophomore standing

THAR 327

Playscript Analysis

The playscript is a blueprint for a construction that uses the media of space, time, color, speech, and action to reflect from the stage images of what it means to be human. This course will explore both technical and creative ways to decipher the play text. 6 units.

Enrollment limit: 16

Prerequisite: Sophomore standing

Recommended to be taken before Theatre Arts 527:
Introduction to Play Directing

THAR 345

Stage Management

A study of various aspects of stage management including rehearsal procedures, scheduling, organizing scene shifts, maintaining a production, running a show, and managing a cast. Practical experience acquired in assisting with current productions. 6 units.

Prerequisite: Consent of instructor

THAR 355

Theatre Production Laboratory

Practicum in theatre production. May be taken for one or more terms; six terms required of theatre arts majors, three terms required of minors. May be taken by any student involved in theatre production. 1 unit

per term.

Prerequisite: Consent of instructor

THAR 357

Musical Theatre Production Laboratory

Practicum in musical theatre. May be taken for one or more terms; can be used in partial fulfillment of the six terms of Theatre Arts 355 required of all theatre arts majors or the three terms of Theatre Arts 355 required of all theatre arts minors. 1 unit per term.

Prerequisite: Consent of instructor

THAR 415

The Director in Modern and Post-Modern Theatre

The function of the director in the creation of theatre is a recent historical phenomenon. While theatre has been an integral part of our culture since the ancient Greeks, the role of the director as we know it today is only about 150 years old. Our examination of 20th-century directors will focus on how various schools and styles of production often came directly from the work of individual directors. 6 units.

THAR 423

History of American Dramatic Literature

A study of American theatre in its cultural context from its colonial beginnings to the present. Extensive readings of the works of principal playwrights. 6 units.

Prerequisite: Sophomore standing or consent of instructor

THAR 432

Shakespeare

An introduction to Shakespeare's plays and their literary, historical, and theatrical context. 6 units.

Also listed as English 425

Enrollment limit: 20

Prerequisite: Junior standing, English 230, or consent of instructor

THAR 434

Restoration and 18th-Century Comedy

A study of English comedies as reflections of changing taste and thought in the period 1660-1800. Authors include Wycherley, Etherege, Congreve, Farquhar, Steele, Fielding, Goldsmith, and Sheridan. 6 units.

Also listed as English 445

Prerequisite: Junior standing, English 230, or consent of instructor

THAR 436

Renaissance Drama

A study of eight to ten plays from the early modern period. Readings drawn from Beaumont, Jonson, Fletcher, Ford, Marston, Middleton, and Webster. Topic will vary. 6 units.

Enrollment limit: 25

Also listed as English 435

Prerequisite: Junior standing, English 230, or consent of instructor

THAR 440

Modern Drama

Studies in some of the major playwrights in Europe, England, and America from the time of Ibsen to the present. 6 units.

Also listed as English 490

Prerequisite: Junior standing, an intermediate course in English, or consent of instructor

THAR 447

Advanced Acting

Continued, in-depth study of the elements covered in Theatre Arts 187 with added monologue, scenic work, and an introduction to acting Shakespeare. 6 units.

Enrollment limit: 10

Prerequisite: Theatre Arts 187 or consent of instructor

THAR 451

Seminar in Playwriting

A study of the theory and craft of writing for the theatre. Emphasis on the creation and analysis of original scripts. 6 units.

Prerequisite: Consent of instructor

THAR 475

Musical Theatre Scenes: Duets and Ballads

We will study and stage ballads and duets from the repertory of the musical theatre, paying special attention to the challenges presented by the transition from the spoken scene to song. The course will culminate in a public presentation of our work in class. 3 units.

THAR 479

Styles of Acting

Study of the acting of a particular period or style, based on the techniques acquired in Theatre Arts 187.

6 units.

Enrollment limit: 10

Prerequisite: Theatre Arts 187 or consent of instructor

THAR 527

Introduction to Play Directing

Examination of and practice in fundamental directing methods and techniques. In this course we focus on the directing tradition of Alexander Dean. 6 units.

Prerequisite: Theatre Arts 187 or consent of instructor

THAR 541

Seminar in Technical Theatre

A seminar focusing on specialized technical areas of the theatre. Content varies to fit the availability of the technical staff. May be repeated as content changes. 6 units.

Prerequisites: Theatre Arts 135, 231 or consent of instructor

THAR 551

Costume Design

The theory and practice of costume design for the stage, focusing on period style and presentation technique. Laboratory experience in the costume shop required as part of course. 6 units.

Prerequisite: Theatre Arts 231 or consent of instructor

THAR 553

Stage Lighting

A study of basic lighting theory, design, and technique that enables students to assume responsibility, with knowledge and precision, for designing and executing lighting plots. Laboratory experience on lighting crews required as part of course. 6 units.

Prerequisite: Theatre Arts 231 or consent of instructor

THAR 555

Set Design

A study of the role of the set designer in a theatrical production from the conceptual through the production phase. Emphasis on values of concept, inventive scenic solutions, and creative research as applied to a number of different dramatic styles. Laboratory experience in the scenic studio required as part of course. 6 units.

Prerequisite: Theatre Arts 231 or consent of instructor

THAR 557

Sound for the Stage

An examination of the aesthetic and practical

applications of sound creation and reinforcement as involved in all contemporary theatre performance. Laboratory experience on a sound crew is a required part of the course.

6 units.

Prerequisite: Theatre Arts 135 or 231 or consent of instructor

THAR 573

Computing in Stage Design and Production

A study of the range of areas wherein computing supports the efforts of the contemporary designer, including CAD (Computer-Aided Design), modeling, rendering, and animation applications. The course involves hands-on laboratory work in computing. 6 units.

Prerequisite: Theatre Arts 135 or 231 or consent of instructor.

THAR 611

Dramatic Theory and Criticism

A study of dramatic theory and criticism from Aristotle to the present. Students, as theatre artists, research and apply concepts explored in class to playscripts. 6 units.

Prerequisite: Junior standing

THAR 627

Advanced Play Directing

Practical application of the principles learned in Theatre Arts 527. Students explore how Dean and Carra's Five Fundamentals of play directing are used to clearly express dramatic type and theatrical style. Extensive scene work, presentations, and final project for public performance. 6 units.

Enrollment limit: 8

Prerequisites: Theatre Arts 527 or consent of instructor

THAR 651

Seminar in Theatre Arts

A seminar, without fixed agenda, for advanced students and staff to share problems relevant to the current and future state of theatre arts. 6 units.

Prerequisite: Consent of instructor

THAR 679

Advanced Design Studio

Further exploration of design and design techniques, including rendering and drafting, focusing on portfolio preparation, taking into consideration the

THEATRE ARTS

specific interests and needs of each student participating. 6 units.

Prerequisite: Theatre Arts 231 or consent of instructor

THAR 190, 390, 590, 690

Tutorial Studies in Theatre Arts

Advanced work, arranged and carried out in consultation with an instructor. One or more terms may be selected. Variable credit.

THAR 199, 399, 599, 699

Independent Study in Theatre Arts

Advanced work in directing, design, performance, or criticism, arranged in consultation with department. One or more terms may be selected. Variable credit.

Recent tutorial topics in theatre arts

Film Production

African-American Dramatists

Storytelling

Writing for Film and Television

Advanced Set, Lighting, or Costume Design

Stage Management

Technical Direction

History of American Musical Theatre

Bertolt Brecht and Chinese Theatre

Acting Monologues of Pinter, Mamet, and Beckett

Stage Management

UNIVERSITY COURSES

UNIC 101

Beginning Italian I

Students enrolled in this course will learn the basic skills of speaking and communicating, reading, and writing in the Italian language. Italian culture will be emphasized throughout the term. Audio-visual materials and computer-assisted programs will be available to students as part of the course. 6 units.

Enrollment limit: 20

UNIC 102

Beginning Italian II

Students enrolled in this course will continue learning the skills of speaking and communicating, reading, and writing in the Italian language. Italian culture will be emphasized. Compositions will aid students in further developing their skills in the Italian language. Audio-visual materials and computer-assisted programs will be available to students as part of the course. 6 units.

Enrollment limit: 20

Prerequisite: UNIC 101, or consent of instructor

UNIC 110

English as a Second Language – Freshman Studies I

A modified version of Freshman Studies 100 designed for CESA students with limited English proficiency. 6 units.

Enrollment limited to students in the Waseda CESA program

UNIC 111

English as a Second Language – Freshman Studies II

A modified version of Freshman Studies 101 designed for CESA students with limited English proficiency. 6 units.

Enrollment limited to students in the Waseda CESA program

UNIC 130

Public-Speaking Practicum

Emphasizes theory, skills, and practice of presentational speaking relative to a variety of forms of communication (particularly information and persuasion speaking) involving body, voice, and

language. 6 units.

Enrollment limit: 40

UNIC 201

Intermediate Transitional Italian

Review of the basic skills of speaking and communicating, reading, and writing in the Italian language. Additional selected texts and compositions will reinforce previously learned material. Italian culture will be emphasized. Audio-visual and computer-assisted programs will be available to students as part of the course. By completing this course, students will fulfill the foreign language requirement. 6 units.

Enrollment limit: 20

Prerequisites: UNIC 102 or consent of instructor

UNIC 205

American Society and Culture

A multi-skill, content-based course introducing diverse facets of American culture with an emphasis on observation and analysis of American life. Additionally, students are encouraged to engage in cross-cultural comparisons and to reflect on their own experiences crossing cultures. 6 units.

Enrollment limited to students in the Waseda CESA program

UNIC 206

English as a Second Language

An introduction to academic English at the university level designed for students with limited English proficiency. Students work to develop English proficiency in speaking, listening, reading, and writing through the exploration of different interdisciplinary content areas. 6 units.

Enrollment limited to students in the Waseda CESA program

UNIC 207

English as a Second Language – Speak and Listen

Variable credit.

Enrollment limited to students in the Waseda CESA

program

UNIC 208

English as a Second Language – Advanced Communicative English

This course focuses on developing increased communicative competence in English as a second language. In addition, it introduces some of the components of communication and the conventions of discourse in English. 6 units.

Enrollment limited to students in the Waseda CESA program.

UNIC 209

English as a Second Language – Experiential Language Learning

Development of English language proficiency in a specialized field of study. Students design and complete projects based on intensive exploration of a specific English-speaking environment, such as a university course or a community volunteer site. Variable credit. S/U only.

Enrollment limited to students in the Waseda CESA program

UNIC 210

Prize Fiction

A comparative study of recent winners of the American Pulitzer and British Booker Prizes in fiction. Authors read may include Smiley, Ondaatje, Shaara, Trevor, Lively, Coetzee, and Proulx. 6 units.

Lecture and discussion

UNIC 211/212/213

Introduction to American Society I, II, III

An introduction to life in America and to academic life at an American university for foreign-exchange students. Students will explore American values, attitudes, and patterns of behavior through formal study, structured observation and interviews of Americans, and through the analysis of their everyday living and studying at Lawrence. 2 units/1 unit/1 unit. S/U only.

Enrollment limited to students in the Waseda CESA program

UNIC 220

The Ethical Lyricists

A study of contemporary life as represented in lyric poetry. Readings will include lyrics by Zbigniew Herbert, Philip Larkin, Adrienne Rich, and others. 6 units.

Lecture and discussion

UNIC 240

Modern Literature of Central Europe in Translation

Ethnic variations on the themes of love, death, and bureaucracy in the ruins of the Hapsburg Empire, including the bitter fate of small nations. Authors will include Roth, Andric, Konrad, Borowski, Herbert, Kafka, Kundera, Wolf. 6 units.

Enrollment limit: 20

UNIC 250

Self Interest and Social Behavior I

An introduction to models of individuals furthering their own self interest and to applications of these models over all areas of social behavior, whether the concern is competition versus cooperation or the use of money, sex, violence, or power. These models from decision theory and game theory are applied to rational choice or evolution within the fields of economics, political science, cognitive science, psychology, biology, philosophy, and anthropology. This course focuses on applications of models from decision theory and of static games. 6 units.

Prerequisites: Mathematics 120 or 140

Offered in 2004-05

UNIC 251

Self Interest and Social Behavior II

A continuation of UNIC 250. This course continues with applications of static games and then focuses on applications of dynamic games. 6 units.

Prerequisite: UNIC 250

Credit cannot be earned for both UNIC 251 and Economics 410

Offered in 2004-05

UNIC 260

British Life and Culture

This compulsory course utilizes visiting speakers, site visits, and small group fieldwork and short research projects to introduce students to contemporary life in London and the United Kingdom. Site visits usually include Parliament, the London Mosque, the British Museum, and the BBC. Speakers have included an ex-MI5 agent, a former terrorist, religious leaders representing several different traditions, and a homeless person, among others. The course is designed so that the majority of work takes place

during the single three-hour class meeting, allowing students the possibility of pursuing up to three elective courses. 3 units.

Offered at the London Center

UNIC 262

“The Fields Beneath”: Discovering London’s Histories

This interdisciplinary course aims to give students a thorough grounding in the chronology of London’s development from Roman settlement on the periphery of Empire to 21st-century “World City.” The use of contemporary literary and visual sources will serve both to develop students’ historical imagination and to enable them critically to examine the concepts involved in the discipline of history itself. Alongside this historical approach, a theoretical examination of specific themes and topics will be used to explore the nature of “the town as palimpsest,” a layered structure in which the past is never entirely obliterated by what succeeds it. Examples of such themes and topics might include, *inter alia*, religious observance, theatrical presentation, immigration, commerce, domestic life, and government. 6 units.

Offered at the London Center

UNIC 264

London Internship

The compulsory internship seminar meets once per week and builds upon the field study, lectures, and discussions in the *British Life and Culture* course. Students are expected to maintain a journal with at least two substantial entries per week critically reflecting on their experiences from intercultural, cross-cultural, social, ethical, organizational, and interpersonal perspectives. Students are also required to complete two short reflective essays and a final internship essay interrogating their experiences in terms of the course readings, class discussions in the seminar and the *British Life and Culture* course, and the broader issue of how a liberal arts-informed perspective frames one’s experience in the workplace. 6 units.

Offered at the London Center

UNIC 300

Internship: Journalism and the Liberal Arts

Intensive study, under the direction of a faculty member, of topics related to a student’s work on *The Lawrentian* and, in special cases, other local publications. The subject matter of a student’s submissions to the paper will be explored through readings and discussion. Expectations include regular submissions to *The Lawrentian*, outside reading, and a final project or paper. 3 units per term for a maximum of 6 units.

May not be taken more than twice

Prerequisite: Consent of instructor

CONSERVATORY OF MUSIC



Professors: Anthony*, K. Bozeman (chair, voice dept.), de Lerma, Jordheim, Levy, Murray (dean of the faculty), Niblock (interim assistant dean of the conservatory and advisor to Bachelor of Arts in music), Sturm (chair, jazz and improvisational music dept.), Taniguchi (*emerita*), Whitman (chair, winds/percussion dept.)

Associate professors: Biringer (chair, music theory/composition), Bjella, Daniel, DeCorsey, Fan, Keelan, Kim**, Michaels*, Michelic (chair, string dept.), Padilla (chair, keyboard dept.), Reischl, Richeson, Stannard (associate dean of the conservatory)

Assistant professors: Koestner, Leigh-Post, Metcalf, A. Miller, B. Miller (chair, music education), Novgorodsky, Serbo, Tran Ngoc

Instructors: Benson, Boeckman, J. Bozeman, Helvering, Hoogerhyde, S. McCardell, McQuinn, Swan, Urness, Van de Loo

Lecturers: Beechey, Buchman, Butts, Calhan, Carpenter, Chau, Di Bella, Encarnación, Erickson, Su, Jordheim, Klotzbach, Su, McCardell, L. Michelic, S. Padilla, Perkins, Salerno, Sullivan, Tai, Turner, Walby, Wolfman, Wysock

Artist-in-residence: Duesing

Music has been a prominent feature of life at Lawrence University since its founding in 1847; the first Bachelor of Music degree was conferred in 1892.

Today, the conservatory curriculum affords students a unique blend of professional education in music and a liberal education, a combination that has produced outstanding composers, performers, scholars, and educators. Conservatory students are active in the academic and extracurricular life of the college, and college students avail themselves of the rich opportunities for music study and appreciation in the conservatory. The conservatory is an accredited institutional member of the National Association of Schools of Music.

Three separate courses of study lead to a degree in music: the Bachelor of Music degree with majors in performance, music education, or theory/composition; the five-year program that combines the Bachelor of Music degree with a Bachelor of Arts degree in a major other than music; and the Bachelor of Arts

degree with a major in music (please refer to page 26 for Bachelor of Arts degree requirements and to page 162 for the major and minor in music). All degrees in music offer the possibility of a student-designed major (see page 244). Students interested in a student-designed major should consult the associate dean of the conservatory.

General information

All students are expected to be familiar with the policies and procedures set forth in departmental handbooks and guidelines and the *Conservatory Student Handbook* (www.lawrence.edu/conservatory/handbook/), all of which contain important information about recitals and departmental examinations and other rules governing student academic life within the conservatory. It should be noted that, although students may elect courses in addition to the minimum requirements, they are not permitted to complete requirements for two music majors in a normal four-year period. Students who wish to pursue two music majors must petition the Conservatory Committee on Administration.

Studio assignments and course placement will be determined upon matriculation. Students are expected to meet with their faculty advisors on a regular basis to discuss progress and course selections. Regular consultation with faculty advisors is essential for students who wish to attend an off-campus program or are planning to complete both the Bachelor of Music and Bachelor of Arts degrees.

Students must consult their studio teachers in regard to all public performances, including appearances not scheduled by Lawrence University. Conservatory rehearsals and performances take precedence in the case of a conflict with external activities. Students may not teach on campus unless employed by the Lawrence Academy of Music.

Residence requirements

To qualify for a Lawrence University B.A. or B.Mus. degree, students are required to have a minimum of six terms in residence and earn 108 units (Lawrence foreign study programs, ACM programs, and other special arrangements under Lawrence sponsorship included). Nine terms in residence and 162 units are required for the five-year B.A. and B.Mus.

*On leave Term II; **On leave Term III

double-degree program.

Students must be in residence on the Appleton campus until they have completed the Freshman Studies requirement.

The last three terms of work and a minimum of 54 units submitted for the graduation requirements must be done in residence unless a department (or departments, or advisory committee, where appropriate) previously has certified completion of the requirements for a major. This requirement, or one of its parts, may be waived by the admissions office in the case of incoming transfer students or by the Faculty Subcommittee on Administration in any other cases.

Bachelor of Music degree

The Bachelor of Music is a professional degree.

Courses in music represent approximately two-thirds of the curriculum, while one-third is devoted to Freshman Studies and General Education Requirements.

In addition to academic policies and regulations detailed in this catalog, students in the conservatory are subject to policies and procedures detailed in conservatory department guidelines and the *Conservatory Student Handbook* (www.lawrence.edu/conservatory/handbook).

Admission to the degree

An entrance audition is required of all applicants for admission to the Bachelor of Music degree. Bachelor of Arts students who wish to become Bachelor of Music students must petition the Conservatory Committee on Administration for admission. Bachelor of Music students who wish to become Bachelor of Arts students must petition the Faculty Subcommittee on Administration for acceptance into the Bachelor of Arts degree program. Such changes are not normally allowed before the end of the freshman year nor later than the beginning of the junior year.

Bachelor of Music students must complete the appropriate qualifying examination(s), normally by the end of the sophomore year, to be admitted to a major (please see descriptions of individual majors, page 214, *et seq.*).

Degree requirements

1. Completion of a minimum of 216 units. The

following music courses are used in the computation of the degree grade-point average but are excluded from the total of 216 units required for the degree: MURP 201, 202, 203, 301, 302 and MUTH 161, 162, 171, 172.

2. Of the 216 units required to complete the degree, student must present:

- a. a minimum of 144 units in music
- b. a minimum of 60 units in courses other than music
- c. no more than 12 units from academic internships

The additional 12 units may be selected from any department.

3. In the freshman year, 12 units of Freshman Studies

4. Completion of the General Education Requirements

a. Distribution

- i. 12 units selected from departments and courses listed within the Division of Humanities;
- ii. 6 units selected from departments and courses listed within the Division of Social Sciences;
- iii. 6 units selected from departments and courses listed within the Division of Natural Sciences.

b. Diversity

- i. 6 units selected from courses designated as emphasizing global and comparative perspectives on the world or focusing on areas outside Europe and the United States or focusing on dimensions of diversity, such as race, ethnicity, and gender, that are of particular importance in understanding contemporary society in the United States.

c. Competency

- i. 6 units selected from courses designated as writing intensive.
- ii. 12 units selected from courses numbered below 200 in a foreign language or the equivalent as determined by placement based on an Advanced Placement examination or a proficiency examination administered by a Lawrence University foreign language department.

Note: While some music courses may satisfy General Education Requirements, a minimum of 60 units in

courses other than music is required for the degree.

Stipulations pertaining to the General Education Requirements

A single course may be used to satisfy requirements in all three categories (Distribution, Diversity, and Competency). A single course may be used to satisfy only one requirement in the Competency category. Credits granted pursuant to university policy for advanced placement or for transfer work may be used to fulfill General Education Requirements.

5. Completion of music core requirements:
 - a. Music theory
 - i. MUTH 151, 161, 171 or MUTH 201, 211, 221
 - ii. MUTH 152, 162, 172 or MUTH 202, 212, 222
 - iii. MUTH 251, 261, and 271
 - iv. MUTH 252, 262, and 272
 - v. MUTH 301, 311, and 321
 - b. Music history
 - i. MUHI 201 and 202
 - ii. 6 units selected from courses in music history numbered 300 or above
 - iii. 6 units selected from courses in music history numbered 400 or above
 - c. Keyboard skills: MURP 201, 202, 203 or MURP 301, 302
 - d. Applied music individual instruction as specified under requirements for the major and areas of emphasis
 - e. Ensemble study: a minimum of 12 units. Students are required to participate in an ensemble every term in which they are attending classes on the Appleton campus. Requirements for specific types of ensemble study (MUEN) are specified under requirements for majors and areas of emphasis.
6. Completion of a major in music — performance, music education, theory/composition, or student-designed — including all course and non-course requirements, such as recitals, qualifying examinations, etc. A student is expected to pass a qualifying examination for admission to the major after no more than six terms of study.
7. An academic record that meets the following average standards:

- a. A 2.000 grade-point average in all Lawrence courses.
 - b. A 2.000 grade-point average in the music major (all music courses and non-music courses required for the major) unless otherwise specified under the major requirements.
8. Completion of required terms and units in residence as specified by the university residence requirements (see page 212).

The major in performance

Admission to the major

Admission to the performance major requires successful completion of the appropriate qualifying examination. Students who have not passed the qualifying examination by the completion of 6 terms of applied music individual instruction must petition the Conservatory Committee on Administration, supported by departmental recommendation, for a deferral.

Piano

1. Piano performance: 54 units
 - a. A minimum of 54 units in MUIN 361, 561
 - b. Presentation of a half recital during junior year and a full recital during senior year
2. Supporting courses for the major: 18 units
 - a. MURP 451, 452: *Literature of the Piano I, II* (12 units)
 - b. MUEP 301, 302: *Piano Pedagogy I, II* (6 units)
3. Keyboard skills: MURP 301, 302: *Functional Skills for Keyboard Majors I, II*
4. Music history: fulfillment of the degree requirement of 24 units must include 12 units in courses numbered 400 or above.
5. Ensemble: 12 units
 - a. 3 units in major ensemble
 - b. 3 units in chamber music
 - c. 6 units in MUEN 250: *Supervised Accompanying*

Organ

1. Organ performance: 54 units
 - a. A minimum of 54 units in MUIN 362, 562
 - b. Presentation of a half recital during junior year and a full recital during senior year
2. Supporting courses for the major: 9 units
 - a. MURP 440: *Survey of Organ Literature*,

Design, and Performance Practice (3 units)

- b. Keyboard skills: MURP 301, 302: *Functional Skills for Keyboard Majors*
- c. MUEP 380: *Conducting Principles* (6 units)
3. Music history: fulfillment of the degree requirement of 24 units must include 12 units in courses numbered 400 or above.
4. Music theory/history/composition/arranging: 6 units from courses numbered 300 or above beyond degree requirements
5. Ensemble: 12 units
 - a. 3 units in major ensemble
 - b. 3 units in chamber music
 - c. 6 units in major ensemble, chamber music, or supervised accompanying

Harpichord

1. Harpichord performance: 54 units
 - a. A minimum of 54 units in MUIN 379, 579
 - b. Presentation of a half recital during junior year and a full recital during senior year
2. Supporting courses for the major: 7 units
 - a. MURP 410: *Harpichord Accompaniment* (1 unit)
 - b. Keyboard skills: MURP 301, 302: *Functional Skills for Keyboard Majors I, II*
 - c. MUEP 380: *Conducting Principles* (6 units)
3. Music history: fulfillment of the degree requirement of 24 units must include 12 units in courses numbered 400 or above.
4. Music theory/history/composition/arranging: 6 units from courses numbered 300 or above beyond degree requirements
5. Ensemble: 12 units
 - a. 3 units in major ensemble
 - b. 3 units in chamber music
 - c. 6 units in major ensemble, chamber music, or supervised accompanying
6. General Education: French or German must be taken to fulfill the foreign language competency requirement.

Voice

1. Voice performance: 54 units
 - a. A minimum of 54 units in MUIN 363, 563
 - b. Presentation of a half recital during junior year and a full recital during senior year
2. Supporting courses for the major: 13 units
 - a. MURP 271, 272, 273, 274, 275, 276: vocal diction

and technique series

- b. MURP 455: *Vocal Literature* (3 units)
- c. MUEP 371, 372: *Vocal Pedagogy* (4 units)
- d. MUEP 380: *Conducting Principles* (6 units)
3. Music history: fulfillment of the degree requirement of 24 units must include 12 units in courses numbered 400 or above.
4. Music theory/history/composition/arranging: 6 units from courses numbered 300 or above beyond degree requirements
5. Ensemble: 12 units
 - a. 6 units in concert choir/women's choir
 - b. 6 units in music theatre
6. General Education: completion of the degree requirements must include 12 units each of two of the following (or placement at the intermediate level): French, German, or Italian, taken for a grade

Strings: violin, viola, violoncello, doublebass

1. String performance: 60 units
 - a. A minimum of 60 units in MUIN 364, 365, 366, or 367; 564, 565, 566, or 567
 - b. Presentation of a half recital during junior year and a full recital during senior year
2. Conducting: MUEP 380: *Conducting Principles* (6 units)
3. Music history: fulfillment of the degree requirement of 24 units must include 12 units in courses numbered 400 or above.
4. Music theory/history/composition/arranging: 6 units from courses numbered 300 or above beyond degree requirements
5. Ensemble: 18 units
 - a. 12 units in symphony orchestra
 - b. Chamber music: 6 units, 3 units of which must be completed after the student has passed the qualifying examination for the major

Classical guitar

1. Guitar performance: 60 units
 - a. A minimum of 60 units in MUIN 368, 568
 - b. Presentation of a half recital during junior year and a full recital during senior year
2. Supporting courses for the major: 9 units
 - a. MURP 311, 312, 313: *Fretboard Harmony for the Classical Guitarist I, II, III* (3 units)
 - b. MUEP 380: *Conducting Principles* (6 units)
3. Music history: fulfillment of the degree

requirement of 24 units must include 12 units in courses numbered 400 or above.

4. Music theory/history/composition/arranging: 6 units from courses numbered 300 or above beyond degree requirements
5. Ensemble: 12 units
 - a. 3 units in major ensemble,
 - b. 3 units in chamber music, and
 - c. 6 units in major ensemble or chamber music
6. General Education: It is strongly suggested that Spanish be taken to satisfy the foreign language competency requirement.

Winds: flute, oboe, clarinet, saxophone, bassoon, horn, trumpet, trombone, euphonium, tuba

1. Wind performance: 60 units
 - a. A minimum of 60 units in MUIN 369, 370, 371, 372, 373, 374, 375, 376, 377, or 378; 569, 570, 571, 572, 573, 574, 575, 576, 577, or 578
 - b. Presentation of a half recital during junior year and a full recital during senior year
2. Conducting: MUEP 380: *Conducting Principles* (6 units)
3. Music history: fulfillment of the degree requirement of 24 units must include 12 units in courses numbered 400 or above.
4. Music theory/history/composition/arranging: 6 units from courses numbered 300 or above beyond degree requirements
5. Ensemble: 15 units
 - a. 6 units in wind ensemble, 3 units of which must be taken after the student has passed the qualifying examination for the major, and
 - b. 6 units in a major instrumental ensemble
 - c. 3 units of chamber music

Percussion

1. Percussion performance: 54 units
 - a. A minimum of 54 units in MUIN 380, 580
 - b. Presentation of a half recital during junior year and a full recital during senior year
2. Conducting: MUEP 380: *Conducting Principles* (6 units)
3. Music history: fulfillment of the degree requirement of 24 units must include 12 units in courses numbered 400 or above.
4. Music theory/history/composition/arranging: 6 units from courses numbered 300 or above

beyond degree requirements

5. Ensemble: 16 units
 - a. 12 units in a major instrumental ensemble, including
 - i. 3 units in wind ensemble, and
 - ii. 3 units in symphony orchestra (A minimum of 3 units in wind ensemble or symphony orchestra must be completed after the student has passed the qualifying examination for the major.)
 - b. 4 units of percussion ensemble (one term each year for four years)

Emphasis options for performance majors

Emphasis in accompanying

In addition to all requirements for the major in piano performance, the following are required:

1. Supporting courses for the emphasis: 6 units
 - a. MURP 420: *Piano Accompaniment: Vocal* (3 units)
 - b. MURP 425: *Piano Accompaniment: Instrumental* (3 units)
 - c. MURP 271, 272, 273, 274, 275, 276: Vocal diction and techniques series
2. Ensemble: completion of the requirement must include one term accompanying a choral ensemble
3. Recitals: in addition to required solo degree recitals, the following:
 - a. accompany 1 full or 2 half vocal recitals
 - b. accompany 1 full or 2 half instrumental recitals
4. General Education: completion of the degree requirements must include 12 units each of two of the following (or placement at the intermediate level): French, German, or Italian, taken for a grade

Emphasis in piano pedagogy

In addition to all requirements for the major in piano performance, the following are required:

1. Supporting courses for the emphasis: 15 units
 - a. MUEP 303: *Piano Pedagogy III* (3 units)
 - b. Two of MUEP 502: *Early Advanced Piano Pedagogy*, MUEP 503: *Group Piano Pedagogy*, MUEP 505: *Internship in Piano Pedagogy* (6 units)
 - c. MUEP 581, 582: *Student Teaching in Piano I, II* (6 units)
2. General Education: completion of the requirement must include:

- a. PSYC 260 or PSYC 340

Emphasis in jazz and improvisational music

Admission to the Bachelor of Music performance major with an emphasis in jazz and improvisational music may be granted to a limited number of students upon completion of qualifying examinations and with the approval of a candidate selection committee.

For detailed information on admission and scheduling of requirements, students are referred to the chair of the jazz and improvisational music department.

Specific courses required for the emphasis are as follows (please note that these requirements are in addition to the core courses required for the B.Mus. degree):

1. Performance: 54 units
 - a. 36 units of applied individual instruction (MUIN) in piano, strings, winds, or percussion numbered 361-380 or 561-580 during the freshman and sophomore years (before admission to the jazz emphasis)
 - b. 18 units of MUIN 560 after admission to the jazz emphasis (candidates may elect more than 18 units)
 - c. Presentation of a half recital during junior year and a full recital during senior year
Note: Before admission to the jazz emphasis, Bachelor of Music performance candidates are required to study with the respective classical applied instructors but may elect added applied study with the respective jazz applied instructor. After admission to the jazz emphasis, candidates are required to study with the respective jazz applied instructors but may elect to continue with the respective classical instructor.
2. Supporting courses for the emphasis:
 - a. MUTH 240: *Jazz Theory and Aural Training* (3 units)
 - b. MUCA 220, 221, 222: *Jazz Improvisation I, II, III* (9 units)
 - c. MUCA 331, 332: *Jazz Composition and Arranging I, II* (6 units)
 - d. MUHI 380: *Jazz History* (6 units)
 - e. MUEP 305: *Jazz Pedagogy* (1 unit)
 - f. MURP 320: *Functional Jazz Piano* (3 units)
 - g. MUEP 120: *Basic Audio Recording* (1 unit)
3. Piano majors must complete either MURP 451 and

452: *Literature of the Piano I and II* or MUEP 301 and 302: *Piano Pedagogy I and II*

4. Ensemble: completion of the requirement must include:
 - a. 6 terms of MUEN 248: *Jazz Small Group Studies* or MUEN 235: *Improvisation Group*, after admission to the jazz emphasis (6 units)
 - b. 6 terms of MUEN 295: *Jazz Ensemble* or MUEN 293: *Jazz Band*, after admission to the jazz emphasis (6 units)
 - c. Additional ensembles, specific to primary instrument, as follows:
Winds/Percussion: 6 terms wind ensemble/symphonic band; 3 terms chamber music
Strings: 9 terms symphony orchestra (3 terms required participation after admission to the emphasis in jazz studies); 3 terms chamber music
Piano: 3 terms symphony orchestra, wind ensemble, symphonic band, concert choir, women's choir, or chorale; 3 terms supervised accompanying
Guitar: 3 terms symphony orchestra, wind ensemble, symphonic band, concert choir, women's choir, chorale, or chamber music

The major in music education

The Bachelor of Music degree with a major in music education (general, choral/general, instrumental, instrumental/general, and choral/general/instrumental) is subject to revision based on requirements set by the State of Wisconsin at the time of publication of the 2003-04 course catalog. The State of Wisconsin requires a 2.75 GPA for certification in music. It is the student's responsibility to confirm requirements with the chair of the music education department. For information regarding teacher certification, refer to "Certification for Undergraduates," page 87.

Admission to the major

Admission to any music education major requires successful completion of the music education qualifying examination, formal application to the major with supporting documents, a music education interview, successful completion of the Pre-Professional Skills Test, and a minimum grade-point average of 2.75. This process is normally begun in the freshman year and completed by the end of the sophomore year.

Common requirements for the major in music education

In addition to degree requirements (see page 213) and those of specific areas below, the following are required of all music education majors:

1. Education: 27 units
 - a. EDUC 180: *Psychology of Learning* (6 units)
 - b. EDUC 310: *Cognitive Diversity in Education* (6 units)
 - c. EDUC 340: *Social Foundations of Education* (6 units)
 - d. EDUC 350: *Multicultural Education* (6 units)
 - e. EDUC 550: *Reading in School Content Areas* (3 units)
2. Music education: MUEP 380: *Conducting Principles* (6 units)
3. Student teaching: MUEP 680 (18 units)
No other courses, except EDUC 550, may be taken during the student-teaching semester(s); a maximum of 3 units of applied instrumental instruction may be taken, subject to prior approval of a petition to the music education department. Students in the choral/general/instrumental emphasis must complete two semesters (36 units) of student teaching.
4. Performance: 36 units
 - a. Minimum of 36 units in applied individual instruction, required every term in which the student is in residence on the Appleton campus with the exception of the student-teaching semester.
 - b. Presentation of a half recital during the junior or senior year
5. Non-music courses
Completion of the requirement of 60 units must include the following:
 - a. 6 units of biological science or ANTH 140 and 6 units of physical science; or 6 units of BIOL 100, 110 or GEOL 150
 - b. 6 units in mathematics
 - c. 6 units of social science
6. Participation in a major ensemble is required every term in residence on the Appleton campus, as specified in the following requirements for each track: general, choral/general, instrumental, instrumental/general, and choral/general/ instrumental (see page 225 for list of major ensembles).

7. Completion of major requirements for one of the five areas as outlined below.

General music

In addition to degree requirements (page 213) and common requirements for all music education majors (this page), the following are required for the general music emphasis:

1. Music education and pedagogy: 24-26 units
 - a. MUEP 371 and 372: *Vocal Pedagogy I, II* (4 units) or MUEP 231 and 232: *Vocal Proficiency and Pedagogy I, II* (2 units) (Students whose principal performing area is other than voice must complete MUEP 231 and 232.)
 - b. MUEP 240, 350, 370: *General Music Methods and Practicum* (15 units)
 - c. MUEP 402: *Choral Techniques* (6 units)
 - d. MUEP 307: *Instrumental Techniques for the Choral Major* (1 unit)
2. Keyboard skills: MURP 211 and 212: *Keyboard Skills for Music Educators I, II* in addition to degree requirement in keyboard skills
3. MURP 271, 272, 273, 274, 275, 276 for students whose primary instrument is voice
4. Ensemble: 12-13 units
Participation in major ensemble is required every term in residence on the Appleton campus. (See page 225 for list of major ensembles.)
The requirement is based on the student's primary instrument, as follows:
 - a. Voice and keyboard:
 - i. 3 units in music theatre, and
 - ii. 9 units in a major choral ensemble.
 - b. Winds and percussion:
 - i. 9 units in wind ensemble or symphonic band,
 - ii. 2 units in chorale, and
 - iii. one additional unit in any ensemble
 - c. Strings:
 - i. 11 units in symphony orchestra, and
 - ii. 2 units in chorale.

Note: To earn a B.Mus. degree with this major requires completion of at least 21 units in addition to the minimum of 216 required for the degree, for a total of 237 units overall. Many students in this major opt to complete the student-teaching requirement during a 13th term.

Choral/general

In addition to degree requirements (page 213) and common requirements for all music education majors (page 218), the following are required for the choral/general emphasis:

1. Music education and pedagogy: 30-32 units
 - a. MUEP 371 and 372: *Vocal Pedagogy I, II* (4 units) or MUEP 231 and 232: *Vocal Proficiency and Pedagogy I, II* (2 units). (Students whose principal performance instrument is other than voice must complete MUEP 231 and 232.)
 - b. MUEP 240, 350, 370: *General Music Methods and Practicum* (15 units)
 - c. MUEP 402: *Choral Techniques* (6 units)
 - d. MUEP 452: *Music Education Pedagogy: Choral/General* (6 units)
 - e. MUEP 307: *Instrumental Techniques for the Choral Major* (1 unit)
2. Keyboard skills: MURP 211 and 212: *Keyboard Skills for Music Educators I, II* in addition to degree requirement in keyboard skills
3. Performance: 33 units
 - a. MURP 271, 272, 273, 274, 275, 276 for students whose primary instrument is voice
 - b. A minimum of 2 terms of MUIN 263 for students whose primary instrument is other than voice and satisfactory completion of the secondary instrument qualifying examination
4. Ensemble: 12 units
Participation in major ensemble required every term in residence on the Appleton campus. (See page 225 for list of major ensembles.)
 - a. 3 units in music theatre, and
 - b. 9 units in a major choral ensemble

Note: To earn a B.Mus. degree with this major requires completion of at least 27 units in addition to the minimum of 216 units required for the degree, for a total of 243 units overall. Many students in this major opt to complete the student-teaching requirement during a 13th term.

Instrumental

In addition to degree requirements (page 213) and common requirements for all music education majors (page 218), the following are required for the instrumental emphasis:

1. Music education and pedagogy: 32 units
 - a. MUEP 210: *Pedagogical Theory and Practice: Instrumental* (1 unit)
 - b. MUEP 305: *Jazz Pedagogy* (1 unit) or MUEP 308:

String Pedagogy for Music Educators (1 unit)

- c. MUEP 401: *Instrumental Methods* (6 units)
 - d. MUEP 451: *Music Education Pedagogy: Instrumental* (6 units)
 - e. MUEP 310: *Brass Techniques* (3 units)
 - f. MUEP 315: *Percussion Techniques* (3 units)
 - g. MUEP 321, 322: *Woodwind Techniques I, II* (6 units)
 - h. MUEP 331, 332: *String Techniques I, II* (6 units)
2. Ensemble: 12 units
 - a. Winds and percussion:
 - i. 9 units in wind ensemble or symphonic band, and
 - ii. an additional 3 units in any major ensemble
 - b. Strings:
 - i. 11 units in symphony orchestra, and
 - ii. 1 additional unit in any major ensemble

Note: To earn a B.Mus. degree with this major requires completion of at least 29 units in addition to the minimum of 216 units required for the degree, for a total of 245 units overall. Many students in this major opt to complete the student-teaching requirement during a 13th term.

Instrumental/general

In addition to degree requirements (page 213) and common requirements for all music education majors (page 218), the following are required for the instrumental/general emphasis:

1. Music education and pedagogy: 49 units
 - a. MUEP 210: *Pedagogical Theory and Practice: Instrumental* (1 unit)
 - b. MUEP 305: *Jazz Pedagogy* (1 unit) or MUEP 308: *String Pedagogy for Music Educators* (1 unit)
 - c. MUEP 231, 232: *Vocal Proficiency and Pedagogy I, II* (2 units)
 - d. MUEP 240, 350, 370: *General Music Methods and Practicum* (15 units)
 - e. MUEP 401: *Instrumental Methods* (6 units)
 - f. MUEP 451: *Music Education Pedagogy: Instrumental* (6 units)
 - g. MUEP 310: *Brass Techniques* (3 units)
 - h. MUEP 315: *Percussion Techniques* (3 units)
 - i. MUEP 321, 322: *Woodwind Techniques* (6 units)
 - j. MUEP 331, 332: *String Techniques* (6 units)
2. Keyboard skills:

- a. MURP 211 and 212: *Keyboard Skills for Music Educators I, II* in addition to degree requirements in keyboard skills.
- 3. Ensemble: 12-13 units
Participation in major ensemble required every term in residence on the Appleton campus. (See page 225 for list of major ensembles.) The requirement is based on the student's primary instrument, as follows:
 - a. Winds and percussion:
 - i. 9 units in wind ensemble or symphonic band,
 - ii. 2 units in chorale, and
 - iii. 1 additional unit in any ensemble
 - b. Strings
 - i. 11 units in symphony orchestra, and
 - ii. 2 units in chorale

Note: To earn a B.Mus. degree with this major requires completion of at least 42 units in addition to the minimum of 216 units required for the degree, for a total of 258 units overall. Many students in this major opt to complete the student-teaching requirement during a 14th term.

Choral/general/instrumental

In addition to degree requirements (page 213) and common requirements for all music education majors (page 218), the following are required for the choral/general/instrumental emphasis:

- 1. Music education and pedagogy: 58-60 units
 - a. MUEP 210: *Pedagogical Theory and Practice: Instrumental* (1 unit)
 - b. MUEP 371 and 372: *Vocal Pedagogy I, II* (4 units) or MUEP 231 and 232: *Vocal Proficiency and Pedagogy I, II* (2 units) (Students whose principal performance area is other than voice must complete MUEP 231 and 232.)
 - c. MUEP 305: *Jazz Pedagogy* (1 unit) or MUEP 308: *String Pedagogy for Music Educators* (1 unit)
 - d. MUEP 240, 350, 370: *General Music Methods and Practicum* (15 units)
 - e. MUEP 401: *Instrumental Methods* (6 units)
 - f. MUEP 402: *Choral Techniques* (6 units)
 - g. MUEP 451: *Music Education Pedagogy: Instrumental* (6 units) or MUEP 452: *Music Education Pedagogy: Choral/General* (6 units) and MUEP 390, a tutorial in instrumental or choral/general pedagogy (3 units)

- h. MUEP 310: *Brass Techniques* (3 units)
- i. MUEP 315: *Percussion Techniques* (3 units)
- j. MUEP 321, 322: *Woodwind Techniques I, II* (6 units)
- k. MUEP 331, 332: *String Techniques I, II* (6 units)
- 2. Student teaching: MUEP 680: *Student Teaching: completion of two semesters* (36 units) of student teaching is required.
- 3. Keyboard skills: MURP 211 and 212: *Keyboard Skills for Music Educators I, II* in addition to degree requirements in keyboard skills
- 4. Performance: 42 units
 - a. A minimum of 42 units in applied individual instruction, as described below:
 - i. A minimum of 36 units in the major instrument or voice and satisfactory completion of departmental requirements
 - ii. A minimum of 2 terms of applied individual instruction in the secondary instrument or voice and satisfactory completion of the secondary instrument qualifying examination
 - b. MURP 271, 272, 273, 274, 275, 276 for students whose primary instrument is voice
- 5. Ensemble: 18 units
 - a. 6 units in major choral ensemble,
 - b. 3 units of music theatre, and
 - c. 9 units of wind ensemble, symphonic band, or symphony orchestra.

Note: To earn a B.Mus. degree with this major requires completion of at least 85 units in addition to the minimum of 216 units required for the degree, for a total of 301 units overall. Many students in this major opt to complete the student-teaching requirement during a sixth year.

The major in theory/composition

Admission to the major

Admission to the theory/composition major is granted at the end of the sophomore year upon successful completion of the following requirements: the appropriate qualifying exam in performance (administered by individual applied areas) and acceptance of a portfolio consisting of a minimum of two compositions (in legible manuscript and accompanied by a recording if possible).

Theory/composition

- 1. Music theory in addition to the core courses

- required for the B.Mus. degree: 24 units
- a. MUTH 401, 402: *Counterpoint I, II* (6 units)
 - b. MUTH 411, 412: *Orchestration I, II* (6 units)
 - c. MUTH 510: *Analysis of 20th Century Music* (6 units)
 - d. MUTH 520: *Schenkerian Analysis* (6 units)
2. Music composition and arranging: 30 units
 - a. 6 units: MUCA 250: *Introductory Composition* (3 units per term)
 - b. 6 units: MUCA 350: *Intermediate Composition* (3 units per term)
 - c. 6 units: MUCA 550: *Advanced Composition* (3 units per term)
 - d. 6 additional units from MUCA 250, 350, 550
 - e. 6 additional units from MUCA courses numbered 300 and above
 - f. Presentation of a full composition recital during senior year
 3. Music history: fulfillment of the degree requirement of 24 units must include 12 units in courses numbered 400 or above
 4. Performance: 24 units
A minimum of 24 units in applied individual instruction
 5. Ensemble: 12 units
 - a. 3 units in major ensemble,
 - b. 3 units in chamber music, and
 - c. 6 units in major ensemble or chamber music

Emphasis option for theory/composition majors

Emphasis in jazz and improvisational music

Admission to the Bachelor of Music in theory/composition with an emphasis in jazz and improvisational music may be granted to a limited number of students upon successful completion of qualifying examinations and with the approval of a candidate selection committee.

For detailed information on admission and scheduling of requirements, students are referred to the chair of the jazz and improvisational music department.

Specific courses required for the emphasis are as follows:

1. Music theory in addition to the core courses required for the B.Mus. degree:
 - a. MUTH 411, 412: *Orchestration I, II* (6 units)
 - b. MUTH 510: *Analysis of 20th Century Music* (6 units)
2. Music composition and arranging
 - a. MUCA 331, 332, 333: *Jazz Composition and Arranging I, II, III* (9 units)
 - b. MUCA 530: *Advanced Jazz Composition* (9 units at 3 units per term)
 - c. MUCA 201: *Techniques of the Contemporary Composer* (3 units)
 - d. 6 units from MUTH 401, 402: *Counterpoint I, II*; MUCA 250, 350, 550: *Composition*
 - e. Presentation of a half composition recital during junior year and a full composition recital during senior year
3. Supporting courses for the emphasis in jazz studies
 - a. MUTH 240: *Jazz Theory and Aural Training* (3 units)
 - b. MUCA 220, 221, 222: *Jazz Improvisation I, II, III* (9 units)
 - c. MUH 380: *Jazz History* (3 units)
 - d. MUEP 305: *Jazz Pedagogy* (1 unit)
 - e. MURP 320: *Functional Jazz Piano* (3 units)
 - f. MUEP 120: *Basic Audio Recording* (1 unit)
4. Performance: A minimum of 24 units in applied individual instruction and 6 terms on the major instrument or voice
Note: Before admission to the jazz emphasis, Bachelor of Music theory/composition candidates are required to study with the respective classical applied instructors but may elect added applied study with the respective jazz applied instructor. After admission to the jazz emphasis, candidates are required to study with the respective jazz applied instructors but may elect to continue applied study with the respective classical instructor.
5. Ensemble: Completion of the requirement must include:
 - a. 3 terms of MUEN 248: *Jazz Small Group Studies* or MUEN 235: *Improvisation Group*, after admission to jazz emphasis (3 units)
 - b. 3 terms of MUEN 295: *Jazz Ensemble* or MUEN 293: *Jazz Band*, after admission to the jazz emphasis (3 units)
 - c. Additional ensembles, specific to primary instrument, as follows:
Winds/Percussion: 6 terms wind ensemble/symphonic band; 3 terms chamber music
Strings: 9 terms symphony orchestra (3 terms

required participation after admission to the emphasis in jazz studies); 3 terms chamber music

Piano: 3 terms symphony orchestra, wind ensemble, symphonic band, concert choir, women's choir, or chorale; 3 terms supervised accompanying

Guitar: 3 terms symphony orchestra, wind ensemble, symphonic band, concert choir, women's choir, chorale, or chamber music

Voice: 6 terms concert choir or women's choir

Bachelor of Arts/Bachelor of Music double-degree program

Professional study in music and study in the liberal arts may be combined in a five-year program leading to both Bachelor of Music and Bachelor of Arts degrees, the latter with a major other than music. Both degrees are awarded at the conclusion of the five-year program. Interested students should discuss this possibility with their advisors as early as possible.

Approximately half of the curriculum is devoted to the study of music — completion of the music core and requirements for a major in performance, music education, or theory/composition. The other half of the curriculum mirrors that of the Bachelor of Arts program, emphasizing breadth of study central to a liberal arts education, focused study in the college major, and elective study to complement other work or explore other fields of interest.

Certain majors in the Bachelor of Arts degree program (for example, some laboratory sciences) may be difficult to combine with the Bachelor of Music degree program into a five-year double-degree program, especially if the student's objective is to maintain serious options for graduate or professional work in both areas after graduation. Such combinations may require that course overloads be taken to complete minimum requirements in each major in a timely and satisfactory manner. Early and regular consultation with advisors in both the college and the conservatory is imperative. Further, students who seek certification for purposes of teaching a subject other than music are urged to see the associate dean of the conservatory.

In addition to academic policies and regulations detailed in this catalog, students in the conservatory are subject to policies and procedures detailed in conservatory department guidelines and the *Conservatory Student Handbook* (www.lawrence.edu/

conservatory/ handbook).

Degree requirements

1. Completion of a minimum of 15 terms of study and 270 units. Of the 270 units required, a student must present:
 - a. a minimum of 144 units in music, exclusive of MURP 201, 202, 203, 301, 302 and MUTH 161, 162, 171, 172
 - b. a minimum of 114 units selected from courses other than music
 - c. no more than 42 units from courses in education
 - d. a minimum of 72 units from courses numbered 200 and above
 - e. no more than 90 units from a single department outside of music, except that in the art department a student may present no more than 126 units, no more than 90 of which may be in art and no more than 90 of which may be in art history.
 - f. no more than 12 units from academic internships
2. In the freshman year, 12 units of Freshman Studies.
3. Completion of the General Education Requirements:
 - a. Distribution, in order to gain exposure to a range of disciplines, subjects, and perspectives within the liberal arts:
 - i. 12 units selected from departments and courses listed within the Division of Humanities. All courses in the humanities taught in English will count toward this requirement. Humanities courses taught in a foreign language and numbered 300 and above also will count toward this requirement, except as noted in the course catalog.
 - ii. 6 units selected from departments and courses listed within the Division of Fine Arts;
 - iii. 12 units selected from departments and courses listed within the Division of Social Sciences;
 - iv. 12 units selected from departments and courses listed within the Division of Natural Sciences, at least one of which must be in a laboratory course in biology, chemistry, geology, or physics.
 - b. Diversity, in order to prepare students for a

more global world and a more diverse America:

- i. 6 units selected from courses designated as either emphasizing global and comparative perspectives on the world or focusing on areas outside Europe and the United States;
 - ii. 6 units selected from courses designated as focusing on dimensions of diversity, such as race, ethnicity, and gender, that are of particular importance in understanding contemporary society in the United States.
- c. Competency, in order to improve and reinforce those fundamental abilities central to a liberal arts education:
- i. 6 units selected from courses designated as writing intensive;
 - ii. 6 units selected from courses designated as speaking intensive;
 - iii. 6 units selected from courses designated as emphasizing mathematical reasoning or quantitative analysis.
 - iv. 6 units in a foreign language taken from courses numbered 200 or above and taught primarily in a language other than English. This requirement may also be satisfied by attaining a score of 4 or 5 on an Advanced Placement examination in a foreign language or by passing a proficiency examination administered by a Lawrence University foreign language department.

Stipulations pertaining to the General Education Requirements

A single course may not be used to satisfy more than one requirement within categories (a) Distribution and (b) Diversity. A single course may be used to satisfy a requirement within category (c) Competency and a requirement within category (a) Distribution or (b) Diversity. No course will be designated as fulfilling more than one category (c) Competency requirement. Credits granted pursuant to university policy for advanced placement or for transfer work may be used to fulfill General Education Requirements.

4. Completion of a college major — departmental, interdisciplinary, or student-designed —

exclusive of music, including all course and non-course requirements, such as departmental examinations, research projects and presentations, portfolios, etc. Students are required to declare a major by the beginning of the junior year.

5. Completion of music core requirements:
 - a. Music theory
 - i. MUTH 151, 161, 171 or MUTH 201, 211, 221
 - ii. MUTH 152, 162, 172 or MUTH 202, 212, 222
 - iii. MUTH 251, 261, and 271
 - iv. MUTH 252, 262, and 272
 - v. MUTH 301, 311, and 321
 - b. Music history
 - i. MUHI 201 and 202
 - ii. 6 units selected from courses in music history numbered 300 or above
 - iii. 6 units selected from courses in music history numbered 400 or above
 - c. Keyboard skills: MURP 201, 202, 203 or MURP 301, 302
 - d. Applied music individual instruction as specified under requirements for the major and areas of emphasis
 - e. Ensemble study: a minimum of 12 units. Students are required to participate in an ensemble every term in which they are attending classes on the Appleton campus. Requirements for specific types of ensemble study (MUEN) are specified under requirements for majors and areas of emphasis.
6. Completion of a major in music — performance, music education, theory/ composition, or student-designed — including all course and non-course requirements, such as recitals, qualifying examinations, etc. A student is expected to pass a qualifying examination for admission to the major after no more than six terms of study.
7. An academic record that meets the following standards:
 - a. A 2.000 grade-point average in all Lawrence courses.
 - b. A 2.000 grade-point average in the music major (all music courses and non-music courses required for the major) unless otherwise specified under the major requirements.
8. Completion of required terms and units in

residence as specified by the university
residence requirements (see page 212).

Courses

Composition and arranging

MUCA 100

Fundamentals of Composition

An introduction to the craft of music composition open to students with some background in music. Taught as a small class, the course will introduce basic compositional techniques to students with limited background in composition. Individualized compositional projects will be complemented by group listening and analysis. Does not satisfy any requirement for the theory/composition major. 3 units.

Enrollment limit: 4

Prerequisite: Consent of instructor

MUCA 201, 202

Techniques of the Contemporary Composer I, II

Development of the craft of the contemporary composer through selected topics in pitch, rhythm, and form. The course comprises analysis of major compositional techniques of contemporary music in tandem with directed assignments in composition. Non-sequential; can be taken in either order. 3 units.

Prerequisite: Consent of instructor

MUCA 201: Offered in 2004-05 and alternate years thereafter

MUCA 202: Offered in 2003-04 and alternate years thereafter

MUCA 210

Improvisation

An introduction to improvisation for students in all music disciplines. Exploration of the concepts of improvisation in the varied settings of ethnic/world music, jazz, and contemporary classical music. 3 units.

MUCA 220

Jazz Improvisation I

An introduction to the fundamentals of jazz improvisation. Exploration of jazz repertoire through scale/chord/mode associations, rhythmic and linear development, and solo transcription/analysis. 3 units.

Prerequisite: MUTH 240

MUCA 221

Jazz Improvisation II

Continued exploration of jazz repertoire using more complex forms and progressions, intermediate linear concepts, and solo transcription/analysis. 3 units.

Prerequisite: MUCA 220

MUCA 222

Jazz Improvisation III

Advanced study of jazz repertoire employing contemporary techniques, advanced linear concepts, and solo transcription/analysis. 3 units.

Prerequisite: MUCA 221

MUCA 250

Introductory Composition

Composition of small forms in various media such as trios and quartets for strings, brass, or winds; art songs; and piano music. Theory/composition majors must complete a minimum of two terms. 3 units per term.

Prerequisite: MUTH 251

MUCA 331

Jazz Composition and Arranging I

Essentials of composing jazz music and writing for the jazz small group. Fundamentals of notation, orchestration, rhythmic embellishment, melodic development, jazz harmony, vertical sonorities, basic forms, 2-5 part densities. 3 units.

Prerequisite: MUTH 240

MUCA 332

Jazz Composition and Arranging II

Intermediate composition and arranging concepts for expanded jazz ensembles. 3 units.

Prerequisite: MUCA 331

MUCA 333

Jazz Composition and Arranging III

Advanced jazz writing projects. 3 units.

Prerequisite: MUCA 332

MUCA 350

Intermediate Composition

A continuation of MUCA 250, with emphasis on larger forms. Theory/composition majors must complete a minimum of two terms. 3 units per term.

Prerequisites: MUTH 301 and at least two terms of MUCA 250

MUCA 530

Advanced Jazz Writing Skills

A continuation of MUCA 331, 332, 333 through private instruction. May be repeated for credit. 3 units.

Prerequisites: MUCA 333 and admission to an emphasis in jazz studies or consent of instructor.

MUCA 550

Advanced Composition

Composition in various forms and for various media, culminating in at least one work for large ensemble.

Theory/composition majors must complete a minimum of two terms. 3 units per term.

Prerequisite: Two terms minimum of MUCA 350

MUCA 390, 590, 690

Tutorial Studies

Variable credit.

MUCA 595, 695

Academic Internship

An experience-based project in music developed in consultation with a designated supervisor and a conservatory faculty member, comprising a work component and an academic component. The academic component of the internship, carried out under the supervision of the faculty member, may include readings related to the substance of the internship, discussions with the faculty member, and a written report or other culminating project appropriate to the discipline. A proposal must be submitted to the Conservatory Committee on Administration by the end of the fifth week of the term before the start of the internship. Variable credit.

MUCA 599, 699

Independent Study

Students considering an honors project should register for independent study for one or more terms (see "Honors at Graduation," Page 275). Variable credit.

Ensemble performance study

Note: A maximum of 12 units of major ensemble may apply toward the Bachelor of Music degree, except when required by the major. Major ensembles are Concert Choir, Lawrence Women's Choir, Lawrence Chorale, Music Theatre, Wind Ensemble, Symphonic Band, Symphony Orchestra, Jazz Ensemble, and Jazz Band.

MUEN 215

Vocal Jazz Ensemble

Study and performance of music for vocal ensemble in the jazz idiom. Membership determined by audition. 1 unit.

MUEN 230

Percussion Ensemble

Open to all students by audition. Performance of contemporary percussion chamber music, including music written specifically for mallet ensembles. 1 unit.

MUEN 235

Improvisation Group

Solo and group improvisation without stylistic boundaries. Membership determined by audition. 1 unit.

MUEN 240

Collegium Musicum

An ensemble of instrumentalists and singers devoted to the study and performance of Medieval, Renaissance, and Baroque music. 1 unit.

MUEN 245

Chamber Music

A study of ensemble playing through repertoire selected according to the interests and capability of the students. A maximum of 6 units, beyond departmental requirements, may apply to degree requirements. 1 unit.

Prerequisite: Consent of instructor and student's applied teacher

MUEN 248

Jazz Small Group Studies

Year-long study and performance of jazz small group repertoire for ensembles chosen by audition. A maximum of 6 units of jazz small group (chamber) music, beyond departmental requirements, may apply to degree requirements. 1 unit.

Prerequisite: Consent of instructor and student's applied teacher

MUEN 250

Supervised Accompanying

Supervised accompanying in a voice or instrumental studio. To include attendance at lessons as determined by the supervising teacher and at least two hours of rehearsal weekly. Repertoire must be approved by both the pianist's applied teacher and

the other studio teacher involved. 1 unit.

Prerequisite: Consent of instructor and student's applied teacher

MUEN 270

Lawrence Choral

Introductory choral experience open to all students of the university. 1 unit.

MUEN 272

Lawrence Women's Choir

An advanced women's ensemble that studies and performs music of all historical periods. Open to all women of the university by audition. 1 unit.

MUEN 275

Lawrence Concert Choir

An advanced choral ensemble that studies and performs music of all historical periods. Open to all students of the university by audition. 1 unit.

MUEN 280

Introduction to Music Theatre I

Preparation for the singing actor. "Theatre games," monologue, aria, improvisation. Reading and journal writing. No credit.

MUEN 281

Introduction to Music Theatre II

Continuation of MUEN 280. 1 unit.

Prerequisite: MUEN 280

MUEN 282

Music Theatre Production Preparation

Experience in musical and dramatic aspects of performance, especially preparation of characters, language, and music from the selected production. 1 unit.

Prerequisite: MUEN 281 or consent of instructor

MUEN 283

Music Theatre Performance

Final preparation and performance of an operatic or music theatre production. 1 unit.

MUEN 284

Music Theatre Workshop

Arias, songs, ensembles from all musical genres prepared for public presentation. 1 unit.

Prerequisite: MUEN 281 or consent of instructor

MUEN 285

Wind Ensemble

A select group chosen by audition. Emphasis on wind repertoire with one player per part. 1 unit.

MUEN 286

Wind Ensemble/Symphonic Band – Percussion

Membership determined by audition. 1 unit.

MUEN 287

Symphonic Band

Study and performance of music written for concert or symphonic band. Membership determined by audition. 1 unit.

Note: Although students may participate in both Wind Ensemble and Symphonic Band and receive credit for both, only 1 unit of this participation per term may apply toward satisfying degree requirements.

MUEN 290

Symphony Orchestra

Membership determined by audition. 1 unit.

MUEN 293

Jazz Band

Membership determined by audition. 1 unit.

MUEN 295

Jazz Ensemble

Membership determined by audition. 1 unit.

MUEN 410

Advanced Wind Quintet Studies

Year-long study and performance of advanced wind quintet repertoire for an ensemble chosen by audition. A maximum of 6 units of chamber music, beyond departmental requirements, may apply to degree requirements. 1 unit per term.

Prerequisite: Consent of instructor and student's applied teacher

MUEN 420

Advanced Brass Quintet Studies

Year-long study and performance of advanced brass quintet repertoire for an ensemble chosen by audition. A maximum of 6 units of chamber music, beyond departmental requirements, may apply to degree requirements. 1 unit per term.

Prerequisite: Consent of instructor and student's applied teacher

MUEN 430

Advanced Saxophone Quartet Studies

Year-long study and performance of advanced saxophone quartet repertoire for an ensemble chosen by audition. A maximum of 6 units of chamber music, beyond departmental requirements, may apply to degree requirements. 1 unit per term.

Prerequisite: Consent of instructor and student's applied teacher

Music education and pedagogy

MUEP 120

Basic Audio Recording

Fundamentals of audio recording, providing a basic knowledge of essential recording theory, skills, and techniques. 1 unit.

Prerequisite: Consent of instructor

MUEP 210

Pedagogical Theory and Practice: Instrumental

An introduction to individual instrumental instruction. Directed reading and discussion concerning instrumental technique and pedagogy, learning theory, and lesson planning. Includes in-class teaching and observation of experienced teachers. Successful completion of this course is required prior to admission to the music education areas of instrumental, instrumental/general, and choral/general/ instrumental. 1 unit.

Prerequisite: Consent of instructor

MUEP 231, 232

Vocal Proficiency and Pedagogy I, II

An introduction to and practicum on the basics of vocal technique and pedagogy. Emphasis on techniques of breathing, phonation, and vowel formation and the building of resonance and range. Two-term sequence, taken in conjunction with MUEN 270 (students may elect to substitute MUEN 275 or MUEN 272, by audition). 1 unit per term.

Prerequisite: Sophomore standing

MUEP 240

General Music Methods I

Philosophy, principles, and procedures of early childhood music education, grades pre-K-3. Includes basic musicianship skills, understanding and implementation of Kodály, Orff, and Dalcroze methodologies. Laboratory observations and experiences with young children. 6 units.

Enrollment limit: 12

Prerequisite: MUTH 251 or consent of instructor

MUEP 245

Instrumental Pedagogy

An introduction to individualized instrumental instruction. Directed reading and discussion concerning instrumental technique and pedagogy, learning theory, and lesson planning. Includes supervised teaching of private lessons and observation of experienced teachers. 3 units.

Enrollment limit: 6

Prerequisite: Sophomore standing and consent of instructor

MUEP 250

High String Pedagogy I

An introduction to violin and viola teaching for elementary-level students. Directed reading and discussion concerning technique and pedagogy, learning theory, and lesson planning. Includes supervised teaching of private lessons and observation of experienced teachers. 3 units.

Enrollment limit: 6

Prerequisite: Consent of instructor

MUEP 251

High String Pedagogy II

An introduction to violin and viola teaching for intermediate- and advanced-level students. Includes supervised teaching of private lessons and observation of experienced teachers. 3 units.

Enrollment limit: 6

Prerequisite: MUEP 250

MUEP 252

Cello Pedagogy

An introduction to cello teaching. Directed reading and discussion concerning technique and pedagogy, learning theory, and lesson planning. Includes supervised teaching of private lessons and observation of experienced teachers. 3 units.

Enrollment limit: 6

Prerequisite: Consent of instructor

MUEP 260

Wind Pedagogy

An introduction to individualized wind instrument instruction. Directed reading and discussion concerning wind instrument technique and pedagogy, learning theory, and lesson planning. Includes supervised teaching of private lessons and

observation of experienced teachers. 3 units.

Enrollment limit: 6

Prerequisite: Sophomore standing and consent of instructor

MUEP 261

Flute Pedagogy

An introduction to teaching the flute. Directed reading and discussion concerning technique and pedagogy, learning theory, and lesson planning. Includes supervised teaching of private lessons and observation of experienced teachers. 3 units.

Enrollment limit: 6

Prerequisite: Sophomore standing and consent of instructor

MUEP 301, 302, 303

Piano Pedagogy I, II, III

An introduction to piano teaching. Study of learning process and teaching methods and materials. Work with lesson and curriculum planning and instructional techniques for both groups and individuals, from average-age beginners through intermediate-level students. Required observation of experienced teachers and supervised teaching. 3 units per term; credit for MUEP 301 awarded upon completion of MUEP 302.

Prerequisite: Sophomore standing or consent of instructor

MUEP 305

Jazz Pedagogy

Structured to prepare teachers of elementary, middle school, and high school students. Jazz education philosophies, teaching improvisation/aural skills/interaction, fostering composition/arranging in the school program, small group development, large ensemble rehearsal techniques, repertoire/programming, and public presentation. 1 unit.

Prerequisite: Junior standing or consent of instructor

MUEP 307

Instrumental Techniques for the Choral Major

An overview of woodwind, brass, string, and percussion instrument families, with discussion of solutions to common problems encountered when dealing with these instruments. 1 unit.

Prerequisite: MUTH 301

MUEP 308

String Pedagogy for Music Educators

A course for students seeking instrumental music teacher certification whose major emphasis is strings. Topics include study of several major string pedagogy concepts, including those of Suzuki, Rolland, and Rabin. 1 unit.

Prerequisite: MUEP 401

MUEP 310

Brass Techniques

An introduction to the teaching of brass instruments, with emphasis on teaching principles and their application to school music. Theoretical and practical playing knowledge of all brass instruments required. Discussion and evaluation of method, materials, and literature. 3 units.

Enrollment limit: 8

Prerequisite: Sophomore standing

MUEP 315

Percussion Techniques

An introduction to the teaching of percussion instruments, with emphasis on teaching principles and their application to school music. Theoretical and practical playing knowledge of all percussion instruments required. Required observation, discussion, and evaluation of method, materials, and literature. 3 units.

Enrollment limit: 8

Prerequisite: Junior standing

MUEP 321, 322

Woodwind Techniques I, II

A study of the woodwind instruments, with emphasis on teaching principles and their application to school music. 3 units per term.

Enrollment limit: 8

Prerequisite: Sophomore standing

Laboratory fee

MUEP 331, 332

String Techniques I, II

Class instruction in all bowed string instruments, with emphasis on teaching principles and their application to string classes in elementary and secondary schools. Non-sequential; can be taken in either order. 3 units per term.

Enrollment limit: 8

Prerequisite: Sophomore standing

MUEP 350

General Music Methods II

Philosophy, principles, and procedures of elementary music education, grades 4-6. Includes basic musicianship skills, understanding and implementation of Kodály, Orff, and Dalcroze methodologies. Laboratory observations and experiences with young children. 6 units.

Enrollment limit: 12

Prerequisite: MUEP 240

MUEP 370

General Music Practicum

A pre-student-teaching opportunity to integrate coursework in general music with practical teaching experience in grades K-12. Two and one-half hours of teaching per week with weekly conferences with instructor. Teaching hours will count toward the 100 clock-hour pre-student teaching mandated by the State of Wisconsin. 3 units.

Enrollment limit: 5

Prerequisite: Junior standing and MUEP 350

MUEP 371

Vocal Pedagogy I

An introduction to the science and pedagogy of singing, emphasizing the physiology and pedagogy of respiration for singing, the voice source, vocal acoustics, and registration. The application of voice science to pedagogy, issues of pedagogical philosophy and psychology, vocal line, vocal vibrato, and vocal hygiene also are introduced. 3 units awarded upon completion of MUEP 372.

Prerequisite: Junior standing or consent of instructor

MUEP 372

Vocal Pedagogy II

A continuation of MUEP 371. Supervised student teaching with weekly lab discussions on issues arising from the teaching experience. 1 unit.

Prerequisite: MUEP 371

MUEP 380

Conducting Principles

An introduction to choral and instrumental conducting: baton and rehearsal techniques, and score-reading (utilizing aural and keyboard skills). Lab required. 6 units.

Enrollment limit: 12

Prerequisites: Sophomore standing, MUTH 301, and

MURP 203

MUEP 401

Instrumental Methods and Rehearsal Techniques

Principles, procedures, and philosophy for organizing, administering, and teaching in orchestra and band programs at the elementary, middle, and senior high levels. Synthesis and expansion of music and education courses previously taken by music education students. Development of a practical yet comprehensive method for teaching instrumental music. 6 units.

Prerequisite: Junior standing, MUEP 380

MUEP 402

Choral Techniques, Rehearsal Procedures, and Repertoire

A study of rehearsal techniques, repertoire, and good singing habits as they relate to choral ensemble and general music programs. Laboratory experience in local junior and senior high schools. 6 units.

Prerequisites: Junior standing, MUEP 380

MUEP 451

Music Education Pedagogy: Instrumental

A continuation of instrumental conducting studies; rehearsal technique; aural, vocal, and written score analysis; improvisation; and principles of vocal scoring, instrumentation, and orchestration. Specific topics pertinent to the student's emphasis addressed. Required participation in instrumental lab. 6 units.

Prerequisites: MUEP 401

MUEP 452

Music Education Pedagogy: Choral/General

A continuation of choral conducting studies; rehearsal technique; aural, vocal, and written score analysis; improvisation; and principles of vocal scoring, instrumentation, and orchestration. Specific topics pertinent to the student's emphasis addressed. Required participation in choral lab. 6 units.

Prerequisites: MUEP 402

MUEP 502

Early Advanced Piano Pedagogy

A course in how to teach the advancing pianist, with a survey of piano literature for the pre-college student. Readings on style, technique, form, and practice techniques. Required observation of conservatory piano faculty. 3 units.

Prerequisite: MUEP 303

Offered in 2003-04 and alternate years thereafter

MUEP 503

Group Piano Pedagogy

Study of different types of group teaching situations: in the schools, independent studios, different age and special-interest groups, repertoire classes. Techniques for teaching in the electronic piano laboratory. 3 units.

Prerequisite: MUEP 303

Offered in 2004-05 and alternate years thereafter

MUEP 505

Internship in Piano Pedagogy

Internship in independent studio teaching. Opportunity to integrate coursework in piano pedagogy with practical experience in an independent piano studio. Exploration of the business and professional aspects of establishing an independent teaching studio. Studio placement must be approved by instructor. 3 units.

Prerequisite: MUEP 581

MUEP 581, 582

Student Teaching in Piano I, II

Supervised teaching in the Lawrence Academy of Music. Includes weekly conferences with the pedagogy instructor. 3 units per term.

Prerequisite: MUEP 303

MUEP 680

Student Teaching

Practice teaching in the schools of the Fox Valley community. Experience available in upper and lower grades. 18 units.

Prerequisites: Completion of all methods courses and consent of instructor

MUEP 390, 590, 690

Tutorial Studies

Variable credit.

MUEP 595, 695

Academic Internship

An experience-based project in music developed in consultation with a designated supervisor and a conservatory faculty member, comprising a work component and an academic component. The academic component of the internship, carried out under the supervision of the faculty member, may include readings related to the substance of the

internship, discussions with the faculty member, and a written report or other culminating project appropriate to the discipline. A proposal must be submitted to the Conservatory Committee on Administration by the end of the fifth week of the term before the start of the internship. Variable credit.

MUEP 599, 699

Independent Study

Students considering an honors project should register for independent study for one or more terms (see "Honors at Graduation," Page 275). Variable credit.

Music history

MUHI 100

Introduction to Music Literature

Lectures and guided listening for the non-music major, introducing musical materials, basic musical concepts, and a variety of styles and types of music. Consideration of the place of music in society, past and present. Does not satisfy course requirements for any music major. 6 units.

MUHI 120

Introduction to Jazz History

An exploration of the musical development and cultural impact of jazz from its origins to the present for students not majoring in music. Lectures, films, and readings provide historical details. Does not satisfy course requirements for any music major. 6 units.

MUHI 140

Russian Culture Through Music

Important issues and episodes in Russian cultural history, explored through the prism of 19th- and 20th-century orchestral music, opera, and ballet. Themes include: Russia's ambiguous self-identity *vis-a-vis* the West, Russia's ambivalence toward Central Asia, and the uneasy partnership between Russian Orthodoxy and nationalism. No knowledge of Russian required. 6 units.

Also listed as Russian 330

MUHI 201

Music History Survey I

A survey of Western music and introduction to the historical study of musical styles from the Middle Ages through the late 17th century. Music majors are

encouraged to enroll during the sophomore year.
6 units.

Prerequisite: MUTH 251 or consent of instructor

MUHI 202

Music History Survey II

A survey of Western music and musical styles from the early 18th century to the present. Music majors are encouraged to enroll during the sophomore year.
6 units.

Prerequisite: MUHI 201 or consent of instructor

MUHI 380

Jazz History

A study of the contributions of select jazz artists through analysis of recordings, historical films, solo transcriptions, scores, and readings from texts. 6 units.

Prerequisite: MUHI 202 or consent of instructor

MUHI 411

Aesthetics of Music

A study of what can reasonably be said or written about music, critically examining many of the typical late Western assumptions often made of it, *e.g.*, that music is an art, that it involves the production of works, that it is expressive, that it is a universal language. Open to music majors and non-majors. Previous music study helpful but not required. 6 units.

Enrollment limit: 18

Prerequisite: Sophomore standing

MUHI 440

Topics in Music History: Life and Works

A study of a composer's career, emphasizing the relationship between composer and society. Topics in this series vary from year to year; recent topics have included Shostakovich. May be repeated with consent of instructor. 6 units.

Enrollment limit: 20

Prerequisite: MUHI 202

MUHI 450

Topics in Music History: Genre History

An examination of the historical development of a single genre, stressing the effects of societal changes. Topics in this series vary from year to year; recent topics have included "Opera, Drama, and Politics in Europe from 1900-50" and "History of the String Quartet." May be repeated with consent of instructor. 6 units.

Enrollment limit: 20

Prerequisite: MUHI 202

MUHI 460

Topics in Music History: Cultural Moments

A study of a particular time and place, examining the relationship between social institutions, intellectual ideas, and music products. Topics in this series vary from year to year; recent topics have included "America after Modernism" and "Music and Czech Nationalism." May be repeated with consent of instructor. 6 units.

Enrollment limit: 20

Prerequisite: MUHI 202

MUHI 390, 590, 690

Tutorial Studies

Variable credit.

MUHI 595, 695

Academic Internship

An experience-based project in music developed in consultation with a designated supervisor and a conservatory faculty member, comprising a work component and an academic component. The academic component of the internship, carried out under the supervision of the faculty member, may include readings related to the substance of the internship, discussions with the faculty member, and a written report or other culminating project appropriate to the discipline. A proposal must be submitted to the Conservatory Committee on Administration by the end of the fifth week of the term before the start of the internship. Variable credit.

MUHI 599, 699

Independent Study

Students considering an honors project should register for independent study for one or more terms (see "Honors at Graduation," Page 275). Variable credit.

Applied music individual instruction

Private instruction for credit is offered in the following areas: piano, organ, voice, violin, viola, violoncello, doublebass, guitar, flute, oboe, clarinet, saxophone, bassoon, horn, trumpet, trombone, euphonium, tuba, harpsichord, percussion, jazz studies. This instruction is available by permission of instructor, based on interview or audition. Studio assignment and placement for Bachelor of Music degree candidates are determined upon

CONSERVATORY OF MUSIC

matriculation. Students requesting non-required private lessons are accommodated to the extent faculty schedules permit.

Credit

Credit is granted as follows: with the exception of MUIN 102-120 (see below), 3 units per term for one 1/2-hour lesson per week; 6 units per term for a one-hour lesson per week; 6 units maximum in any one course.

MUIN 102-120

Elementary

Individual year-long instruction for B.A. beginning students not majoring in music. 2 units per term for one 1/2-hour lesson per week. Credit awarded only on completion of three terms in a single academic year.

102	Organ	112	Saxophone
103	Voice	113	Bassoon
104	Violin	114	Horn
105	Viola	115	Trumpet
106	Cello	116	Trombone
107	Doublebass	117	Euphonium
108	Guitar	118	Tuba
109	Flute	119	Harpsichord
110	Oboe	120	Percussion
111	Clarinet		

MUIN 200-220

B.A. Non-Major

Individual instruction for Bachelor of Arts students studying instrument as an elective

200	Jazz	211	Clarinet
201	Piano	212	Saxophone
202	Organ	213	Bassoon
203	Voice	214	Horn
204	Violin	215	Trumpet
205	Viola	216	Trombone
206	Cello	217	Euphonium
207	Doublebass	218	Tuba
208	Guitar	219	Harpsichord
209	Flute	220	Percussion
210	Oboe		

MUIN 230-250

B.A. Music Major Pre-Q

Individual instruction for Bachelor of Arts students intending to major in music, prior to successful completion of the qualifying examination for the major

230	Jazz	241	Clarinet
-----	------	-----	----------

231	Piano	242	Saxophone
232	Organ	243	Bassoon
233	Voice	244	Horn
234	Violin	245	Trumpet
235	Viola	246	Trombone
236	Cello	247	Euphonium
237	Doublebass	248	Tuba
238	Guitar	249	Harpsichord
239	Flute	250	Percussion
240	Oboe		

MUIN 260-280

B.Mus. Second Instrument

Individual instruction on secondary instrument for Bachelor of Music students

260	Jazz	271	Clarinet
261	Piano	272	Saxophone
262	Organ	273	Bassoon
263	Voice	274	Horn
264	Violin	275	Trumpet
265	Viola	276	Trombone
266	Cello	277	Euphonium
267	Doublebass	278	Tuba
268	Guitar	279	Harpsichord
269	Flute	280	Percussion
270	Oboe		

MUIN 330-350

B.A. Music Major Post-Q

Individual instruction on major instrument for Bachelor of Arts music majors, after successful completion of the qualifying examination for the major

330	Jazz	341	Clarinet
331	Piano	342	Saxophone
332	Organ	343	Bassoon
333	Voice	344	Horn
334	Violin	345	Trumpet
335	Viola	346	Trombone
336	Cello	347	Euphonium
337	Doublebass	348	Tuba
338	Guitar	349	Harpsichord
339	Flute	350	Percussion
340	Oboe		

MUIN 360-380

B.Mus Pre-Q

Individual instruction on major instrument for all Bachelor of Music students, prior to successful completion of the qualifying examination for the major

360	Jazz	371	Clarinet
-----	------	-----	----------

361	Piano	372	Saxophone
362	Organ	373	Bassoon
363	Voice	374	Horn
364	Violin	375	Trumpet
365	Viola	376	Trombone
366	Cello	377	Euphonium
367	Doublebass	378	Tuba
368	Guitar	379	Harpsichord
369	Flute	380	Percussion
370	Oboe		

MUIN 460-480

B.Mus. Non-Performance Post-Q

Individual instruction on major instrument for Bachelor of Music students whose major is other than performance (*i.e.*, music education, theory/composition, student-designed), after successful completion of the qualifying examination for the major

460	Jazz	471	Clarinet
461	Piano	472	Saxophone
462	Organ	473	Bassoon
463	Voice	474	Horn
464	Violin	475	Trumpet
465	Viola	476	Trombone
466	Cello	477	Euphonium
467	Doublebass	478	Tuba
468	Guitar	479	Harpsichord
469	Flute	480	Percussion
470	Oboe		

MUIN 560-580

B.Mus. Performance Post-Q

Individual instruction on major instrument for Bachelor of Music students whose major is performance, after successful completion of the qualifying examination for the major

560	Jazz	571	Clarinet
561	Piano	572	Saxophone
562	Organ	573	Bassoon
563	Voice	574	Horn
564	Violin	575	Trumpet
565	Viola	576	Trombone
566	Cello	577	Euphonium
567	Doublebass	578	Tuba
568	Guitar	579	Harpsichord
569	Flute	580	Percussion
570	Oboe		

Music repertoire and performance studies

MURP 101

Elementary Piano

A beginning piano course for students without formal piano study and those returning to piano study after an extended absence. Reading of musical notation, terms, and symbols; basic technique; basic keyboard theory; exploration of diverse repertoire. Does not satisfy requirements of any music major. 2 units per term, awarded only upon completion of three terms of study.

Enrollment limit: 9

Consent of instructor required to ensure proper placement

MURP 151

Intermediate piano

Intermediate-level piano class for students who have completed MURP 101 or have reached a similar level of advancement. Does not satisfy requirements of any music major. 2 units per term, awarded only upon completion of three terms of study.

Enrollment limit: 9

Placement determined by audition (two pieces in contrasting styles, at least the level of the Bach Minuets or the easiest Schumann pieces from *Album for the Young*); consent of instructor required to ensure proper placement

MURP 161

Organ Class

An introduction to organ study for students who have achieved at least the intermediate level of piano studies. The course will include development of coordination between manuals and pedals, performance practice, and style issues for Early and Romantic music, improvisation, and hymn playing. 3 units.

Enrollment limit: 6

Prerequisite: Consent of instructor

MURP 201, 202, 203

Basic Keyboard Skills I, II, III

Sight-reading, keyboard harmony, transposition, improvisation, technique, and selected repertoire. Students must demonstrate proficiency at each level before advancing to the next level. Completion of MURP 203 or demonstrated equivalent required of all Bachelor of Music degree candidates and Bachelor of Arts degree candidates with a major in music. Audition for placement required. 1 unit per term.

Note: Required in the freshman year of all Bachelor of Music degree students whose performance area is not a keyboard instrument. BKS grades are factored into grade-point averages, but credit does not apply toward requirements for the Bachelor of Music degree. BKS must be completed successfully by the end of the sophomore year. (Music majors are registered for BKS until the requirement has been completed.) Students who do not complete requirements in four terms of study are charged a fee of \$75 in each successive term until all requirements are met.

MURP 211, 212

Keyboard Skills for Music Educators I, II

Upper-level keyboard proficiency course for students enrolling in a music education emphasis that includes general music. Students must successfully complete this course not later than the end of Term II of the sophomore year. 1 unit per term.

Enrollment limit: 9

Prerequisite: MURP 203 or the equivalent

MURP 271

Introduction to Vocal Studies

An overview of classical singing, including anatomy and physiology of the voice, basic vocal acoustics, voice health, and a brief history of western singing. No credit.

Prerequisite: Concurrent registration in voice lessons

MURP 272

English Singing Diction

An introduction to English singing diction, including identification of problematic American regionalisms and basic elements of English poetics. The International Phonetic Alphabet is learned as a tool for work in this and subsequent singing diction classes. No credit.

Prerequisite: Concurrent registration in voice lessons

MURP 273

Italian and Latin Singing Diction

An introduction to Italian singing diction with special attention given to sounds problematic for English speakers. Brief study of the pronunciation of ecclesiastical Latin. No credit.

Prerequisite: Concurrent registration in voice lessons

MURP 274

German Singing Diction

An introduction to German singing diction, with special attention to sounds problematic for English speakers. Expressive use of the language in Lied interpretation begun. No credit.

Prerequisite: Concurrent registration in voice lessons

MURP 275

French Singing Diction

An introduction to French singing diction, with special attention to sounds problematic for English speakers. Expressive use of the language, using appropriate *mélodie* texts, begun. No credit.

Prerequisite: Concurrent registration in voice lessons

MURP 276

Recitative

An introduction to the performance practices of the pre-Romantic recitative, emphasizing the *secco* style. Critical listening to a variety of recorded examples and individualized selection, preparation, and coaching of appropriate examples of Baroque and Classic recitatives. No credit.

Prerequisite: Concurrent registration in voice lessons

MURP 280

Introduction to Vocal Jazz Techniques

An introduction to vocal jazz techniques through the study and performance of five or six songs that will be manipulated rhythmically, melodically, and stylistically. Listening and improvisation will be included. 1 unit.

Prerequisite: Consent of instructor

MURP 301, 302

Functional Skills for Keyboard Majors I, II

Development of functional keyboard skills. Sight-reading, score-reading, transposition, keyboard harmony, playing by ear, improvisation, and conducting from the keyboard. FKS grades are factored into grade-point averages, but credit does not apply toward requirements for the Bachelor of Music degree. 1 unit per term.

MURP 311, 312, 313

Fretboard Harmony for the Classical Guitarist

Study of intervals, chord construction, and voice leading, using exercises and examples from the standard guitar repertoire. Practical application to sight-reading, arranging, memorization, and articulation of musical ideas. 1 unit per term.

Open to all guitar students and to others by consent

of instructor

MURP 320

Functional Jazz Piano

An introduction to jazz piano voicings, basic piano comping techniques, and the role of the keyboard in the jazz rhythm section. Designed to accommodate upperclass students who have been admitted to the Bachelor of Music degree program with an emphasis in jazz studies, sophomore Bachelor of Music students planning to apply for the emphasis in jazz studies, and experienced student jazz performers with consent of instructor. 3 units.

Enrollment limit: 9

Prerequisite: MUCA 222 or consent of instructor

MURP 410

Harpichord Accompaniment

Rudimentary technique of the instrument, care and upkeep of the harpsichord, basic registration, continuo realizations, obbligato accompaniment, and beginning Baroque performance practice. Lectures, demonstrations, and practical application. 1 unit.

Prerequisite: Sophomore standing, primary instrument is keyboard, or consent of the instructor

MURP 420

Piano Accompaniment: Vocal

Vocal accompanying for the advanced pianist, including art song, opera recitative, and aria. Performances required of all participants. 3 units.

Prerequisite: Consent of instructor

Offered in 2003-04 and alternate years thereafter

MURP 425

Piano Accompaniment: Instrumental

Instrumental accompanying for the advanced pianist, including duo sonatas and concerto orchestral reductions. Performances required of all participants. 3 units.

Prerequisite: Consent of instructor

Offered in 2003-04 and alternate years thereafter

MURP 440

Survey of Organ Literature, Design, and Performance Practice

A historical review of the development of the organ and its music from the 14th century to the present. Emphasis on the formation of the various national styles and performance options. Lectures, readings, live and recorded listening. 3 units.

Prerequisite: Organ major or consent of instructor

Not offered in 2003-04

MURP 451, 452

Literature of the Piano I, II

A two-term historical survey of the repertoire from 1600 to the present, with consideration of performance practice and broader historical context. Lectures, readings, listening, analysis, performance, and written assignments. 6 units per term.

Prerequisite: Consent of instructor; MURP 451 is prerequisite to MURP 452

Offered in 2004-05 and alternate years thereafter

MURP 455

Vocal Literature

An introductory survey of the history and literature of the solo singer from antiquity to the present. 3 units.

Prerequisite: Junior standing or consent of instructor

MURP 460

Song Interpretation

A study of the interplay of text and music in performance of solo vocal literature. Particular emphasis on stylistic and interpretive problems through in-class performance. 3 units.

Prerequisite: Junior standing or consent of instructor

Not offered in 2003-04

MURP 510

Advanced Conducting

An advanced course in instrumental conducting techniques, study habits, score reading, solfège, and rehearsal techniques. Students are individually assigned appropriate orchestral scores to rehearse with the Lawrence Symphony Orchestra at end of the term. 6 units.

Prerequisites: Junior standing, MUEP 380, and consent of instructor

Not offered in 2003-04

MURP 390, 590, 690

Tutorial Studies

Variable credit.

MURP 595, 695

Academic Internship

An experience-based project in music developed in consultation with a designated supervisor and a conservatory faculty member, comprising a work component and an academic component. The

academic component of the internship, carried out under the supervision of the faculty member, may include readings related to the substance of the internship, discussions with the faculty member, and a written report or other culminating project appropriate to the discipline. A proposal must be submitted to the Conservatory Committee on Administration by the end of the fifth week of the term before the start of the internship. Variable credit.

MURP 599, 699

Independent Study

Students considering an honors project should register for independent study for one or more terms (see "Honors at Graduation," Page 275). Variable credit.

Music theory

MUTH 100

Music Theory for the Non-Major

An introduction to the fundamentals of music: notation, scales, intervals, chords, keys, and basic harmonic and contrapuntal concepts. Improvement of reading skills and performance through an understanding of music's structure and notation. Does not apply toward any music major. 3 units.

MUTH 151, 152

Music Fundamentals, Theory, and Analysis 1, 2

An intensive version of MUTH 201, 202, this course provides a thorough grounding in music fundamentals followed by a comprehensive introduction to tonal harmony, counterpoint, and associated formal procedures. The two terms are taken in sequence. Placement determined by the Music Theory Placement Exam (administered during Welcome Week). 6 units each.

Corequisites: MUTH 161, 171 (for MUTH 151); MUTH 162, 172 (for MUTH 152)

MUTH 161, 162

Aural Skills Fundamentals 1, 2

Intensive ear training commensurate with MUTH 151, 152. Taken in sequence. Placement determined by the Music Theory Placement Exam (administered during Welcome Week). 2 units each. Credit does not count toward the B.Mus degree.

Corequisites: MUTH 151, 171 (for MUTH 161); MUTH 152, 172 (for MUTH 162)

MUTH 171, 172

Sight Singing Fundamentals 1, 2

Sight singing commensurate with MUTH 151, 152.

Placement determined by placement into the corequisite course. 1 unit each. Credit does not count toward the B.Mus. degree.

Corequisites: MUTH 151, 161 (for MUTH 171); MUTH 152, 162 (for MUTH 172)

MUTH 201, 202

Music Theory and Analysis 1, 2

A comprehensive introduction to the structural principles and compositional techniques of art music from the 18th and 19th centuries. Emphasis on diatonic harmony and elementary counterpoint through written exercises, model composition, and analysis. Introduction to the basic formal procedures associated with tonal music. Taken in sequence, these are the first two courses in the five-term music theory core. Placement determined by the Music Theory Placement Exam (administered during Welcome Week). 4 units each.

Corequisites: MUTH 211 and 221 (for MUTH 201); MUTH 212 and 222 (for MUTH 202)

MUTH 211, 212

Aural Skills 1, 2

Ear training commensurate with MUTH 201, 202.

Melodic, harmonic, and contrapuntal dictation, error detection, and aural perception of basic formal procedures. Taken in sequence. Placement and section assignment determined by the Music Theory Placement Exam (administered during Welcome Week). 1 unit each.

Corequisites: MUTH 201, 221 (for MUTH 211); MUTH 202, 222 (for MUTH 212)

MUTH 221, 222

Sight Singing 1, 2

Sight singing commensurate with MUTH 201, 202. Solo and ensemble singing using solfège; treble and bass clefs only. One- and two-part rhythmic exercises. Improvisation. Taken in sequence. Placement and section assignment determined by sight-singing audition (conducted during Welcome Week). 1 unit each.

Corequisites: MUTH 201, 211 (for MUTH 221); MUTH 202, 212 (for MUTH 222)

MUTH 240

Jazz Theory and Aural Training

A comprehensive introduction to jazz scales, modes, chords, harmonic progressions, nomenclature, and notation. Emphasis on linking essential jazz theoretic functions to performance practice, composition, and arranging. 3 units.

MUTH 251, 252

Music Theory and Analysis 3, 4

Continued study of the harmonic techniques and structural principles of tonal music, with emphasis on chromatic harmony and contrapuntal elaboration through written exercises, model composition, and analysis. Introduction to large-scale formal procedures associated with 18th- and 19th-century art music. Part of the five-term music theory core, taken in sequence. 4 units each.

Prerequisite: MUTH 202 or MUTH 152 or advanced placement

Corequisites: MUTH 261, 271 (for MUTH 251); MUTH 262, 272 (for MUTH 252)

MUTH 261, 262

Aural Skills 3, 4

Ear training commensurate with MUTH 251, 252. Continued work in melodic, harmonic, and contrapuntal dictation, error detection, and aural perception of basic forms of tonal music. Taken in sequence. Section assignment determined by the music theory/composition department. 1 unit each.

Prerequisite: MUTH 212 or MUTH 162 or advanced placement

Corequisites: MUTH 251, 271 (for MUTH 261); MUTH 252, 272 (for MUTH 262)

MUTH 271, 272

Sight Singing 3, 4

Sight singing commensurate with MUTH 251, 252. Continued solo and ensemble singing (modes, alto and tenor clefs added), rhythmic exercises, and improvisation. Taken in sequence. Section assignment determined by the music theory/composition department. 1 unit.

Prerequisite: MUTH 222 or MUTH 172 or advanced placement

Corequisites: MUTH 251, 261 (for MUTH 271); MUTH 252, 262 (for MUTH 272)

MUTH 301

Music Theory and Analysis 5

The final course in the music theory core curriculum. The first half of the course develops and refines analytic skills introduced earlier in the core, applying them to specific works of the tonal repertory. The second half provides an introduction to the structural principles and formal procedures of art music from the early 20th century to the present. 4 units.

Prerequisite: MUTH 252 or advanced placement

Corequisites: MUTH 311, 321

MUTH 311

Aural Skills 5

Ear training commensurate with MUTH 301. Section assignment determined by the music theory/composition department. 1 unit.

Prerequisite: MUTH 262 or advanced placement

Corequisites: MUTH 301, 321

MUTH 321

Sight Singing 5

Sight singing commensurate with MUTH 301. Section assignment determined by the music theory/composition department. 1 unit.

Prerequisite: MUTH 272 or advanced placement

Corequisites: MUTH 301, 311

MUTH 351

Topics in Music Analysis: Instrumental Genres 1

Advanced analysis of masterworks from a particular instrumental genre, one genre per term, to be chosen from symphony, concerto, and chamber music. 3 units.

Prerequisite: MUTH 301

MUTH 352

Topics in Music Analysis: Instrumental Genres 2

Advanced analysis of masterworks from a particular instrumental genre, one genre per term, to be chosen from symphony, concerto, and chamber music. 6 units.

Prerequisite: MUTH 301

Not offered in 2003-04

MUTH 353

Topics in Musical Analysis: Vocal Genres 1

Advanced analysis of masterworks from a particular vocal genre, one genre per term, to be chosen from art song, opera, and choral music. 3 units.

Prerequisite: MUTH 301

Not offered in 2003-04

MUTH 354

Topics in Music Analysis: Vocal Genres 2

Advanced analysis of masterworks from a particular vocal genre, one genre per term, to be chosen from art song, opera, and choral music. 6 units.

Prerequisite: MUTH 301

Not offered in 2003-04

MUTH 401

Counterpoint I

The first course in a two-term survey of the techniques of 18th-century counterpoint. Imitative and non-imitative counterpoint in two voices, leading to the composition of binary-form suite movements and two-voice inventions. Complementary work in analysis. 3 units.

Prerequisite: MUTH 301

Offered in 2003-04 and alternate years thereafter

MUTH 402

Counterpoint II

A continuation of MUTH 401. Imitative counterpoint in three and four voices, leading to the composition of a four-voice fugue. Complementary work in analysis. 3 units.

Prerequisite: MUTH 401

Offered in 2003-04 and alternate years thereafter

MUTH 411

Orchestration I

A study of the orchestral instruments, their capabilities, appropriate notation for each, and scoring for various small ensembles. 3 units.

Prerequisite: MUTH 252

Offered in 2004-05 and alternate years thereafter

MUTH 412

Orchestration II

A continuation of MUTH 411, examining the historical development of the orchestra. An arrangement or composition for full orchestra required as final project. 3 units.

Offered in 2004-05 and alternate years thereafter

MUTH 510

Analysis of 20th-Century Music

Studies of the styles and structural techniques of significant examples of 20th-century music. 6 units.

Prerequisite: MUTH 301

MUTH 520

Schenkerian Analysis

An introduction to the theory and analytical techniques of Heinrich Schenker (1868-1935) and his followers. Investigating what is perhaps the most influential theoretical paradigm yet developed for the analysis of tonal music, the course will explore both the theory and its associated graphic notation as applied to significant works of tonal music from Bach to Brahms. 6 units.

Prerequisite: MUTH 301 or consent of instructor

MUTH 190, 390, 590, 690

Tutorial Studies

Variable credit.

MUTH 195, 395, 595, 695

Academic Internship

An experience-based project in music developed in consultation with a designated supervisor and a conservatory faculty member, comprising a work component and an academic component. The academic component of the internship, carried out under the supervision of the faculty member, may include readings related to the substance of the internship, discussions with the faculty member, and a written report or other culminating project appropriate to the discipline. A proposal must be submitted to the Conservatory Committee on Administration by the end of the fifth week of the term before the start of the internship. Variable credit.

MUTH 199, 399, 599, 699

Independent Study

Students considering an honors project should register for independent study for one or more terms (see "Honors at Graduation," Page 275). Variable credit.

Recent tutorial topics in music

Vocal Pedagogy
Advanced String Pedagogy
Jazz Theory
Beethoven Symphonies
Advanced Horn Literature
Pulcinella
Nadia Boulanger
Music of Ghana and Brazil
Women in Music
Italian Renaissance Madrigals
Study of Ojibwe Music

STUDENT-INITIATED COURSES AND PROGRAMS



Tutorials

A tutorial is a course of study undertaken by an individual student or small group of students under the close supervision of a faculty member. According to arrangements specific to individual departments and interdisciplinary areas, students enrolling in tutorials explore in depth subjects of particular interest. Tutorial studies feature wide reading, individual experimentation, and oral and written reports, as well as regular conferences with the supervising faculty members. Tutorials, which must be titled, are an important supplement to regular course offerings, especially during the junior and senior years.

To illustrate the variety and scope of tutorial studies, many academic departments have listed a number of recent tutorial topics at the end of their departmental listings in the "Courses of Study" section of this catalog.

Independent study

Independent study varies from discipline to discipline in its composition and in the relationship between the student and faculty member. However, certain criteria may be applied to all. At the outset, the student and faculty member should define a clear goal, one to which they both subscribe. A student is entitled to know a faculty member's expectations for independent study, and a faculty member is entitled to expect a student's diligent compliance with the procedures mutually agreed upon when the project began.

For independent study lasting more than one term, the student and faculty member should discuss and assess progress at the end of each term. If either party concludes that it would not be beneficial for the student to continue the project, the student may be assigned a grade for completed or additionally assigned work and not be required to enroll for the next term.

Independent study can also designate advanced work taken for credit by a student who plans to submit an honors project.

Honors projects

Honors projects are coherent programs of independent work carried on by students, usually in their senior year, on subjects or problems of more than ordinary difficulty in areas that they have studied

in considerable depth, usually in their majors or closely related areas. Honors projects normally are supervised by faculty advisors in appropriate departments and may culminate in written theses based on extensive individual research or in pieces of original work in the creative or performing arts accompanied by written presentations. An examining committee evaluates the results of each project, conducts an oral examination of the honors candidate, and considers what constitutes the appropriate level of honors in view of the strengths and weaknesses of both the thesis and the oral defense. The Committee on Honors reviews the reports of all such examining committees and submits its recommendations for Honors in Independent Study to the faculty for final approval.

Since honors projects frequently complement students' work in their majors, they should discuss the opportunities for independent study with faculty members in their fields of concentration as early as possible in order to begin laying appropriate foundations in courses, tutorial work, and summer reading. In some fields, tutorials or courses in research methods can lead to the formulation of suitable thesis topics and methods of attack, while in other fields topics may stem from unanswered problems in regular courses, from students' own interests, or from teachers' suggestions. Whatever the field, students ought to keep in mind the possibility of doing honors projects as they plan their programs, especially in the junior year, or earlier if they will be off-campus at that time.

Students who need time or faculty guidance to undertake an honors project may register for Independent Study, a course open to any senior with the consent of the department concerned. Although normally taken for one unit of credit during each of two or three consecutive terms, this course may be elected for a shorter or longer period, or for two units in a single term, if special circumstances require such flexibility. Students receive grades for their work in Independent Study from their faculty advisors whether or not that work results in a thesis submitted for honors. Students do not have to take this course, however, in order to submit an honors project.

Jointly written projects or theses undertaken jointly may be submitted for Honors in Independent Study. The work involved in such cases, however,

must be equitably shared and demonstrate benefits clearly resulting from the merger of the authors' different skills and knowledge. Students considering joint projects or theses must obtain the consent of their faculty independent studies advisors and the Committee on Honors well in advance of such endeavors.

Procedures and guidelines

To apply for Honors in Independent Study, students must send to the Committee on Honors statements of their intentions to submit a thesis in candidacy for honors. These statements should include the Appleton addresses of the students, the topics of independent study, and both students' signatures and those of the faculty advisors. The final date for receipt of such statements of intent is announced each fall in a notice to all seniors; normally it falls in the first week of Term III. If students expect to complete their projects during Terms I or II, they must submit their statements of intent at least three weeks before the anticipated date for submission of their theses. No thesis will be considered for honors unless the committee has received such a statement of intent; however, statements do not obligate such students to submit theses.

Sufficient copies of the completed thesis, one for each member of the examining committee, including the Committee on Honors representative, are to be submitted to the Committee on Honors at a place and by a date and hour designated each year, usually falling within the first few days of May. Students who find themselves unable to meet this deadline may petition the Committee on Honors for extensions, but they must do so well in advance of the deadline. The committee usually approves such petitions only when circumstances beyond the candidate's control have arisen.

At this point, the honors thesis advisor, in consultation with the student, arranges for an oral examination of the thesis. Results of the examination must be reported to the Committee on Honors prior to its last meeting.

Although the Committee on Honors tries to keep its procedures as simple as possible, the extreme diversity of projects submitted for honors makes necessary certain clarifications and interpretations of the basic guidelines. Some statements concerning special types of projects and further details about the

committee's procedures are included here for reference by both faculty members and students.

The honors thesis

The thesis need not be of any special form or length, provided that its form is appropriate to the discipline to which it belongs. Students' advisors are responsible for providing guidance in regard to format and the conventions of scholarly documentation pertinent to their disciplines. Nevertheless, since all accepted theses are permanently retained in the Lawrence University library, their external form also is subject to a few standardized regulations suggested by the librarians and endorsed by the Committee on Honors. The chair of the committee may be consulted about these regulations.

Even though the committee permits candidates for honors to correct typographical errors or to make such other minor corrections as their examiners may require, it emphasizes that theses must be in final form when they are submitted early in May. Candidates must assume responsibility for accurate proofreading and checking of all quotations and references. Frequent misspellings, faulty punctuation or syntax, omitted references, or stylistic incoherence will disqualify projects despite the intrinsic merit they may otherwise exhibit.

The examining committee

The advisor, in consultation with the student and with the assent of the Committee on Honors, appoints an examining committee consisting of at least three voting faculty members, one of whom must be from outside the student's department; the advisor acts as one of the three voting members. In addition, the Committee on Honors assigns a faculty representative to act as the non-voting moderator during the examination. At the discretion of the advisor, after consultation with the student, another Lawrence faculty member or an outside expert who is uniquely qualified to shed insight into the quality of the project may also attend the examination. These individuals may not take part in the decision-making process.

Projects in the arts

Students interested in submitting an exhibition, performance, or work of art, music, theatre, or imaginative literature as an honors project must

follow the normal procedures for honors work outlined above and must be willing to engage in a discussion of their work. A written commentary — as prefatory essay, foreword, introduction, afterword, postscript, or critical review — must accompany any such creative work. In a manner appropriate to genre, form, and medium, it should treat the normal concerns of an intelligent and sensitive audience: aims and techniques, the limitations of the medium, formal and stylistic precedents, and acknowledged predecessors.

Projects involving testing of hypotheses

One important purpose of honors projects is to provide opportunities for professionals to evaluate students' knowledge of an area, their skill in employing that knowledge in experimentation, and their care and cleverness in approaching the task of testing their hypotheses. Thus, if a project allows these evaluations to be made, it should be considered for honors despite the vicissitudes of fortune that may attend the project. In particular, the failure to obtain significant positive results when testing an hypothesis or a network of hypotheses ought not to disqualify a candidate from achieving honors, provided that those professionally competent in the area agree that this failure was not due to a lack of care, to a lack of skill or knowledge in the field, or to a lack of competence in techniques of experimental design.

Mere diligence, on the other hand, is not a sufficient ground for the awarding of honors. Students whose projects have not achieved their expected results should give the best accounts they can of the ways in which they probed for additional operative variables that were uncontrolled in their previous experiments, of the reasons why the failures could not have been anticipated by skillful experimenters in the crucial beginning stages, and of their careful attempts to locate the difficulties.

Professional evaluations

The Committee on Honors avoids substituting its opinion for that of professionals on matters requiring professional competence for their evaluation. Nevertheless, the committee is of the firm opinion that the evaluation of honors candidates can and should be made independent of questions regarding whether a respected professional journal would

publish a particular thesis. In other words, Honors in Independent Study is not limited to students whose work would compete successfully with that of their professors for publication in professional journals.

Criteria for Honors in Independent Study

The following criteria are used in evaluating all Honors in Independent Study projects:

Cum Laude

Honors with distinction

To achieve honors, the project must fulfill all of the following criteria:

- a. Each of the three components of the project (the work, the written exposition, and the oral examination) demonstrates a substantial knowledge of, and facility with, previous work, underlying principles, and central concepts or theories in areas relevant to the project.
- b. The paper must clearly show that the student has established an original thesis or hypothesis, an original interpretation or analysis, a substantial and original synthesis or innovative pedagogical exposition of a sophisticated body of established work or has created a new work of art. In other words, the student must demonstrate that the project does not merely replicate, review, paraphrase, or compile previous work by others.
- c. The paper appropriately frames the original material in the project within the context of established work or relevant traditions in the discipline, provides documentation (e.g., bibliographic citations, tables and figures, illustrations) appropriate to the discipline, contains few and relatively minor grammatical or typographical flaws, is clear, well-organized, and stylistically sound.
- d. The work itself is of very high quality. The project has been carried out competently, diligently, independently, and in a manner that fulfills the basic standards of the discipline.
- e. The oral examination reaffirms the high quality of the work, the originality of the contribution, and the student's facility with relevant principles, concepts, and background material.

Magna Cum Laude**Honors with great distinction**

In addition to fulfilling the criteria described above, the project must fulfill all of the following criteria:

- a. Each of the three components of the project (the work, the written exposition, and the oral examination) demonstrates a level of mastery of, and facility with, relevant previous work, underlying principles, and central concepts or theories of which few undergraduates are capable, as well as a solid grasp of related but peripheral material.
- b. The thesis, interpretation, analysis, synthesis, pedagogical exposition, or creative endeavor encompassed by the project demonstrates unusual and substantial creativity, conceptual innovation, or theoretical sophistication (*i.e.*, an unusual degree of independence of thought) on the part of the student.
- c. The framing of the original material in the project within the context of established work or relevant traditions is remarkably sophisticated, revealing a sensitive and advanced understanding of the relationship between the student's contribution and established traditions or theories. The paper contains almost no grammatical or typographical flaws and is particularly well-written, lucid, and compelling.
- d. The work itself is of outstanding quality. The project has been carried out with a degree of technical competence, diligence, and independence of which few undergraduates are capable.
- e. The oral examination reaffirms the outstanding quality of the work. The student is able to give complete, clear, well-organized, and satisfying responses to the examiners' questions without the need for much guidance or prompting from the examiners.

Summa Cum Laude**Honors with highest distinction**

This level of honors is rarely achieved and is reserved for those instances in which all three components of the project (the work, the paper, and the oral examination) demonstrate a superlative level of excellence. In addition to fulfilling the criteria described above, the project must fulfill all of the following criteria:

- a. Each of the components of the project (the work, the written exposition, and the oral examination) not only demonstrates an exceptional level of mastery of, and facility with, relevant previous work, underlying principles, and central concepts or theories but also a sophisticated and original critical perspective on this material (*i.e.*, the student possesses informed opinions about the strengths and weaknesses of previous work, theories, and traditions in the area). The student not only intimately understands relevant background material but also has the ability to view this material critically in a wider intellectual context.
- b. The thesis, interpretation, analysis, synthesis, pedagogical exposition, or creative endeavor encompassed by the project demonstrates a superlative level of creativity, conceptual innovation, or theoretical sophistication on the part of the student.
- c. The framing of the original material in the project within the context of established work or relevant traditions is elegant and subtle, revealing a rare and exceedingly advanced understanding of how the student's project represents a significant contribution to established traditions or theories. The paper is not only technically flawless (or virtually flawless) but is exceedingly well-written, compelling, and engaging.
- d. The work itself exceeds all expectations. The project has been carried out with a superlative level of technical competence, sophistication, diligence, and independence.
- e. The oral examination reaffirms that the work is a rare achievement that makes an original and sophisticated contribution. The student is able to give extraordinarily complete and persuasive responses to the examiners' questions without the need for guidance or prompting from the examiners.

Writing for credit

Students may write for credit (with permission of the instructor) in any course in the curriculum except tutorials, independent study, or Freshman Studies. They should consult the instructor for permission to write for credit; the instructor will then specify a

program and schedule of reading, examinations, and papers.

To register, a student must supply the registrar with a memorandum containing the name of the course and the signatures of the student's advisor and the instructor of the course. The work must be completed in one year. Courses do not become part of a student's record until the instructor reports that the required work has been satisfactorily completed. The letter grade will be recorded for the term in which the grade is reported.

Students who have opted for billing by the course under the incremental fee plan (see "Tuition, Fees, and Refunds," page 279) will be charged for the credit earned by writing for credit and reported that term.

Student-designed courses

Students may design and execute their own courses in areas and subjects not normally part of the Lawrence curriculum but appropriate to a liberal arts education. A student-designed course should address a topic or topics in which students proposing the course have experience or expertise. The course may pursue, in depth, some topic that grows out of an existing course. It may link the perspectives of two or more disciplines in the solution of some problem. Or, it may satisfy students' intellectual interests in other ways.

Students must have attained at least sophomore standing to participate in a student-designed course. To initiate a course, at least three students submit a prospectus containing statements on the subject matter, format, reading list, and formal requirements (papers, reports, exams, etc.) to a faculty member who will either enroll in the course as an informal member or agree to act as an advisor for the course. Upon the faculty member's approval, the prospectus is submitted to the Curriculum Committee for its review and decision at least eight weeks before the end of the term prior to the term in which the course is to be offered.

The committee encourages early applications so that the sponsoring students will have an opportunity to adjust their proposal to any of the concerns and criticisms voiced by the committee upon its preliminary review. Grades are assigned by the participating faculty member or faculty advisor on a Satisfactory/Unsatisfactory basis.

In reviewing applications, the Curriculum

Committee pays particular attention to:

1. evidence of competence and expertise in the students or the faculty advisor sufficient to assure adequate guidance and leadership in the course,
2. evidence of careful forethought and planning of a course of study that can be realistically accomplished within a ten-week period, and
3. evidence that the course fits appropriately within a liberal arts education.

Completed applications must be submitted to the dean of the faculty, who chairs the Curriculum Committee. Interested students may contact the dean of the faculty or dean of student academic services for information and guidance.

Student-designed majors

Student-designed majors provide an opportunity for students to develop areas of concentration outside established programs for interdisciplinary or departmental majors. Like all majors, those that are student-designed should meet the following objectives: greater knowledge of the field under study; increased methodological sophistication; and the integration of sometimes disparate, but related, areas of study that fall within the proposed major.

The procedure for establishing a student-designed major is relatively simple:

1. The student elects a general topical area and identifies a member of the faculty who is willing to act as advisor.
2. With the advisor, the student develops a statement on the planned major. The statement indicates (a) how the major will serve the objectives of an area of concentration; (b) what educational or other objectives the student seeks to meet; and (c) the courses that have been taken or will be taken that would fit into the major. In the statement, the student and the advisor have the responsibility to show that the proposed objectives can best be satisfied outside established programs of study.
3. The advisor and the student invite two other members of the faculty to serve as the student's advisory panel for the major. The panel is responsible for overseeing the program and for reviewing minor changes — e.g., in course selections, topics for an honors paper, etc. One member of the panel should

be designated as an alternate advisor in case the principal advisor goes on leave or teaches at an overseas campus that the student does not attend.

4. The student submits the statement of the proposed major, endorsed by the faculty advisor and members of the panel, and a transcript to the Committee on Instruction before the end of Term I of the student's junior year. Students wishing an extension to this deadline should contact the chair of the Committee on Instruction, who is the associate dean of the faculty. Faculty members who endorse the statement accept responsibility for supervising the major if it receives committee approval.
5. The Committee on Instruction takes action on the proposed major and communicates its action to the registrar, the student, the faculty advisor, and members of the panel.

Application forms for student-designed majors may be obtained from the offices of the dean of the faculty, dean of student academic services, and the registrar and from the Main Hall, Briggs Hall, conservatory, and art center faculty offices.

Student-designed interdisciplinary areas

Student-designed interdisciplinary areas are initiated by an individual student or a small group of students with the advice of at least two faculty members. The initiator or initiators develop, with their advisors, a statement on the planned interdisciplinary area, which will indicate the objectives of the interdisciplinary area and the suggested and required courses.

The student-designed interdisciplinary area is subject to the approval of the Committee on Instruction, which will communicate its decision to the students, their advisors, and the registrar. The student-designed interdisciplinary area will be identified at the time of the student's selection of a major or any time thereafter, on the condition that the student will be able to fulfill the proposed area's course requirements. The student is still expected to complete a formal major (see page 271).

Academic internships

Lawrence recognizes that a student's education can be enhanced by the combination of academic and experience-based learning. Academic internships

provide students an opportunity to apply what they have learned in the classroom and to bring back to the classroom an enriched perspective on their learning.

Where academic departments find that the interaction of academic pursuits and work experience is both appropriate to their relevant disciplines and feasible in terms of available work experiences, they normally offer academic internships. These internship courses are listed in this catalog under departmental offerings, and they are offered at differing levels of the curriculum. Where no departmental internship exists, student-designed internships may be proposed to the Committee on Instruction. Proposals must be submitted to the Committee on Instruction by the end of the fifth week of the term before the start of the internship.

Students may take a maximum of 12 units of academic internship in fulfillment of their major, minor, or graduation requirements. Academic internships require prior approval by the relevant academic department (in cases where a departmental internship is available) or by a faculty supervisor/academic department and the Committee on Instruction (in cases where a departmental internship is not available). Academic internships may be paid or unpaid.

Students enrolled in academic internships engage in work or service experiences with intentional learning objectives that promote reflection throughout the experience and that relate to their academic interests. Approved site and faculty supervisors work closely with the students and provide evaluations of the students' activities at the end of the internship.

The academic component of the internship includes readings related to the substance of the internship, discussions with the faculty supervisor, and a written report appropriate to the discipline. Course grades are based on this academic work.

Application forms for student-designed academic internships may be obtained from the offices of the dean of the faculty, the dean of student academic services, and the registrar and from the Career Center and the Main Hall, Briggs Hall, conservatory, and art center faculty offices.

See page 249 for information on the Career Center and internships.

LEARNING EXPERIENCES OUTSIDE THE CLASSROOM



Student programs at Björklunden

Lawrence University's northern campus, *Björklunden vid Sjön*, is located in Door County, Wisconsin, on the eastern side of the peninsula that forms the Bay of Green Bay. Björklunden (pronounced Bee-york '-lun-den), whose name means Birch Forest by the Water, is a 425-acre estate graced by woods, meadows, and more than a mile of unspoiled Lake Michigan shoreline.

Winifred and Donald Boynton bequeathed the property to Lawrence in 1963 with the understanding that it would be preserved in a way that would ensure its legacy as a place of serenity and contemplation.

The Boyntons' summer residence became Björklunden's main lodge. A fire in 1993 destroyed the original structure, but it has since been replaced by an impressive 17,190-square-foot, two-story seminar and conference center first used in the summer of 1996 and now available to students, faculty members, and staff year-round.

In addition to the main building, the Björklunden estate also includes a small wooden chapel built in late 12th-century Norwegian *stavkirke* style, handcrafted by the Boyntons between 1939 and 1947.

Weekend student seminars

Throughout the academic year, groups of Lawrence students and faculty members travel to Björklunden for weekend seminars and retreats. Student seminars provide the opportunity to explore exciting themes and issues, along with the time and the environment in which to embrace those ideas and their consequences.

The power of a Björklunden weekend lies in the connection between thought and reflection. Making that connection fulfills one ideal of a liberal education.

Björklunden weekends are distinctive and highly memorable integrative experiences. Seminar topics are wide-ranging, and students have the opportunity for intensive inquiry and discussion with faculty members and among themselves in an informal, intimate setting.

In creating and developing the seminars at Björklunden, Lawrence seeks to provide a different kind of educational experience, one in which participants are encouraged to leave old assumptions behind and the barriers of class, rank, and status are removed in order for students and faculty members

to learn meaningfully from each other. As President Richard Warch has observed, a fundamental purpose of the Björklunden weekends is "to confront ourselves and others on a personal scale, one that is and will be in sharp contrast to the anonymity of mass culture."

Lawrence invites each student to experience Björklunden and be changed. That is a powerful expectation, but those who have been to a seminar at Björklunden will testify to its fulfillment. As a place of refuge and peace, where spiritual values and aesthetic sensibilities can be explored, Björklunden provides a unique setting for personal growth.

Typical Björklunden seminars

The following are representative of the variety of topics considered on Björklunden weekends:

- Anthropology
- Archaeology (field work)
- Astronomy (observations)
- Beethoven
- Biology (field work)
- Chamber music
- Choral music
- Ecology (field work)
- Gender studies
- Improvisational chamber music
- India
- Language immersion weekends in Chinese, French, German, Russian, and Spanish
- Leadership training weekends for honorary societies, campus organizations, student government agencies, and others
- Model United Nations
- Nature and landscape drawing
- Physics
- Piano
- Psychology
- Student teaching
- Trumpet

Speakers and other campus visitors

Convocations

Five all-college convocations are scheduled each year, beginning with the Matriculation Convocation, at which the president speaks, and ending with an Honors Convocation at which the academic and extracurricular achievements of students are given special recognition.

The faculty Committee on Public Occasions invites individuals of high accomplishment and profound insight to address members of the college and Fox Valley communities on topics of broad interest. Convocation visitors have included authors John Updike, Gwendolyn Brooks, Frank McCourt, Maya Angelou, Joyce Carol Oates, Edward Hirsch, Isabel Allende, and N. Scott Momaday; journalists David Halberstam, Richard Rodriguez, and Fareed Zakaria; public intellectuals Henry Louis Gates Jr. and Cornel West; historians Arthur Schlesinger, Michael Beschloss, and James McPherson; activists Harry Wu, Fay Wattleton, and Lech Walesa; public officials Richard Holbrooke and George Mitchell; and scientists Dudley Herschbach, Brian Greene, and Robert Ballard.

Convocations are held on Tuesdays or Thursdays at the 11:10 a.m. hour, which is reserved for that purpose.

Lecture series

Throughout the academic year, Lawrence offers a wide variety of lectures, symposia, and colloquia.

The **Main Hall Forum** series sponsors a wide range of lectures by Lawrence faculty and distinguished academic guests speaking on historical and contemporary issues and presenting recent scholarship in the humanities and social sciences.

Recent Main Hall Forum topics have ranged from a former Organization of American States diplomat speaking on contemporary relations between the United States and Latin America to a faculty member tracing the history of both official and informal national anthems of Russia.

The **Science Hall Colloquium** is a series of cross-disciplinary lectures that address research developments in diverse areas of the natural and physical sciences. Typical offerings have included a researcher with the Meteorological Service of Canada speaking on societal vulnerabilities as a result of fluctuations in Great Lakes water levels; a clinical professor of psychiatry at the University of Wisconsin-Madison discussing the “savant syndrome”; a Harvard astrophysicist examining the global-warming effects of carbon dioxide on the upper atmosphere; and a University of Northern Illinois physics professor and international authority on musical acoustics explaining the acoustics of drums.

The **Recent Advances in Biology** lecture series,

sponsored by the biology department, is a biweekly program that addresses issues and advances in biological research. Talks by Lawrence faculty members and scientists from other universities expose students to the latest discoveries in a wide range of biological disciplines. Seminars in recent years have included “Wiring the Brain: How Growth Factors Sculpt the Architecture of Developing Neurons,” by a 1989 Lawrence graduate, now a visiting assistant professor of biology at Bowdoin College, and “Urban Deer Populations: Are We Coping or Groping?” by the director of the Associated Colleges of the Midwest Wilderness Field Station.

The **Fine Arts Colloquium** presents lectures that touch on topics related to art, art history, and theatre — for example, a Lawrence alumna and doctoral candidate in art history presenting an analysis of *Le Trajet*, a painting by early-20th-century artist Romaine Brooks.

Over the years, gifts from alumni and other friends of Lawrence have made funds available to support events of special interest, such as 2002-03's five-part lecture series “War and Peace in the Middle East,” which examined the religious and political conflicts in the Middle East and the region's relationship with the United States. Sponsored by the Mojmir Povolny Lectureship in International Studies, which promotes discussion on issues of moral significance and ethical dimension, the series brought to campus scholars from New York University, Georgetown University, and the University of Chicago; a Lawrence alumnus who is publisher of *Mid-East Realities*; and the director of the Center for International Studies at the University of Chicago.

Other speaking opportunities include the Marguerite Schumann, '44, Memorial Lectureship, which sponsors speakers on topics that were of special interest to Ms. Schumann, such as history, music, and writing; the Mia T. Paul, '95, Poetry Fund Lectures, which have brought to campus the acclaimed poet and scholar Edward Hirsch and, in 2003, the Poet Laureate of the United States, Billy Collins; the William Chaney Lectureship in the Humanities; and the Edward F. Mielke Lecture Series in Biomedical Ethics.

Visiting artists

Each year, musicians of international stature visit Lawrence to appear in public concert or recital and to

conduct master classes for conservatory students.

Musical visitors have included Emanuel Ax, piano; Kathleen Battle, soprano; Joshua Bell, violin; the Guarneri String Quartet; Charlie Haden, jazz bass; Marilyn Horne, mezzo-soprano; Yo-Yo Ma, cello; Wynton Marsalis, jazz trumpet; Bobby McFerrin, jazz vocalist; and Pinchas Zuckerman, violin, viola, and conductor.

Gallery talks and experts' lectures are an integral part of art exhibitions presented in the Wriston Art Center Galleries. Examples include a guest professor speaking on "Regional Diversity of Indian Textiles" in connection with an exhibition titled *Temple and Village: Patterns and Prints of India*; a panel discussion by four artists represented in *Synaesthesia*, an exhibition of installation art relating to the five senses; and a show called *American Painting from the Tweed Museum of Art*, opened by a gallery talk by the director of the Tweed Museum at the University of Minnesota-Duluth and highlighted by a hands-on workshop, "So You Want to Paint Like an Impressionist?"

Guest directors, designers, and theatrical technicians are often brought to campus to assist in productions of the Department of Theatre Arts and the Opera Theatre, teaching by example the fine points of theatrical technique.

A five-member theatre troupe called Actors from the London Stage has made one-week visits to Lawrence ten times over the past 18 years to perform for campus audiences and to work with students, delivering lectures and staging workshops ranging from music education to advanced acting techniques. Each section of the Freshman Studies course has a special session of readings and exercises with one of the actors.

The Stephen Edward Scarff Memorial Visiting Professorship

The Scarff professorial chair, typically a one-year visiting appointment, allows the college to bring to campus distinguished public servants, professional leaders, and scholars to provide broad perspectives on the central issues of the day. Scarff professors teach courses, offer numerous public lectures, and collaborate with students and faculty members in research and scholarship. See page 140 for descriptions of courses in the government department taught by Scarff professors.

Mr. and Mrs. Edward L. Scarff created the professorship in 1989, in memory of their son, Stephen, a 1975 Lawrence graduate.

Scarff visiting professors have included William Sloane Coffin, Jr., civil rights and peace activist; David Swartz, first U.S. ambassador to the Republic of Belarus in the former Soviet Union; G. Jonathan Greenwald, former United States minister-counselor to the European Union, Takakazu Kuriyama, former Japanese ambassador to the United States, and Charles Ahlgren, a 30-year veteran of the U.S. Foreign Service with a speciality in economic affairs. In 2003-04, the Scarff professor is George Meyer, former secretary of the Wisconsin Department of Natural Resources.

The Career Center and internships

Internships are carefully supervised learning experiences in a work or service setting. Different than short-term jobs or volunteer experiences, internships are deliberately designed by the intern in order to explore his or her career area of interest. Interns bring a carefully considered learning agenda with intentional learning objectives to the internship and reflect actively on their experience. Internships can be taken for credit or not, and they can be paid or unpaid.

Recent internship projects have involved writing business plans for a growing non-profit organization in the Fox Valley, rehabilitating songbirds and raptors native to Wisconsin, learning the ropes of an innovative musical theatre in downtown Chicago, and researching art exhibitions and conducting tours for the Metropolitan Museum of Art.

Other internship sites have included Wall Street financial-service firms, domestic violence shelters, marine biology research laboratories, the Wisconsin State Historical Society, the United States Congress, and the Smithsonian Institution, among many others.

To assist students in their search for an internship, the Career Center maintains an active database of internship listings, books of national internship listings, and directories for locating potential internship sites. Career Center staff members are also available to assist students in identifying potential occupations they would like to explore in an internship.

For a detailed description of academic internships, see page 245.

OFF-CAMPUS PROGRAMS



Off-campus programs

Off-campus study provides an invaluable opportunity to hone and extend the intellectual skills and capacity for civic and political engagement associated with a Lawrence liberal arts education by placing students in educational settings that purposefully combine classroom and experiential learning. In such settings students are challenged to apply and interrogate what has been learned on the home campus and to evaluate the possibilities of alternate perspectives and modes of inquiry.

Off-campus study also provides a rich opportunity for personal growth as students gain independence and self-confidence through active engagement with social and cultural practices different than their own and/or through the experience of educational or research settings whose pedagogical approaches and curricular structures differ from those at Lawrence.

It is strongly recommended that students interested in off-campus study make an appointment with the director of international and off-campus programs well in advance of the time they wish to pursue such study, in order to formulate desired learning outcomes for their off-campus study experience, to explore the range of off-campus study appropriate to those desired outcomes, and to discuss logistical issues such as timing of participation and the Lawrence off-campus study proposal process.

Campus visits in the fall and winter terms by representatives of the affiliated programs, as well as individual discussions with the faculty members associated with the governance of certain of the programs, also provide an excellent opportunity to learn more about program specifics.

Policies and procedures for off-campus study

Participation on an off-campus program requires approval by the Lawrence Subcommittee on Off-Campus Study and, in the case of affiliated programs, acceptance by the program sponsor. Students must apply using the Lawrence Off-Campus Study Proposal. Each year the proposal deadline for all programs for the upcoming summer and following academic year is in early February.

Lawrence approval is granted only if the student is adequately prepared both personally and academically for the program and if the program coherently fits the goals of a Lawrence liberal arts

education and the individual student's academic plan. The specific evaluation criteria are listed below.

In an effort to promote off-campus study, Lawrence allows students to apply most of their financial aid to Lawrence-sponsored or -affiliated off-campus programs. In the case of affiliated programs, Lawrence also charges only the direct costs billed by the program sponsor plus a nominal administrative fee of \$250. In the case of Lawrence-sponsored programs, students are charged Lawrence tuition and a program fee to cover fixed in-country costs. Students should make certain they consider out-of-pocket expenses when deciding whether or not they can afford a given program. Comprehensive cost estimates for all of the programs listed in this catalog are available from the off-campus programs office in International House.

Lawrence's policy is to support one off-campus study program for those students who elect to study off-campus. The only exceptions to this policy involve the London Center, the Francophone Seminar, and the Marine Biology Term, each of which may be combined with study on a second program. Students may also elect to participate on a non-affiliated off-campus program and seek transfer credit for that experience. However, Lawrence scholarships, grants, and loans may not be applied to the program costs associated with those programs.

In order to budget effectively for the institutional costs associated with off-campus study, Lawrence also establishes an annual cap on the number of students who may participate on affiliated programs.

Evaluation criteria for participation on an off-campus program

1. The student meets all Lawrence eligibility requirements for off-campus study. A student is ineligible for off-campus study in the following cases:
 - if she or he will not achieve sophomore status prior to participation on the off-campus program;
 - if she or he is on academic probation the term preceding off-campus study;
 - if she or he is on disciplinary probation the term preceding off-campus study; and/or
 - if she or he has a demonstrated history of behavioral issues inappropriate for off-campus study.

2. The proposed program represents a well-defined continuation of the curricular and pedagogical goals of a Lawrence liberal arts education and the individual student's academic plan. This may include, but is not limited to:
 - opportunities to apply, extend, and/or develop specific academic or intellectual skills in a different educational, cultural, or linguistic context;
 - opportunities to pursue specific independent research; and/or
 - opportunities to apply, extend, and/or develop other kinds of on-campus learning in a different academic, cultural, or linguistic context.
3. The student's record shows evidence of college-level preparation and academic achievement appropriate to the proposed program.
4. In situations where Lawrence limits participation, qualified students proposing their first off-campus program will be given priority over qualified students proposing participation on an additional program.

Mandatory health insurance coverage

Every student participating on a Lawrence-sponsored or -affiliated international off-campus program is required to carry the Lawrence University international medical and evacuation insurance policy administered by Cultural Insurance Services International. The fee for this coverage is charged to the student account along with the program fees.

It is presumed that this coverage is in addition to whatever medical insurance coverage the student already holds and has thus been factored into the comprehensive cost estimates for the international off-campus study programs.

The insurance coverage starts one week before the program start date and extends one week beyond the program end date, to allow time for travel to and from the program. As this coverage is valid only outside the United States, all students are strongly encouraged to maintain their health insurance coverage in the United States in the event of their unexpected return due to a medical emergency.

Health advisories, travel advisories, and travel warnings

Lawrence strongly recommends that all students avail themselves of the travel information available at the U.S. State Department, Centers for Disease Control (CDC), and World Health Organization (WHO) websites. In particular, students should carefully consider the information included in State Department travel advisories for the country in which they are pursuing off-campus study and/or for any other country to which they are planning to travel during their time abroad.

Lawrence reserves the right to cancel a Lawrence-sponsored program or withdraw its approval for study on a Lawrence-affiliated program if a State Department travel warning or a CDC or WHO travel advisory is in place for the host country at the start of the program. Withdrawal of approval for an affiliated program bars a student from receiving Lawrence credit for the program and from applying institutional financial aid to the program costs.

In order to make certain that a student may make an informed decision regarding participation on a program, the issue of potential loss of Lawrence approval for an affiliated program will be brought to the student's attention as far in advance of the program start date as is feasible.

United States programs

Arizona

Biosphere 2: Earth Semester

The Earth Semester provides students interested in environmental science, conservation, and/or environmental policy an opportunity to study at Columbia University's Biosphere 2 Center in Arizona, a 204,000-cubic-meter glass and space-frame enclosure that houses six of the earth's ecosystems in miniature.

The academic program consists of several interdisciplinary modules, with each module taking a different perspective on the environmental issues confronting the planet. The semester culminates with each student pursuing an independent research project under the guidance of Biosphere 2 staff and faculty. Classroom activities also include field trips to surrounding sites such as the Grand Canyon, the Sea of Cortes, and the Petrified Forest.

The program is offered for a summer term (Earth Systems Field School) or semester.

Arizona

Biosphere 2: Universe Semester

The Universe Semester provides students interested in astronomy and astrophysics an opportunity to pursue coursework from a variety of subjects, both at the elementary and advanced levels. The program stresses observational work, and all students pursue independent research under the guidance of staff and faculty from Columbia University's Biosphere 2 Center.

Students have a fleet of telescopes and electronic detectors at their disposal, and they may also access the professional research telescopes at the National Optical Astronomical Observatory at Kitt Peak if their research requires it. Field trips to the University of Arizona mirror lab and Lowell Observatory are included.

The program is offered for a semester.

www.bio2.edu/education/universe.htm

Chicago

Chicago Arts Program: Internships, Seminars, Workshops

The ACM Chicago Arts Program is a semester of urban art immersion during which students explore the arts through practical, creative, and scholarly activity. Students meet and work with local artists and arts professionals through their supervised internships, independent study projects, and two core courses: *Negotiating Chicago's Artworld* and a studio-based, thematic workshop. In addition, students attend a wide range of cultural events during the semester.

The program is offered for a semester.

www.acm.edu/cap/

Chicago

Newberry Seminar in the Humanities

Based at the world-renowned Newberry Library in Chicago, this ACM program provides a powerful introduction to the art of pursuing original research. Students in the program attend interdisciplinary seminars taught by visiting professors and work with resident scholars and library staff to research and write a major research paper based on the Newberry's broad collections in the humanities.

The program is only offered for a fall semester.

www.acm.edu/newberry/

Urban Education

The ACM Urban Education Program offers semester student teaching internships and a summer sequence of courses leading to Bilingual or English as a Second Language (ESL) certification. Seminars focus on the social, political, and economic factors that influence educational systems, as well as the impact of schools on students, teachers, and communities. Coaching and supervision emphasize collaborative approaches for developing effective teaching strategies.

Placements are made in public, private, or alternative schools, and students can work in traditional or progressive, city or suburban, multilingual or monolingual, regular or special education, magnet or neighborhood schools.

The program is offered for a semester.

www.acm.edu/uep/

Chicago

Urban Studies

The ACM Urban Studies Program seeks to develop in students the skills necessary for effective leadership in civic and political life by exposing them to the social and political forces that define urban life. Students engage the dynamics of a modern city through the lens of academic concepts introduced in a core course and thematic seminar. All students pursue a supervised internship and an independent study project.

The program is offered for a semester.

www.acm.edu/urbanstudy/

Tennessee

Oak Ridge Science Semester

The fall semester ACM/GLCA Oak Ridge Science Semester enables advanced undergraduates to study and conduct research in the prestigious and challenging scientific environment of the Oak Ridge National Laboratory (ORNL) near Knoxville, Tennessee. The majority of a student's time is spent participating in a long-range research project with an advisor specializing in biology, engineering, mathematics, or the physical or social sciences. In addition, students participate in an interdisciplinary seminar and lecture series designed to broaden their exposure to developments in their major field and related disciplines.

The program is only offered for a fall semester.
www.acm.edu/oakridge/

Washington, D.C.

Washington Semester

The Washington Semester enables students to participate in a thematic program of study at the American University in Washington, D.C. The Lawrence-approved program tracks are: American politics, economic policy, foreign policy, justice, and public law. In addition to the core seminar, students pursue an internship related to the program topic and an independent study project.

The program is offered for a semester.
www.american.edu/washingtonsemester/index.html

Woods Hole, Massachusetts

Semester in Environmental Science

The Semester in Environmental Science is offered at the world-renowned Ecosystems Center of the Marine Biological Laboratory (MBL) in Woods Hole, Massachusetts. Students participate in two core seminars focusing on, respectively, aquatic and terrestrial ecosystems. They also choose an elective seminar and pursue an independent research project under the guidance of the MBL staff and faculty.

The program is offered for a semester.
www.courses.mbl.edu/SES/

International programs

Argentina

Buenos Aires

IES Buenos Aires features three tracks of study. The intensive/intermediate language program combines language study with a choice of English-taught or Spanish-taught area studies courses. The advanced program combines the Spanish-taught area studies courses with integrated study at the Universidad de Buenos Aires and Universidad Torcuato di Tella. Students are also placed in a home stay to facilitate language development.

The beginning/intermediate program is offered for a semester. The advanced program is offered for a semester or calendar year. The fall semester advanced program starts in mid-July, the spring semester and calendar year programs in early March. Previous language study is required.

www.iesabroad.org/buenosaires/BuenosAires.html

Australia

Adelaide

IES Adelaide offers students the opportunity for integrated study at the University of Adelaide. The university offers courses in over 60 disciplines, with especially strong programs in aboriginal studies, Asian studies, international economics, environmental science and management, and the biological and physical sciences. Internship placements are available for qualified students in a broad variety of organizations.

The program is offered for a semester, academic year, or calendar year. The fall semester and academic year programs start in mid-July, the spring semester and calendar year programs in mid-February.

www.iesabroad.org/adelaide/adelaide.html

Australia

Melbourne

IES Melbourne offers students the opportunity for integrated study at the University of Melbourne. The university offers courses in over 300 disciplines, with many strong faculties and specialist centers. B.Mus. students may choose to pursue full-time music study with the prestigious Faculty of Music. Internship opportunities are available for qualified students in a broad variety of organizations.

The program is offered for a semester, academic year, or calendar year. The fall semester and academic year programs start in mid-July, the spring semester and calendar year programs in mid-February.

www.iesabroad.org/Melbourne/melbourne.html

Austria

Vienna

IES Vienna offers a broad curriculum in the humanities and social sciences. Students may select from either English-taught or German-taught courses. Students with advanced German proficiency may also choose to pursue integrated study at the Universität Wien.

Music students may choose to enroll in the Music Performance Workshop, combining individual music instruction with a German language course and three other courses selected from area studies, music history, and music theory offerings.

The program is offered for a semester or

academic year. No previous language study is required.
www.iesabroad.org/vienna/vienna.html

British West Indies

Lawrence Marine Biology Term

Organized by the Lawrence biology department, this biennial field experience is available for students concurrently enrolled in *Ecological Energetics*, *Seminar on Coral Reef Environments*, and *Animal Behavior*. Students take part in a two-week excursion to Grand Cayman, where they undertake field studies in marine biology and animal behavior, with particular attention to the biology of a coral reef environment.

The program is only offered for a spring term. Students must be SCUBA-certified prior to departure.
www.lawrence.edu/dept/biology/BIOL_81A/marine.html

Canada

Québec Seminar and Internship

This program in French-speaking Chicoutimi, Canada, combines ten weeks of intensive coursework on French language and Québécois culture with a five-week, full-time internship in a business, governmental, or non-governmental organization.

The program is organized through the Ecole de langue français et de culture québécois at the Université du Québec à Chicoutimi. Students are housed with French-speaking families and participate in cultural and outdoor activities organized by the Ecole.

The program is only offered for a fall term. Previous language study is required.
elf.uqac.ca/index-netscape.php

Chile

Santiago

IES Santiago offers an opportunity to pursue Spanish language study, Spanish-taught program courses, integrated study at the Universidad de Chile and the Pontificia Universidad Católica, and internships and service learning. Students are also placed in a home stay to facilitate language development.

The program is offered for a semester, academic year, or calendar year. The fall semester and academic year programs start in mid-July, the spring semester and calendar year programs in early March. Previous language study is required.

www.iesabroad.org/santiago/santiago.html

China

Beijing

Based at the Capital University of Economics and Business in Beijing, the Associated Colleges in China Program combines intensive Chinese language study with lectures on Chinese society, art, literature, and history.

The program includes a weekly language practicum, visits with host families, and field trips to culturally and historically significant locations. The program is offered for a summer term, a semester, or an academic year. Previous language study is required.
www.hamilton.edu/academics/eal/Abroad_Link.html

Costa Rica

Studies in Latin American Culture and Society

This interdisciplinary ACM program is for students seeking to develop an understanding of life in Latin America. Language study is stressed as the key to understanding the culture.

Coursework in language, literature, geography, anthropology, politics, and cultural change enables students to develop insights that are reinforced by field trips and two weeks of field work in rural areas. Students also live with host families.

The program is only offered for a fall semester. Previous language study is required.
www.acm.edu/slacs/

Costa Rica

Tropical Field Research

This ACM field-research program is designed primarily for advanced students wishing to pursue a significant field-based independent research project. This research may be in the humanities, social sciences, or sciences. Students prepare for their research during a month-long orientation that includes intensive language training and a review of fieldwork methodology. The research may be integrated with an ongoing project at Lawrence or started afresh on the program.

The program is only offered for a spring semester. Previous language study is required.
www.acm.edu/tfr/

Czech Republic

Central European Studies

This ACM program at Palacky University in Olomouc examines the Czech cultural heritage, the emerging revival of its democracy, and its struggle for economic success as a mirror of much of East and Central Europe.

Courses cover Central European history, contemporary socio-political issues, Czech literature and culture, and the Czech language. The program also includes opportunities for independent research and field trips to major Central European cities. Students are housed with Czech students in university dormitories for a portion of their stay.

The program is only offered for a fall semester. No previous language study is required.

www.acm.edu/czech/

England, Italy

London and Florence: Arts in Context

The ACM London and Florence Program draws comparisons among the historical and political contexts of art, architecture, literature, and theatre in two historically prominent cities. Coursework is supplemented by visits to museums, galleries, and theatres; short trips to other areas of England and Italy; and discussions with local scholars. Students spend eight weeks in each city. An optional intensive course in Italian language is offered in January.

The program is only offered for a spring semester. A January-March program combining the intensive Italian course with the Florence course offerings is also available.

No previous language study is required.

www.acm.edu/lon&flo/

France

Nantes

IES Nantes offers students the opportunity to combine French language study, French-taught area studies courses offered by the program, integrated study at l'Université de Nantes, and internship opportunities. B.Mus. students may pursue music study at the Conservatoire National de Région. Students are also placed in a home stay to facilitate language development.

The program is offered for a semester or

academic year. Previous language study is required.

www.iesabroad.org/nantes/nantes.html

France

Paris

IES Paris offers students the opportunity to combine French language study, French-taught area studies courses offered by the program, internship opportunities, and integrated study at l'Université de Paris-Sorbonne, l'Université Paris VIII, and l'Institut Catholique. Students are also placed in a home stay to facilitate language development.

The program is offered for a semester or academic year. Previous language study is required.

www.iesabroad.org/paris/paris.html

Germany

Berlin

IES Berlin offers advanced students the opportunity to combine German language study, German-taught area studies courses offered by the program, integrated study at the Humboldt Universität, and internship opportunities.

The program is offered for a semester or academic year. Students wishing to pursue courses at the Universität or an internship must opt for the academic year. Previous language study is required.

www.iesabroad.org/berlin/berlin.html

Germany

Freiburg

IES European Union offers students an opportunity to study in depth the on-going development of the European Union (EU). In addition to a core seminar and a German language class, students may pursue courses in one of three tracks: Economics, Political Science, or International Relations. The program includes substantial field study, with trips to the European Parliament, Court of Justice, Commission and Council for the EU, and the European Central Bank, among others. In addition, all fall students are guaranteed participation in a weekend-long model EU simulation.

The program is offered for a semester. No previous language study is required.

www.iesabroad.org/eu/eu.html

Germany

Freiburg

IES Freiburg offers students the opportunity to combine German language study, German-taught area studies courses offered by the program, integrated study at the Albert-Ludwigs Universität, and internship opportunities.

The program is offered for a semester or academic year. Students wishing to pursue courses at the Universität must opt for the academic year. Previous language study is required.

www.iesabroad.org/freiburg/freiburg.html

Greece

Athens

The College Year in Athens offers courses in English focusing on Ancient Greece but also offers many classes on pre-historic, classical, post-classical, Byzantine, and modern Greece. In addition to offering courses useful to classics majors, the CYA curriculum includes offerings that would interest students of art history, archaeology, and Near East culture and history.

All courses make full use of the resources available in Athens, with many of the classes conducted wholly or in part in museums or at historic sites. CYA regularly draws on the broad range of European and U.S. scholars pursuing research in Athens to offer lectures and colloquia at the CYA facility.

The program is offered for a fall semester, spring semester, or academic year.

www.cyathens.org

India

Pune

The ACM India Studies Program offers students an excellent opportunity to observe the interaction of tradition and modernity that characterizes contemporary India. Students enroll at Tilak Maharashtra Vidyapeeth for an academic session, where they pursue language instruction, then take four area-studies courses and complete an independent study project.

Participants are placed in home stays, and the academic program is supplemented by field trips to

nearby cultural sites. A variety of extracurricular activities, such as dance, yoga, weaving, and batik, can also be arranged.

No previous language study is required. The program is only offered for a fall semester and begins in mid-July.

www.acm.edu/india/

Italy

Florence

The ACM Florence Program focuses on Renaissance painting, sculpture, architecture, history, and literature. Italian language instruction, a studio art course, and courses providing a broad perspective on Italian contributions to world civilization facilitate study of the Florentine artistic and cultural heritage.

Visits to museums and galleries, short field trips to other cities throughout Italy, and discussions with local scholars supplement the coursework. Students are also placed in a home stay to facilitate language development.

The program is only offered for a fall semester. No previous language study is required. Previous coursework in art history is recommended. Students interested in a winter term-only program should see the ACM London and Florence: Arts in Context program.

www.acm.edu/florence/

Italy

Intercollegiate Center for Classical Studies

Based in Rome, the ICCS offers a curriculum exploring classical Roman civilization. The core seminar, *The Ancient City*, explores aspects of Roman archaeology and topography, as well as the social and urban history of Rome and Roman civilization. Students also choose three elective courses from offerings in ancient history and archaeology, Latin literature, and ancient art.

Weekly field trips to sites in and near Rome supplement the coursework. The program is offered for a semester. Previous study of Latin and the classical Roman civilization is expected.

www.aas.duke.edu/study_abroad/iccs/iccs.html

Italy

Milan

Approved only for B.Mus. and B.A. Music students, IES

Milan offers an opportunity to combine musical

instruction with beginning and intermediate language study and area-studies courses taught in English.

The program is offered for a semester or academic year. No previous language study is required.

www.iesabroad.org/milan/milan.html

Japan

Tokyo

This ACM/GLCA program places students at Waseda University's International Division in Tokyo, pursuing language study and Asian studies courses taught in English. A family-living experience in Tokyo provides an invaluable education in Japanese culture.

The program is offered for an academic year. Previous language study is required.

www.earlham.edu/~jpns/

Japan

Tokyo

IES Tokyo offers an opportunity to pursue contextual Japanese language study, English-taught program courses, integrated study in English at Kanda University, and an integrated seminar and field experience to introduce students to Japanese social organization. Students are also placed in a home stay to facilitate language development.

The program is offered for a semester or academic year. Previous language study is not required.

www.iesabroad.org/tokyo/tokyo.html

Mexico

Guanajuato

This International Studies Abroad program offers students the opportunity to pursue integrated study at the Universidad de Guanajuato. Students are also placed in a home stay to facilitate language development.

The program is offered for a summer, semester, or academic year. Previous language study is required.

studiesabroad.com/Mexico/Guanajuato.cfm

The Netherlands

Amsterdam

IES Amsterdam offers anthropology and gender studies majors an opportunity to pursue Dutch

language study, integrated study in English at the University of Amsterdam, and an integrated tutorial, field, or service learning experience and field research project.

The program is offered for a semester or academic year. Previous language study is not required.

www.iesabroad.org/amsterdam/amsterdam.html

Russia

Krasnodar

Based at Kuban State University in southern Russia, the ACM Russia Program combines intensive study of the Russian language with a course in English about Russian society. Students live with Russian families, and the academic program is supplemented by excursions to local sites, as well as trips to Moscow and St. Petersburg.

The program is only offered for a fall semester. Previous language study is required.

www.acm.edu/russia/

Russia

Lawrence Kurgan Exchange Term

Kurgan, Russia, located on the steppes of Siberia, has been Appleton, Wisconsin's sister city since 1989.

Through a bilateral exchange agreement, Lawrence students may study for one semester at Kurgan State University. Students pursue courses in Russian grammar and phonetics, conversation, and literature. Students are also placed with host families connected with the sister city program.

The program is only offered for a fall semester. Previous language study is required.

Senegal

Lawrence Francophone Seminar

This biennial program in Dakar, Senegal, introduces students to Western African culture. Organized by the Lawrence French department in conjunction with the Baobab Center, participants study the French and Wolof languages, Senegalese history and culture, and Francophone African literature and may arrange individual music lessons.

The academic program is supplemented by local excursions, a stay in a rural village, and field trips to other parts of the country and region. The program is

OFF-CAMPUS PROGRAMS

only offered for a spring term. Previous language study is required.

Spain

Barcelona

IES Barcelona features two tracks of study. The beginning/intermediate language program combines language study with English-taught area-studies courses. Economics courses in English are also available at the Universitat de Pompeu Fabra. Students in the advanced program combine language study with regular courses at the Universitat de Barcelona. Advanced students may also choose to pursue the Catalan language or university courses taught in Catalan.

Internships are available for all program levels, though some proficiency in Spanish provides a greater range of opportunities. The program is offered for a semester or academic year.

www.iesabroad.org/barcelona/barcelona.html

Spain

Madrid

IES Madrid offers a wide variety of Spanish-taught program courses in the humanities and social sciences, as well as an opportunity to take courses at the Universidad Complutense de Madrid. Students may also pursue internships in a variety of fields.

The program is offered for a summer term, semester, or academic year. Students intending to study at the Universidad should strongly consider the academic year. Previous language study is required, except for the summer term.

www.iesabroad.org/madrid/madrid.html

Spain

Salamanca

IES Salamanca offers Spanish-taught courses focusing on Iberian culture, comparative studies of the Mediterranean Basin, and comparative studies of Spain and Latin America. The majority of students combine program courses with study at the Universidad de Salamanca. The program also offers education and ESL internships.

The program is offered for a summer term, semester, or academic year. Unlike IES Madrid, students may take early exams for any course at the

Universidad. Previous language study is required.

www.iesabroad.org/salamanca/salamanca.html

Tanzania

Studies in Human Evolution and Ecology

This ACM program offers a unique opportunity to conduct fieldwork in some of the world's greatest paleoanthropological and ecological sites. The program is divided between courses in intensive Swahili, human evolution, and the ecology of the Serengeti at the University of Dar es Salaam and field research in the Northern Region of Tanzania.

The program is both physically and academically demanding and only well-qualified students will be selected. The program is only offered for a fall semester. No previous language study is required

www.acm.edu/tanzania/

Tanzania

Nation-Building in Southern Africa

This interdisciplinary ACM program focuses on development issues in Africa and the challenges of building a modern independent nation. University of Dar es Salaam faculty members offer courses in culture and society, political and economic development, and Swahili language. Students also complete an independent field project under the guidance of program staff or university faculty.

Students live with families in Dar es Salaam, and local excursions and a rural village stay supplement the academic program. The program is only offered for a spring semester. No previous language study is required.

www.acm.edu/africa/

Abbreviations: ACM, Associated Colleges of the Midwest; ACC, Associated Colleges in China; GLCA, Great Lakes Colleges Association; IES, Institute for the International Education of Students

United Kingdom

Lawrence London Center

The Lawrence London Center was established in 1970 to introduce Lawrence students to the rich social, cultural, and political history of the British people

through a program of classroom study supplemented by field trips, museum visits, cultural opportunities, and travel. There is also a limited opportunity for qualified juniors or seniors to pursue a nine-week internship.

The London Center also seeks to utilize its setting in a cosmopolitan “world city” as a rich text wherein Lawrence students can engage the significant political, economic, cultural, and intellectual challenges of the 21st century.

Students may pursue study for either one or two terms. Given the Center’s focus on General Education Requirements, first-year students are strongly encouraged to consider the possibility of studying in London during the sophomore year.

www.lawrence.edu/ref/acadref/offcampus/london0304.shtml

2003-04 London Center Courses

ANTH 372

Urban Anthropology of London

Mr. James

Fall and Winter

This seminar combines a variety of methods to explore contemporary British culture. In addition to the readings and field trips, students conduct ethnographic fieldwork in London on a topic of their own interest. This may be based in a particular place or, more broadly, focus on a certain group of people. The course provides an introduction to field research methods. Throughout the term, students participate in shorter exercises designed to develop their confidence in the skills of observation, interviewing, description, and analysis. Readings on topics such as neighborhoods, social use of language, class, education, and migration experience provide a framework for understanding the detail of the individual projects. Students are expected to make presentations and participate in discussions. This course fulfills a social sciences distribution requirement. 6 units.

ARHI 246

19th Century Art, Design, and Society in Britain

Ms. Barnes

Spring

In the 19th century, Britain was at the height of her imperial and industrial powers, with a burgeoning middle class with increased spending power. Against this background, this course examines the painting (including Turner, Constable, the Pre-Raphaelites, the High Victorians), architecture, furniture, and interiors of the period, utilizing the wealth of examples in London’s museums, galleries, and buildings. This course fulfills a fine arts distribution requirement. 6 units.

GOVT 386

British Foreign Policy

Ms. Skran

Fall

From the beginning of the 20th century, when Britain ruled the seas as an imperial power, through two world wars and the Cold War, to the “war on terrorism,” Britain has been one of the most powerful countries in the world. This course traces the development of British foreign policy from the First World War to the present day. Throughout the course, the aims, causes, and consequences of British foreign policy will be examined and areas of continuity and change highlighted. Attention will also be paid to the foreign policy making process, including the role of the prime minister. Topics to be discussed include Britain’s imperial legacy, role in the Middle East, membership in NATO, special relationship with the United States, status within the European Union, and position in the UN. This course fulfills a social sciences distribution requirement. 6 units.

GOVT 255/ETST 251

Immigration and Refugees: Changing the Face of Europe

Ms. Skran

Fall

This course will be a comparative examination of the refugee and asylum policies of Britain, France, Germany, and other European countries. The course will begin by tracing the evolution of immigration and asylum policies as they emerged in the first half of the 20th century and developed during the Cold War period. It will then consider the impact of the end of the Cold War and increased cooperation within the

EU on immigration and asylum practices and laws. Topics to be discussed include the refugee crisis of the 1930s, Cold War refugees of the 1950s, guest worker policies of the 1970s, the asylum crisis of the 1980s, and the creation of “fortress Europe” in the 1990s. Throughout the course, special attention will be paid to the impact of immigrant and refugee communities on the social, political, and cultural framework of European countries. This course fulfills a social sciences distribution requirement and the dimensions of diversity requirement. 6 units.

GOVT 385

Modern British Politics

Mr. Fosdal

Winter

This course analyzes the central structures and processes of British politics, the important policy issues of recent years, British attitudes toward the political system, and critiques of British politics and history. This course fulfills a social sciences distribution requirement. 6 units.

HIST 150

Stuart England, 1603-1715

Ms. Dobbs

Fall and Spring

This course explores the causes and impact of the English Civil War, the effect of the Restoration, the Glorious Revolution, and the path to the Hanoverian Succession. The economics, politics, religion, social history, and cultural aspects of the period are also studied. Visits to museums and buildings of the period are included. This course fulfills a humanities distribution requirement. 6 units.

HIST 247

The Impact of Empire on Great Britain, 1814-1914

Ms. Dobbs

Winter

In 1914 the British Empire contained a population of over 400 million people and was territorially the largest empire in world history. While the British spread their ideas about government, language, religion, and culture to their colonies, Britain itself was also profoundly influenced by the colonies it

ruled. This course will explore aspects of the impact of the Empire on British politics, economics, society, and popular culture during the 19th century. Among the topics to be covered are the anti-slavery movement, imperialism and new imperialism, jingoism and popular culture, economic responses, and the influence of imperialism on culture and the arts. The myriad resources of London will be used to provide specific examples of how important the Empire was in shaping British identity and institutions during the 19th century. This course fulfills a humanities distribution requirement. 6 units.

THAR 111

Introduction to the Theatre

Ms. Schiele

Winter

Drawing upon the rich resources of the London theatre scene, this course studies the fundamentals of dramatic structure, form, style, and criticism through an examination of plays currently in performance. Students are required to attend performances of the plays under study. This course fulfills a fine arts distribution requirement. 6 units.

THAR 279

Fringe Theatre in London

Ms. Schiele

Fall

This course will attempt to define Fringe Theatre (a movement started in 1968) and to categorize its main elements. The class shall attend a wide variety of plays and venues and come to an understanding of how the fringe has changed over the years. Discussions will address production techniques, the plays themselves, the audiences to whom they appeal, and to what extent the fringe is still an important theatrical force. Students are required to attend performances of the plays under study. This course fulfills a fine arts distribution requirement. 6 units.

THAR 170/ENGL 170

Shakespeare in London

Ms. Vinter

Spring

Students will study several plays by William Shakespeare selected from among the current offerings by the Royal Shakespeare and other companies. Discussions will address the plays themselves, production techniques, and the audiences to whom they appeal. Students are required to attend performances of the plays under study. This course fulfills either a humanities or a fine arts distribution requirement. 6 units.

UNIC 260

British Life and Culture

Mr. Fosdal

Fall, Winter, and Spring

This compulsory course utilizes visiting speakers, site visits, and small group fieldwork and short research projects to introduce students to contemporary life in London and the United Kingdom. Site visits usually include Parliament, the London Mosque, the British Museum, and the BBC. Speakers have included an ex-MI5 agent, a former terrorist, religious leaders representing several different traditions, and a homeless person, among others. The course is designed so that the majority of work takes place during the single three-hour class meeting, allowing students the possibility of pursuing up to three elective courses. 3 units.

UNIC 262

“The Fields Beneath”: Discovering London’s Histories

Ms. Harris

Winter and Spring

This interdisciplinary course aims to give students a thorough grounding in the chronology of London’s development from Roman settlement on the periphery of Empire to 21st-century “World City.” The use of contemporary literary and visual sources will serve both to develop students’ historical imagination and to enable them critically to examine the concepts involved in the discipline of history itself. Alongside

this historical approach, a theoretical examination of specific themes and topics will be used to explore the nature of “the town as palimpsest,” a layered structure in which the past is never entirely obliterated by what succeeds it. Examples of such themes and topics might include, *inter alia*, religious observance, theatrical presentation, immigration, commerce, domestic life, and government. 6 units.

UNIC 264

London Internship

Ms. Harris

Fall and Winter

The compulsory internship seminar meets once per week and builds upon the field study, lectures, and discussions in the *British Life and Culture* course. Students are expected to maintain a journal with at least two substantial entries per week critically reflecting on their experiences from intercultural, cross-cultural, social, ethical, organizational, and interpersonal perspectives. Students are also required to complete two short reflective essays and a final internship essay interrogating their experiences in terms of the course readings, class discussions in the seminar and the *British Life and Culture* course, and the broader issue of how a liberal arts-informed perspective frames one’s experience in the workplace. 6 units.

ACADEMIC PROCEDURES AND REGULATIONS



Opportunities, obligations, and responsibilities

Academic procedures and regulations, together with degree, program, and course requirements and the code of student responsibility, form the basis for the equitable and orderly conduct of student academic life at Lawrence University. These rules accord students opportunities, such as the ability to develop a personalized course of study or change a course selection after the first class meeting. They also impose obligations and responsibilities, such as planning a course of study to complete program requirements and maintaining satisfactory academic progress. Students are expected to be thoroughly familiar with the contents of the course catalog, the Online Student Handbook (www.lawrence.edu/ref/sturef/handbook/), other contracts, and official notices of the university.

Catalog of record

Students may choose to complete degree requirements using the course catalog in effect at the time they matriculate as degree-seeking students or the current catalog at the time they plan to complete their degree. If requirements for a major, minor, or interdisciplinary area change, students should consult the department or program chair and their major advisor regarding the applicability of current course offerings to the major requirements they intend to complete. Academic regulations and procedures are effective as of the date they are approved by the university, unless otherwise noted.

Academic advising

Philosophy of advising

The philosophy that underlies academic advising at Lawrence reflects the university's emphasis on student responsibility and independence. Students have the responsibility for planning and pursuing their own academic programs. All students are assigned a faculty advisor to help with understanding strengths and weaknesses, setting goals, and utilizing resources at Lawrence.

Advisors are not expected to make decisions for advisees except in the case of an underload or overload request, nor are they expected to engage in a personal counseling relationship. Advisors are required to sign petitions and forms only if they have had the opportunity to provide their best advice on the decision.

Advisors have the responsibility to advise the student. Students have the responsibility of making the decision.

The advising process

Lawrence has a faculty-based advising system. All full-time members of the teaching faculty serve as academic advisors to students. New students are assigned to faculty advisors on the basis of academic interests and availability of faculty for advising. Junior and senior students are required to have advisors in their majors. Any student, however, may change an advisor by completing the Advising Change Form available in the registrar's office (www.lawrence.edu/dept/registrar/) and obtaining the signature of the new advisor on that form.

Students are encouraged to consult with other faculty members or the Office of the Dean of Student Academic Services for further advice.

Honor Code

To help maintain an atmosphere of mutual trust and confidence among students and faculty members and to ensure that each student is judged solely according to his or her own merits, the Lawrence University community has established the following honor code:

No Lawrence student will unfairly advance his or her own academic performance nor will the student in any way intentionally limit or impede the academic performance or intellectual pursuits of other students of the Lawrence community.

The Lawrence community firmly believes in the academic atmosphere this Honor Code is intended to ensure. An academic honor system secures freedoms, conveniences, and privileges that otherwise would not be available to students, creating an atmosphere in which they can learn without constant surveillance.

Students are responsible for understanding the Honor Code, and the Honor Council provides extensive information to all students. The council does not consider ignorance or negligence as excuses when determining whether or not an Honor Code violation has occurred.

Pledge and reaffirmation

As members of the Lawrence University community, students are required to sign the following Honor Pledge. By doing so, they affirm their belief in the value of the stipulations of the system:

I hereby affirm that I understand and accept the responsibilities and stipulations of the Lawrence University Honor System.

Furthermore, students must reaffirm the Honor Code by writing “I reaffirm the Lawrence University Honor Pledge,” followed by their signatures, on all submitted work.

Honor Council

The Honor System is administered by the Honor Council, which consists of ten students. The Council is responsible for educating the Lawrence community about the Honor Code and for acting as a judicial body when suspected violations occur. The dean of student academic services serves as a non-voting administrative advisor to the Honor Council.

Every member of the Lawrence community is responsible for upholding the Honor System. If a member of the community suspects a violation, he or she has two options: to contact the faculty member involved, the dean of student academic services, or a member of the Honor Council or to discuss the concerns directly with the student involved. The reporting of a suspected violation does not commit the student to pursuing additional action.

For more information, please refer to the full Honor System Charter in the Online Student Handbook (www.lawrence.edu/ref/sturef/handbook/).

Three-term system and course loads

Lawrence University has a three-term schedule. Each term consists of ten weeks of classes followed by four days of examinations, which are considered an integral part of the term. The term ends with the completion of final exams. The normal class periods under this plan are three 70-minute sessions per week (Monday, Wednesday, and Friday) or two 110-minute sessions per week (Tuesday and Thursday).

Courses are recorded using a term-course system. A standard course is six units. For purposes of transcript evaluation, six units may be considered the equivalent of three and one-third (3-1/3) semester hours or five (5) quarter hours. A six-unit course that includes extra class or laboratory sessions is the equivalent in content to courses that carry five semester hours or eight quarter hours at some other institutions.

Students who arrange their programs in the normal pattern take three courses (18 units) each

term. A course load of 15 units per term is required for certification as a full-time student; a course load of 21 units is required for full-time status in the student-teaching semester and semester-length off-campus programs.

Overloads/underloads

Students must receive permission from their advisors to take 24 or more units in a single term. A B average for the preceding three terms is generally expected of students requesting permission to overload. Students in the university should normally take no more than two partial courses (less than 6 units each) above the standard three-course load in any one term. Students who regularly take more than a standard load each term run the risk of failing to meet the 12-term tuition requirement (see “Tuition, Fees, and Refunds,” page 279).

Students may find it educationally advantageous to choose a reduced program for one or more terms. Written permission from the faculty advisor is required. Students considering a reduced load should carefully investigate the consequences of dropping below full-time status. Less than full-time status can affect financial aid, insurance, loan deferments, immigration status, or eligibility for participation in athletics.

The Incremental Fee Plan (see “Tuition, Fees, and Refunds,” page 279) may be applicable if an overload or underload program is elected.

Registration

Advance registration

Advance registration for the next academic year takes place in the Spring Term. All continuing students are expected to consult with their faculty advisors about their academic progress and proposed program for the following year. Continuing students must advance-register in order to participate in the housing selection process.

Advance-registration forms and instructions are sent to all students who do not expect to complete degree requirements by the end of Term III. Students attending Lawrence foreign centers during Spring Term will receive advance-registration materials from the center director. Advance-registration materials for students attending other Lawrence off-campus programs (ACM, GLCA, IES, etc.) will be mailed to home addresses unless another address has been

provided. Students on leave who are expected to return the following fall will receive advance registration materials from the dean of student academic services.

Advance registration for new freshmen and transfer students occurs over the summer. New students receive advance-registration materials from the dean of student academic services upon payment of the continuing-enrollment deposit. During Welcome Week in the fall, new freshmen and transfers meet with their faculty advisors to discuss their proposed programs for the year and make any necessary adjustments. All new students are required to file a completed final registration form at the registrar's office during the registration period at the beginning of their first term.

Registration each term

The following students are required to submit a completed registration form to the registrar's office during the registration period at the beginning of the term:

- all degree-seeking students attending Lawrence for the first time,
- all non-degree-seeking students, and
- students who advance-registered while attending an off-campus program or on leave but have not yet conferred with their faculty advisor(s) about their current-year program and obtained his or her signature.

Continuing students who do not fall into the categories above, are clear with the business office, and do not need to change their registration for the term may attend classes without further action. Students failing to register properly will be charged a late-registration fee.

In order to register, students must present a completed registration form in the registrar's office. A completed registration form contains the signature of the student, the signature of the student's faculty advisor, the signatures of instructors when required, and clearly identified course requests or deletions. Students wishing to register for a tutorial, independent study, or internship must also present a title form before they will be registered for the course.

Registration materials are sent to every student at the beginning of the term. Students who are notified that they are on hold with the business office should

contact that office as soon as possible to resolve the problem. Registration forms will not be accepted until clearance from the business office is obtained.

Registration for non-degree students

Individuals attending classes as non-degree students are required to register at the beginning of every term. Such students include members of the local community taking courses for personal growth, college graduates seeking teacher certification, high school students in the Academy Program, and exchange and visiting students. Non-degree students must obtain the signature of each instructor and their academic advisor before their registration forms can be processed. Priority is given to degree-seeking students when classes are over-subscribed.

Class changes

During the class change period at the beginning of each term (the first 10 class days), students may make changes to their class registrations for both the current and future terms. Registration changes are submitted to the registrar's office using a class change form. The signature of the academic advisor is always required. Signatures of class instructors might also be necessary depending on the changes requested.

It is the student's responsibility to notify the registrar's office promptly of any class changes. Failure to maintain an accurate registration record can result in (1) receiving no credit for a completed course, (2) receiving a failing grade in a course not completed, (3) failing to be certified as a full-time student for insurance, financial aid, immigration, or other purposes, and (4) being assessed a late-registration fee. Students who need to correct class registrations after the tenth day of classes (beginning the third week of the term), must petition the Faculty Subcommittee on Administration.

Fees for late registration

\$25 per late class cancellation or addition approved from the third week of the term through the last day of classes, up to a maximum of \$200 for the term.

\$50 per late class cancellation or addition approved after the last day of classes for the term; no maximum.

The Faculty Subcommittee on Administration may waive the late registration fee when a class change was delayed due to exceptional circumstances

such as illness, family emergency, a curricular decision that could not be made by registration deadlines, etc. The student is responsible for documenting such an exceptional circumstance as part of the petition.

Add/drop period

During the first two weeks of each term, students may adjust their schedules by adding or cancelling classes. A cancelled class is removed from the student's record and will not appear on future grade reports or transcripts. In order to make a registration change, a student must present a completed class-change form, containing all required signatures, in the registrar's office.

The signature of the faculty advisor is always required to make a class change. The signature of the instructor of any class requiring authorization (either as designated in the class schedule or limited-enrollment classes on or after the first day of the term) is also always required. After the first week of classes, students must obtain the signature of the instructor for any course they wish to add.

Withdrawing from courses

Students are permitted to withdraw passing (WP) from one of their classes after the second week of the term and through the Friday of the seventh week of the term. The instructor must confirm the student's last date of attendance and certify the student completed all work and earned a passing grade. Written acknowledgement from the student's faculty advisor also is required. A form is available from the registrar's office for this purpose (<http://www.lawrence.edu/dept/registrar/>). The grade of WP is recorded on the student's record but has no effect on the grade-point averages.

A student must petition the Faculty Subcommittee on Administration to withdraw passing if any of the following apply. He or she: (1) is withdrawing from more than one class in the term, or (2) has already withdrawn from three classes during his or her career at Lawrence, or (3) is on probation, or (4) is unable to complete the class after the seventh-week deadline.

Students may withdraw failing (WF) from a class through the last day of classes for the term with the permission of the instructor, the faculty advisor, and the dean of student academic services. A grade of WF is recorded on the student's record and appears in the

grade-point averages as an F grade.

Students who officially withdraw from the university during the term will have grades of WP and WF posted on their record depending on whether they were passing or failing their classes at the time of withdrawal. WF grades in this particular case will not be included in the grade-point averages.

Limited-enrollment classes

The registrar's office maintains waiting lists for limited-enrollment classes until the first day of the term. Students who wish to register for a class that is full may elect to be placed on the waiting list. At the end of the class-change period each term, waiting lists for classes offered in future terms will be reconciled. Students will be added to classes from the waiting lists if space is available. Students may remove their names from waiting lists by contacting the registrar's office. Students who have been added to a class from the waiting list, but no longer wish to take the class, must cancel the registration using regular class-change procedures.

At the beginning of the term, all students registered for a limited-enrollment class and any students on the waiting list who still wish to enroll must attend the first class meeting. At that time the instructor may choose to drop from the class registered students not in attendance and admit students to the class from the waiting list. Students admitted to a class from the waiting list by an instructor must submit a signed class-change form to the registrar's office in order to complete their registration.

Class attendance

Instructors may, at their own discretion, require attendance and/or take attendance into account in determining grades. Students should check class-attendance expectations with instructors at the beginning of each term. Whatever the attendance expectations may be for a class, students are responsible for all class obligations.

Students who wish to cancel or withdraw from a class after the term begins should notify the instructor of their intention promptly, as the instructor will be asked to verify the date the student last attended.

Final examinations

All final examinations are given and taken during the examination period. An examination schedule is published by the registrar before the fifth week of the term. Individual students who wish to change the time of a scheduled examination must petition the Faculty Subcommittee on Administration no later than Wednesday of the tenth week of classes. Petitions to change final exams for travel purposes will not be approved.

An exam time for the whole class may be changed only with the unanimous consent of the class members and with the permission of the dean of the faculty. During the last week of classes, no examinations or tests may be given in class or as take-home exercises.

It is a faculty member's prerogative to establish the conditions for his or her particular exam. If no specifications are given, however, the exam will be taken in class without books, notes, or discussion among the students.

Academic accommodations for students with disabilities

The Lawrence University policy applying to nondiscrimination on the basis of disability

"No otherwise qualified handicapped individual shall, solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."

— Section 504 of the Rehabilitation Act of 1973

The commitment of Lawrence University to provide a quality liberal education carries with it a commitment to a learning environment that provides all students with an equal opportunity for academic success.

Lawrence, in compliance with Section 504 of the Rehabilitation Act of 1973, recognizes that qualified students who have diagnosed handicaps, including specific learning disabilities, are entitled to an equal opportunity to benefit from the educational program of the university and that reasonable academic accommodations may be necessary to provide that opportunity.

Requesting an accommodation

Students who have a disability covered by the Americans with Disabilities Act are entitled to

academic accommodations. Students with disabilities must initiate all requests.

To request appropriate accommodations, a student must file a copy of the formal evaluation from a physician or clinical psychologist, depending on the disability, with the Office of Student Academic Services. This report will be kept in a confidential file. After the office has received this report, the student may request appropriate accommodations by discussing the request with the academic advisor and completing the request form, which must be signed by the academic advisor.

The academic accommodation system at Lawrence is based on the university's educational philosophy emphasizing student responsibility and independence. All requests for accommodations must be initiated by the student. No automatic notification of instructors occurs without a student request. No student with a disability is required to tell instructors about the disability or to request accommodations.

To inquire about accommodations, please contact the Office of Student Academic Services, which can provide all appropriate information and advice.

Grading system

Grading scale and grade symbols

A	Excellent	4	x value of the course
A–		3.75	x value of the course
B+		3.25	x value of the course
B	Good	3	x value of the course
B–		2.75	x value of the course
C+		2.25	x value of the course
C	Satisfactory	2	x value of the course
C–		1.75	x value of the course
D+		1.25	x value of the course
D	Passing but unsatisfactory	1	x value of the course
D–		0.75	x value of the course
F	Failing	0	
WF	Withdrew Failing: 0, except upon approved withdrawal from the university before the end of the term (see "Withdrawing from Courses," page 267)		
WP	Withdrew Passing: no course credit		
S	Satisfactory: equivalent to a C– or better but does not affect grade-point averages		
U	Unsatisfactory: equivalent to D+ or below, but does not affect grade-point averages; no course credit		

- I Incomplete: may be reported only for students who did not complete the coursework because of circumstances beyond their control, such as illness. Students must submit a request for an incomplete to the dean of student academic services before the end of the last day of classes. The dean will consult with the instructor in making the decision. An incomplete must be removed by the date set by the dean, subject to approved extensions; failure to complete the work can result in the recording of an F (U if the course was carried on an S/U basis).
- IP In Progress: may be used to designate the first term of tutorial work or independent study for which students will be registered for additional credit for two or three terms; replaced by the final grade when that grade is reported.
- AU Audit: this option may not be used by degree-seeking students and confers no credit.
- NR Not Reported: no valid grade reported. Grade will lapse to F (U if the course was carried on an S/U basis) if a valid grade is not reported shortly after the end of the term.
- * Withdrawal from term
- # Repeated course: credit is not applied to degree and grade is not used in computation of degree GPA

All grades, except approved incompletes or IP grades, are final when they are recorded with the registrar. Grades are due, according to faculty legislation, 72 hours after the end of the examination in the class or, if there is no examination, no later than 72 hours after the published examination period. The Faculty Subcommittee on Administration makes its decisions on academic actions shortly after grades have been submitted.

Satisfactory/unsatisfactory option

The S/U option is provided to encourage students to explore new academic disciplines. The decision to exercise this option must be made by the end of the second week of classes. It is not intended to be used as a means of grade protection after students have assessed their ability to complete required coursework satisfactorily.

Students who have completed 54 units may elect to take one class per term outside their major/minor

and major/minor department on a Satisfactory/Unsatisfactory basis. Students with a minor in Latin may take a course in Greek on an S/U basis. Students with a minor in Greek may take a course in Latin on an S/U basis. Students who carry more than 54 units may also exercise the S/U option for the overload class. No more than four grades of S or U resulting from the option may appear on a student's transcript at any one time.

Students may at any time (e.g., during the term in which a course is taken S/U or after the course has been completed) change the basis of grading in a course from S/U to a letter grade; they may not change from a letter grade to S/U. Instructors submit letter grades (A-F) for all courses not offered strictly on an S/U basis. The registrar then converts the letter grades to S or U for those students who have elected the S/U option. Grades of C- or above become Satisfactory; grades of D+ or below become Unsatisfactory. A satisfactory performance ensures credit toward graduation but does not affect grade-point averages. An unsatisfactory performance does not confer credit, nor does it affect the grade-point average.

Repeating courses

Students are permitted to repeat courses in which a grade of F is received. Both the original F and the new grade will be recorded on the permanent record. Only the second grade, however, will count in the degree GPA. If the course is in the student's major or minor department, only the second grade will count in the major or minor GPA. Both the original F and the repeat grade will count in the composite GPA (see "Grade Point Averages," page 270).

Students who have withdrawn from a class (WP or WF) have not completed the course and are free to take it again. A grade of WF is treated like an F when a course is repeated. Only the grade for the repeated course will count in the degree and major GPAs. Both the original WF and the repeat grade will count in the composite GPA.

Students must submit a repeat-course form (www.lawrence.edu/dept/registrar/) to the registrar's office to initiate the procedure for repeating a course.

Grade reporting and transcripts

Grades are reported to students by means of computer-generated grade reports as soon as possible

after the final examination period. Grades will not be given to students on an individual basis until grade reports have been prepared, except for graduating seniors, nor will they be given to students over the telephone.

Grade reports are sent to students and also are available to administrative personnel. Faculty advisors and continuing students receive copies of student academic records at the beginning of each term. Students may obtain a new copy of their academic record at any time by contacting the registrar's office.

Students are responsible for communicating information about their grades to parents or other family members. Reports are sent to parents only if written permission is provided by the student. A form for this purpose can be obtained in the registrar's office.

To obtain an official transcript, a student must make a request in writing, giving permission to release the transcript to a third party. A charge of \$5 (which includes tax) will be assessed for each official transcript requested. Additional fees will also be assessed for special shipping arrangements such as overnight delivery or fax. Students should be aware that transcripts will not be sent after the last day of classes until grades for the term have been posted, academic actions taken, and new record cards printed. Transcript requests are usually fulfilled within 2-4 days.

Official transcripts are issued only for students whose accounts with the business office are clear.

Grade changes

A grade submitted to the registrar can be changed only with approval of the university faculty at the request of the instructor. The instructor must submit a request for a change of grade in writing to the faculty secretary. The change will take effect upon approval of the faculty minutes in which the request is recorded.

A change of grade is permitted for reassessment of work previously evaluated or for the correction of an error in the calculation or reporting of a grade. The instructor states which reason applies. Grade changes are not permitted for work submitted after the class has concluded.

Grade-point averages

Lawrence uses four grade-point averages: major, minor, degree, and composite. The averages are used

to determine academic progress, fulfillment of degree requirements, and honors in course at graduation.

The major GPA includes all courses in the student's major department and those courses outside the department required for the major. Courses taken on the Lawrence campus, as well as courses completed at approved Lawrence off-campus programs (see "Off-Campus Programs," page 250) are included in the major GPA. Courses accepted for transfer credit from other institutions are not included. A student must earn a major GPA of 2.000 or above to graduate.

The minor GPA includes all courses in the student's minor department and those courses outside the department required for the minor. Courses taken on the Lawrence campus as well as courses completed at approved Lawrence off-campus programs are included in the minor GPA. Students must earn a minor GPA of 2.000 in order to complete the minor and have it recorded on their academic record.

The degree GPA includes all courses taken on the Lawrence campus or at approved Lawrence off-campus programs. It is used to determine academic actions and, in conjunction with the composite GPA, honors in course at graduation. A student must earn a degree GPA of 2.000 or above to graduate.

The composite GPA includes all courses included in the degree GPA plus any courses taken at other colleges and universities. The composite GPA is used, in conjunction with the degree GPA, to determine honors in course at graduation and selection for awards and membership in honorary societies.

Academic progress

Lawrence University normally expects students to complete their work toward graduation in four years — or five years in the case of students in the B.A./B. Mus. program. At the time of matriculation, the university determines the class standing of each student on the basis of transfer and advanced placement credits, if any, accepted by Lawrence. Thereafter, the number of credits earned at Lawrence and the cumulative degree grade-point average determine a student's academic progress.

Generally, full-time students are expected to progress toward graduation according to the following guidelines. At the end of the freshman year, or three

terms, a student should have completed at least 48 units and have a minimum GPA of 1.833. At the end of the sophomore year, or six terms, a student should have completed at least 102 units and have a minimum GPA of 2.000. Students who do not meet these guidelines, receive failing grades, or display other indications of unsatisfactory progress may be warned, placed on academic probation or strict probation, or required to withdraw from the university.

Students must be in good academic standing to participate in off-campus programs sponsored by Lawrence, the Associated Colleges of the Midwest, or other organizations with which Lawrence has consensual agreements.

Students placed on strict probation are not eligible to participate in either extracurricular performances or sports (varsity, junior-varsity, or club), nor may they hold a position of responsibility, elected or volunteer, in any Lawrence University Community Council-sanctioned activity or Greek organization. The spirit of this eligibility restriction is to limit any significant extracurricular activity but not necessarily to eliminate nominal participation, such as attendance at a meeting.

Additional information on policies governing academic progress and standing is contained in "Guidelines for Academic Action," which may be obtained from the dean of student academic services.

Transfer between degree programs within the university

Students who find that their interests have changed may apply to transfer to a different degree program within the university. An application for transfer is made as a petition for admission to the intended program. B.Mus. students who wish to transfer to the B.A. degree program should direct their petitions to the Faculty Subcommittee on Administration. B.A. students who wish to transfer to the B.Mus. degree program should direct their petitions to the Conservatory Committee on Administration.

Students in the five-year B.A./B.Mus. degree program may drop one of their degrees and move to a single-degree program (either the B.A. or the B.Mus.) by notifying the registrar's office.

Any student considering transferring to a different degree program should, at a minimum, consult with his or her advisor, the dean of the

conservatory, and the dean of student academic services in order to assess the consequences of such a move. A petition for transfer should not only speak to the reasons for the change but also present a plan for completing the requirements of the new degree program. In the case of transfer to the B.Mus. degree program, an audition or other qualifying examination may be required. Students who transfer to a different program after their second year of study usually will need to extend the time required for completion of their degrees.

Declaration of a major

Students are required to declare a major by the beginning of their junior year but may do so at any time by completing a form available in the registrar's office (www.lawrence.edu/dept/registrar/). Students must also have an academic advisor in their major department no later than the beginning of their junior year. The formal declaration of a major and change of advisors does not preclude students from seeking additional counsel about their academic programs from any member of the faculty.

Students in the Bachelor of Music degree program must be admitted to a major before they may declare one. Admission to a major generally takes the form of successful completion of a qualifying examination at the end of the sophomore year. Please see the "Conservatory of Music" section in this catalog (page 211) for more information about the requirements for admission to a major in the B.Mus. degree program.

Declaration of minors and interdisciplinary areas

In addition to completing degree and major requirements, students may choose to complete the requirements for a minor or an interdisciplinary area. Students may declare their intent to pursue such programs by completing a form available in the registrar's office (www.lawrence.edu/dept/registrar/). Students are strongly encouraged to consult with the appropriate department chair or program director on a regular basis about their course selections. Some departments or programs may expect students to have a formal advisor for the minor or interdisciplinary area.

Transfer credit

Evaluation of credit for transfer students

Students who are accepted as transfers from other institutions of higher education must submit official transcripts to the registrar. The registrar's evaluation will include: a list of courses accepted toward a Lawrence degree, the credit value of each course in terms of the original institution's system, a statement of the term-course equivalent of the total number of credits accepted, a statement of the value of the grades earned at the former institution in the student's cumulative composite grade-point average, a notation of credits that may be pending completion of work or approval by a Lawrence department, a notation of courses denied for unsatisfactory grades or because the subject is not applicable to a liberal arts or music degree, a statement of the work required for graduation, a statement of the class to which the student has been admitted.

Coursework from other institutions may not be used to fulfill the writing and speaking General Education Requirements.

Any student wishing to transfer credit from an institution in a foreign country must submit transcripts/documents to Educational Credential Evaluators, Inc., before credit can be accepted for transfer.

Individual departments will determine if transfer credit fulfills major requirements. Depending on previous work completed and the major selected at Lawrence, transfer students may need to complete additional credit beyond the minimum required for their Lawrence degree program in order to fulfill all degree requirements (see "Degree Requirements," page 25).

Transfer credit is used only in computing the composite GPA (see page 270).

College work completed in high school

Students who have taken college-level courses while attending high school may be granted up to 42 units of transfer work.

Transfer of credit for continuing students

Students who wish to attend summer school or undertake a period of study at another institution must petition the Faculty Subcommittee on Administration (preferably in advance of enrolling elsewhere) to seek approval of their proposed course

of study. Petitions must include titles and descriptions of courses; length of session or term and, in the case of summer work, number of hours of participation (class, laboratory, field, or studio); and statements of support from the student's advisor and from the chairs of the departments that would offer the courses were they part of the Lawrence curriculum. Credit is normally granted on the basis of 6 units for each three-and-one-third semester credit hours or five quarter hours. Students must receive grades of C– or better for courses to be accepted. Normally no more than 12 units may be earned in a summer session.

Transfer credit may be used to fulfill general education and other degree requirements, except for the writing and speaking competency requirements. Students wishing to apply transfer credit to a General Education requirement should clearly state that desire in their petition. Individual departments will determine if transfer credit fulfills major requirements.

As programs are approved, the registrar notifies students in writing of the credits that will be allowed and the grades that will be required for transfer of credit. This communication also will indicate whether an examination at Lawrence will be required. No transfer credits will be recorded without submission of official transcripts or certificates of work completed; student grade reports are not sufficient.

Transfer credit is used only in computing the composite GPA (see page 270).

Continuing students seeking to transfer credit from other institutions should review the residence requirements for their degree program (see "Residence Requirements," page 26).

Credit for Advanced Placement Examinations

The Advanced Placement program of the College Board offers high school students the opportunity to study prescribed courses in many subject areas and to take nationally administered examinations on these courses. Lawrence will give 6 units in the appropriate discipline for a score of 4 or 5 on an advanced placement examination, except for multiple examinations with substantial shared material, for which the credit granted may be limited to 6 units. Individual departments may decide to award additional credit.

Credit awarded for advanced-placement

examinations may be used to fulfill the General Education Requirements. Individual departments will determine whether advanced-placement credit fulfills major requirements and the placement of students who wish to undertake further work in that discipline.

Credit for International Baccalaureate Program

Lawrence will grant sophomore standing (48 units) to students who have achieved a score of 5 or above on all examinations in the course of achieving an International Baccalaureate diploma. Students who received a score below 5 on any examination but completed the diploma will receive 6 units for each grade of 5, 6, or 7 on higher- or subsidiary-level examinations. Students who have completed individual courses in the International Baccalaureate Program will receive 6 units for a grade of 5, 6, or 7 on an International Baccalaureate higher-level examination.

Credit awarded for these examinations may be used to fulfill the General Education Requirements. Individual academic departments will make decisions on placement or on the use of International Baccalaureate courses to fulfill major requirements.

Completion of the foreign language General Education Requirement

Students, including heritage speakers of foreign languages taught at Lawrence, fulfill the language requirement by demonstrating proficiency in all four skills (listening, speaking, reading, and writing) at the 200 level or above (Bachelor of Arts) or at the level of 102 or above (Bachelor of Music). Students may demonstrate proficiency in a variety of ways:

Coursework in languages taught at Lawrence

- Students may begin or continue language study at Lawrence and fulfill the requirement by completing a course at the appropriate level.
- Students may participate in certain affiliated off-campus programs with language components and fulfill the requirement by completing a course at the appropriate level. Not all programs have qualifying courses. A list of programs is available through the Office of International and Off-Campus Programs.

Examinations

- By taking and passing the Lawrence University proficiency examination in a foreign language at the appropriate level. The language department involved will determine placement and whether the foreign language General Education Requirement will be waived. Degree credit is not awarded for these examinations.
- By obtaining a score of 4 or 5 on the College Board Advanced Placement Examination or a score of 6 or above on an International Baccalaureate Examination in foreign language. This option carries credit equal to one six-unit course.

Additional Examination Options for Spanish

- By obtaining a score of 630 or higher on the SAT II Spanish or Spanish with Listening exam. No additional academic credit is awarded.
- By presenting documentation for CLEP credits in Spanish. Four CLEP semesters will complete the requirement for the B.A. and B.A./B.Mus. degree programs. Two CLEP semesters will complete the requirement for the B.Mus. degree program. No degree credit will be awarded for CLEP examinations.

Languages other than those taught at Lawrence

Students, including those participating in affiliated off-campus programs with a language component, who have studied a foreign language other than those taught at Lawrence and wish to use it to complete the requirement must demonstrate proficiency in all four skills (see above) at the 200 level (B.A.) or at the level of 102 or above (B.Mus.). They shall demonstrate proficiency in one of the following ways:

- Completing equivalent coursework at the appropriate level. (Courses could be taken at any other institution and then transferred back to Lawrence.)
- By taking and passing a proficiency examination in the language. (This process may be facilitated locally by the dean of student academic services.)

In those cases where placement or proficiency tests are not available locally, students shall petition to use another form of evaluation. This evaluation

must be administered and certified by an outside authority who will (a) identify his/her expertise in the language, (b) describe the methods by which he/she assessed the proficiency of the student, and (c) provide a diagnostic report on the level of proficiency the student has obtained in the four skills.

Native Speakers

- The requirement will be waived for international students whose high school program was conducted in a language other than English. They will need to provide documented proof (e.g., high school diploma) verifying that this was indeed the case.
- Students whose native language is not English must demonstrate proficiency in that native language if their high school program was conducted primarily in English. For written languages, proficiency includes the ability to read and write the language. For languages in which proficiency cannot be assessed by a Lawrence faculty member, students must provide a letter from a person in authority (e.g., a headmaster or teacher) who is not a family member, along with any other relevant documentation attesting to the student's proficiency in the language.

Leaves of absence and withdrawal

A student who wishes to leave the university should request a leave of absence or withdrawal by completing the request form available from the dean of student academic services. The dean, using faculty legislation, will review the request and, upon its approval, will notify all appropriate university offices.

A student granted a leave may return at any time prior to the expiration of the leave; otherwise a student is expected to return at the end of the leave or request an extension prior to the end of the leave. A student who does not return at the expiration of his or her leave, and is not granted an extension, is withdrawn from the university. Such a student who then wishes to return must petition the Faculty Subcommittee on Administration for readmission. Any student who, without a leave of absence, terminates his or her enrollment at Lawrence or in a Lawrence-sponsored program is withdrawn from the university and, like a student who overstays a leave of absence, may return only upon approval of a petition

for readmission.

Petitions for readmission are directed to the dean of student academic services for consideration by the Faculty Subcommittee on Administration. The petition should include a clear and detailed explanation of why the student terminated his or her enrollment or overstayed a leave of absence, what academic or other worthwhile activities occupied the student while he or she was withdrawn from the university, and why the student wants to be readmitted.

A student who does not follow these procedures for a leave or a withdrawal or who fails to meet refund deadlines (see "Tuition, Fees, and Refunds," page 279) may forfeit the continuing-enrollment deposit.

Dean's List

The Dean's List is an annual honor roll of students demonstrating exemplary academic performance. The list is compiled at the end of June after Term III grades have been posted. To be included on the Dean's List a student's record must meet the following qualifications:

- The student must have earned a 3.400 GPA for the year in all A-F graded courses.
- The student must have earned at least 36 units in A-F graded courses during the year.
- The student must have no unsatisfactory grades (U, D+, D, D-, or F) in courses taken during the year.
- The student must have no grades of I or NR, except where the NR is due to a faculty member's not turning in grades for the course.

Conferring of degrees and graduation

Lawrence confers degrees at the end of the Fall and Spring Terms each year but holds its Commencement only once, in June. Degrees are not conferred automatically. Students must apply for graduation by completing a questionnaire distributed by the registrar's office. Receipt of a completed questionnaire initiates a review of the student's academic record for completion of degree requirements. All grades, official transcripts, and other certifying documents, such as the major-completion form, must be filed at the registrar's office before a degree can be awarded. Students enrolled in the five-year B.A./B.Mus. program must complete all

program requirements before receiving either degree.

Once a degree is conferred, a student may not apply additional credit to that degree.

Participation in Commencement is a privilege earned by students who complete degree requirements. Students who expect to finish and receive their degrees by the end of the calendar year may petition to participate in Commencement the June before their degree is conferred. Petitions to participate in Commencement must be submitted to the Faculty Subcommittee on Administration no later than April 15.

Each time degrees are conferred, the permanent records of the graduates are reprinted with the date and the nature of the degrees awarded. This information will be included in all transcripts requested after the degree date. Diplomas are printed once each year and distributed at Commencement in June. Official transcripts, diplomas, and letters certifying completion of all requirements will be released only for students whose accounts with the business office are clear.

Honors at graduation

The faculty of Lawrence University grants honors at graduation both to encourage students to do superior academic work and to recognize superior performance. Honors in Course and Honors in Independent Study recognize two distinctive kinds of academic achievement; some students each year receive both types of honors. Students who have distinguished themselves in fulfilling the requirements for the bachelor's degree are awarded Honors in Course, primarily on the basis of their cumulative grade-point averages, while those who have completed significant independent projects may submit their work for evaluation for Honors in Independent Study. Both types of honors are indicated in the Commencement program and on official transcripts, and both are granted in three grades, *cum laude*, *magna cum laude*, and *summa cum laude*, by vote of the faculty acting on the recommendation of the university Committee on Honors.

Honors in course

Performance in courses taken at Lawrence or as part of Lawrence-approved off-campus programs (degree GPA), as well as a student's entire academic record

(composite GPA), determines a student's eligibility to receive honors. The committee uses as guidelines the following grade-point averages:

3.40 to 3.69 for *cum laude*

3.70 to 3.89 for *magna cum laude*

3.90 to 4.00 for *summa cum laude*

Honors in Course are not awarded automatically, however. The committee examines all students' records individually and recognizes that in certain situations cumulative averages are not accurate measures of a student's achievements in course. If, for example, a student has taken an unusually large number of courses on a S/U basis, has completed an unusual student-designed major, or has performed with distinction on a departmental examination, the committee may consider departmental or committee evaluations and other relevant data.

Students who transfer from other colleges or universities, as well as students who undertake virtually all of their coursework at Lawrence, qualify for Honors in Course on the same basis. Students normally must achieve the stated guidelines in both the degree GPA and the composite GPA to qualify for a given level of honors.

Honors in independent study

Students may also earn honors at graduation through the successful completion of an honors project (see "Honors Projects," page 240).

Confidentiality of student education records

Lawrence requires students to give consent in writing before any personally identifiable information from their education records can be released, except to the extent allowed by the Family Educational Rights and Privacy Act (FERPA). It is each student's responsibility to communicate information about grades, academic progress, or disciplinary actions to parents, guardians, or other family members.

For further information about student rights with respect to education records, FERPA, and release of education records, see the Online Student Handbook (www.lawrence.edu/ref/sturef/handbook/).

Petitions for exceptions to academic regulations

University regulations govern the academic progress of students, the welfare of the community, and the equitable and orderly conduct of university affairs. On occasion, however, individual circumstances may

warrant exceptions to established regulations, and students may petition the appropriate officer of the university or university committee for such exceptions. Petitions for exceptions to social regulations should be directed to the dean of students; petitions for exceptions to academic regulations should be directed to the Faculty Subcommittee on Administration via the registrar or dean of student academic services; petitions for exceptions to conservatory requirements should be directed to the dean of the conservatory; and petitions concerning business affairs should be directed to the vice-president for business affairs. Petitions will be reviewed by the appropriate entity and decisions communicated to the petitioning students.

Petitions should contain a clear and detailed statement of the exception requested and the reasons for the request. Students should review petitions with faculty advisors and others who may be involved, such as instructors, department chairs, or deans, and seek their approval. Petitions for exceptions to academic regulations must contain the signature of the student's advisor(s) and, depending on the exception requested, the instructor's or department chair's signature may also be required.

Grievance procedures

On occasion, students may have a grievance concerning the action or lack of action of a member of the Lawrence community in a matter unrelated to the policies on sexual harassment and sexual assault (see Online Student Handbook: www.lawrence.edu/ref/sturef/handbook/). The grievance procedures should be utilized to seek a resolution to the situation that is acceptable to all parties concerned.

1. The student shall first attempt to discuss the problem with the individual most directly involved in the grievance. In most cases, such a discussion will yield a mutually acceptable resolution.
2. If a discussion is impossible or unable to resolve the grievance, the student may then consult with an appropriate member of the administration, who may suggest possible solutions as appropriate or who may act as an informal mediator. If the problem is with a member of the faculty, the appropriate person for the student to consult is the dean of the

faculty. If the problem is with another student, staff member, or administrator, the appropriate person for the student to consult is the dean of students. Other members of the Lawrence community from whom the student may wish to seek counsel include professional counseling staff or the student's faculty advisor, residence hall director, or residence life advisor.

3. If informal conversation fails to resolve a grievance, the student may request either the dean of the faculty, the vice president for business affairs, or the dean of students, depending on the nature of the problem, to review the case formally. To call for such a formal review of a grievance against a student or a staff or faculty member, the complainant must send to the dean or vice president a written statement that explains the grievance and reviews the action taken to that point. The complainant may also include proposals for a solution of the grievance. The complainant must send a copy of this statement to the student or staff or faculty member against whom the grievance is alleged. The vice president or dean then will request a written response to the statement from the other individual in the dispute. He or she may seek additional information and may meet with either or both parties. On the basis of the statement of the grievance, the response, and any additional information gathered by the dean or vice president, he or she may decide (1) that the respondent has acted responsibly and the complainant has been given an adequate explanation of the situation from which the grievance arose; (2) that there has been a violation of university regulations or procedures, in which case the dean or vice president will direct the party in violation of the regulations or procedures to correct the violation; or (3) that the situation is not specifically covered by university regulations or procedures. In the last case, he or she may offer a recommendation regarding appropriate action, but neither party is bound to act on the recommendation. The dean or vice president will send a written assessment of the grievance and recommendation for its

- resolution to the complainant and the respondent.
4. If the procedures do not result in a resolution of the grievance, the complainant may request that a panel of faculty and staff members be convened to hear the grievance and render a final decision. Upon receipt of such a request in writing, the dean or vice president will ask the complainant and the respondent to submit lists of up to three members of the faculty and staff. The dean or vice president will select one person from each of those lists and name a third member of the faculty or staff to chair the panel. The grievance panel will receive all written documents related to the grievance and may interview both the complainant and the respondent before rendering its decision, in writing, to the complainant, the respondent, and the dean. The complainant or respondent may appeal to the president to reverse the decision of the grievance panel. The decision of the president is final.

ADMISSION, FEES, AND FINANCIAL AID



Admission

Admission to the university

Lawrence admits students who can profit from what the university has to offer and who will contribute to the academic and residential communities. We recommend that high school students take at least 16 academic units from the areas of English, mathematics, history, social studies, natural sciences, and foreign languages. We are interested in students who have challenged themselves in high school, who have performed well in their academic work, who express themselves well both verbally and in writing, who understand the value of a liberal arts education, and who are imaginative, energetic, and willing to become active members of a learning community.

Lawrence considers the strength of each applicant's course of study, grades, standardized test scores, recommendations, and extracurricular activities, roughly in that order. Lawrence accepts either the SAT I or ACT scores for admission.

International students may also submit the Test of English as a Foreign Language (TOEFL) if English is not the primary language of the applicant.

Candidates for the Bachelor of Music degree and for the five-year double-degree program are evaluated additionally on musicianship, musical background, performance potential, and music teachers' recommendations. Along with the regular application forms, music degree applicants must complete a supplementary music form, submit a recommendation from a private music teacher, and audition on their primary instrument.

We welcome applications from transfer students who wish to complete their degrees at Lawrence. Transfer candidates are required to submit college transcripts and a college faculty recommendation along with the application, secondary school report, final high school transcript, and ACT or SAT I results. Transfer candidates for the music degree must audition on their primary instrument and pass an advanced theory placement test in addition to the above-mentioned requirements. Generally, coursework in the arts and sciences completed satisfactorily at accredited institutions is accepted toward a Lawrence degree.

Please see page 26 for information on residence requirements for each degree program.

On occasion, Lawrence accepts qualified applicants for early admission who are prepared to

begin college at the end of the junior year of high school.

Lawrence adheres to a need-blind admission policy.

Application deadlines and campus visits

There are three application deadlines for first-year students planning to enroll in September.

Early Decision: November 15

Early Action: December 1

Regular Decision: January 15

Early Decision should be elected only by those students who are confident that Lawrence is their first-choice college, as it is a binding decision. Early Decision candidates will be notified by December 1 and are required to make a commitment by January 1.

Early Action is not binding; candidates will be notified by January 15 but are not required to make a commitment until May 1.

Regular Decision candidates will be notified of a decision by April 1.

Transfer admission to any of the three terms is by rolling admission.

Lawrence welcomes visits by prospective students, as a campus visit is the best way to learn about a college. We encourage students to visit when classes are in session and there is an abundance of campus activities. We can arrange class visits, individual meetings with faculty, meals, a campus tour, and an interview with an admissions officer. We ask that visits be arranged at least two weeks in advance and that students limit residence-hall overnights to one night. We cannot provide overnights on campus for Fridays and Saturdays. Summer visits consist of an interview and campus tour.

Tuition, fees, and refunds

Admission and matriculation fees

\$30: Fee payable with application by all applicants.

\$200: Continuing enrollment deposit to ensure registration and housing for each term. Deposit payable by all admitted students on receiving notice of admission, on return from a leave of absence, or on readmission following a withdrawal. Refundable on graduation or on written notification of withdrawal or leave of absence prior to August 15 for Term I, December 15 for Term II, and March 15 for Term III.

Refunds are reduced by any unpaid obligations to the university. Nonrefundable on withdrawal prior to matriculation or withdrawal or leave of absence without timely, proper notice after matriculation.

\$20: Matriculation fee for initial enrollment.

Comprehensive fee 2003-04

\$24,900: Tuition per three-term year. Payable in installments of \$8,300 each term.

\$2,487: Double room charge per three-term year. Room charges for single occupancy are higher than double occupancy.

\$3,297: 175 meals per term with \$150 Memorial Union Grill credit, per three-term year. Board plans vary on the number of meals-per-term and the amount of credit given for purchases at the student union.

\$189: Student organization/Lawrence University Community Council fee for three-term year. Payable in installments of \$63 per term.

\$30,873: Total comprehensive fee, per three-term year. Includes tuition, double room, full board, and activity fee.

The equivalent of at least 12 terms (216 units) of tuition, less transfer or advanced-placement credit, must be paid by single-degree students prior to the awarding of the degree. Double-degree students must pay the equivalent of at least 15 terms (270 units) of tuition.

Incremental fees

Students enrolled and assessed according to the comprehensive fee schedule for the full 12 terms may take courses above the normal course load in any of those terms at no extra cost. Students enrolled full-time for more than 12 terms may elect tuition assessment by-the-term or by-the-course for the 13th and succeeding terms.

Students choosing to take more or less than the normal course load and choosing to pay the regular comprehensive fee will contract for at least 12 terms (216 units) of tuition payments (15 terms, 270 units for students in the double-degree program), less the equivalent in transfer or advanced-placement credits,

prior to the awarding of the degree. Units per term of between 17 and 19 are the norm. Per-credit payment terms are available. Financial aid will be adjusted accordingly for per-credit payment.

Other fees and costs

\$150-250: Textbook cost per term, approximate

\$27: Residence hall activity fee per three-term year. Payable at the residence hall on arrival.

\$220: Music lesson charge per term, one-half hour of instruction per week, for students not majoring in music. (For more information, see page 231 in the "Conservatory of Music" section or page 162 under Music in the "Courses of Study" section.)

Note: Medical insurance is not provided for students by the university. A student insurance plan offering accident and sickness coverage is available through a local agent. Details may be obtained from the Office of the Dean of Students.

Bills and payments

Bills are mailed to the student's home address approximately three weeks before they are due for each term. The bill reflects appropriate adjustments for merit awards and financial aid awards based upon receipt of a signed Lawrence financial aid acceptance form. Due dates will not be extended. If the bill is not received within two weeks before registration, the business office should be notified so that a duplicate can be issued.

Students will not be allowed to complete registration or continue attending classes until term fees have been paid in full or a payment arrangement has been approved by the business office. Once satisfactory payment arrangements have been made, a conditional registration is signed by the business office and the student, specifying that the account will be paid no later than the sixth week of that term.

The student will be informed periodically of the status of the account and notified promptly if the terms of the conditional registration are not being met. Students who do not pay their fees as agreed will be put on administrative leave for the next term and will not be allowed to return until the following term, when all outstanding fees must be paid in full, along with the payment for the upcoming term.

Failure to make payment for subsequent terms by the due dates, after being reinstated as a student, will result in withdrawal from the college.

Additional charges incurred for course-related or extracurricular activities or purchases are due as incurred. Students are expected to pay these obligations when due.

Official transcripts, diplomas, and letters certifying completion of all requirements will not be released until all accumulated fees and charges have been paid.

Term I fees are due on August 15, 2003. Term II fees are due December 15, 2003. Term III fees are due March 15, 2004.

Room and board

Lawrence University is a residential college, and all students are expected to live on campus throughout their entire enrollment. Exemptions are granted to students who have been Lawrence students for four academic years, students beginning their fifth year or later after high school, married students, students in documented domestic partnerships, or students with dependent children. Students meeting any of these criteria should submit a written request for an exemption to the dean of students. Housing charges will be cancelled only after reasons are verified. Off-campus students must keep the registrar's office informed of any address or telephone number changes.

Room charges are: double occupancy, \$2,487 per three-term year, single occupancy, \$2,877 per three-term year. Changes of occupancy will be reflected on the student account as they occur. Residence hall rooms are provided with essential furniture; students must provide their own linens.

Board plans include a 175-meals-per-term plan with \$150 grill credit, two 132-meals-per-term plans, two 110-meals-per-term plans, and two 77-meals-per-term plans. All students are required to eat their meals in campus dining facilities.

Residence halls open for new students on the day prior to the first day of Welcome Week, and the first board meal is served when Welcome Week begins. Rooms for returning students will be available the Sunday prior to registration; the first meal is served for them that evening.

The obligations of the university to resident students for room and board cease after breakfast on the day following the last examination at the end of

each term or after the last class before each vacation period within a term. In the third term, a 24-hour period after the individual student's last examination is allowed for packing.

The room and board charge does not include the December break, or any other period when dining halls or residences are closed. Additional charges may be made for room or board during these periods. Residence halls will remain open during the Thanksgiving and spring breaks, but dining rooms will be closed. Special provisions will be made for students remaining on campus who request Thanksgiving Day dinner. Dining rooms will serve the first board meal on the following Sunday evening. The Memorial Union will be open limited hours during breaks.

Refunds

In 1999 Lawrence adopted a refund policy in accordance with the U.S. Department of Education's 1998 Reauthorization of The Higher Education Amendments (Section 668.22).

Leave of absence or withdrawal before the first day of classes

Full room, board, tuition, and activity fees will be refunded upon proper notification of withdrawal or leave of absence prior to the first day of classes for any term. Written notification of leave of absence or withdrawal must be directed to the dean of student academic services.

Students who fail to notify the university of their decision not to enroll for classes by the date fees for the term are due (see "Bills and Payments," page 280) will forfeit their continuing enrollment deposit (CED) of \$200.

Leave of absence or withdrawal on or after the first day of classes

Students who take a leave of absence or withdraw from the university after classes are in session may qualify for a reduction in certain charges that are due to the university.

A student must request a change in status, including a leave of absence or withdrawal from the dean of student academic services. Students who wish to request this change, or discuss such an option, should make an appointment with the dean of student academic services before completing the

required form. If granted permission for a change of status, a student may qualify for a reduction in charges that are due the university.

If a student takes a leave of absence or withdraws prior to the 60-percent point of the term, tuition, room, and board charges will be based on the number of calendar days the student was in attendance. A student who remains on campus after the approved leave of absence or withdrawal date will be charged *pro rata* for room and board through the date on which they depart, as determined by the dean of students. Activity fees will not be refunded.

Computation of the 60-percent point will be based on the total number of calendar days in the term beginning with the first day of classes and ending with the last day of final examinations. For the 2003-04 academic year, these dates are:

Term I November 7, 2003

Term II February 18, 2004

Term III May 12, 2004

A non-refundable \$200 withdrawal fee will be assessed each time a student withdraws or takes a leave of absence from the university, unless the leave of absence or withdrawal is before the first day of classes of each term.

Federal, state, institutional, and private financial aid funds (except for federal work study funds) awarded to the student will be reduced based on the number of calendar days the student was in attendance up to the 60-percent point of the term. After 60 percent of the term has been completed, financial aid awards will not be adjusted. Further details and examples can be obtained at the financial aid office.

Refund checks will not be issued until two weeks after either the last date of attendance or the student's departure date, whichever is later.

Petitions for exceptions to this policy must be made in writing to the vice president for business affairs.

Financial aid

Lawrence awards a variety of merit scholarships based upon demonstrated academic achievement or musical talent. The bulk of Lawrence's financial assistance, however, is reserved for those students who have demonstrated financial need.

Students are eligible for consideration for

financial aid from Lawrence funds, federal aid programs, and state aid programs. More than 85 percent of our students receive more than \$18 million in financial aid awards each year in the form of grants and scholarships, loans, and work-study funds. Lawrence subscribes to institutional methodology in determining eligibility for financial aid.

Students must submit the Free Application for Federal Student Aid (FAFSA) as well as the Lawrence Application for Financial Aid. If the student's application is selected by the U. S. Department of Education for a process called verification, the applicant is required to submit signed copies of federal income tax returns, including W-2 forms, for both the parent(s) and student, where applicable. Final determination of financial need is made after a student has been offered admission and upon receipt of all financial aid documents as described above. The recommended financial aid application deadline for first-year students is March 15.

Lawrence's financial aid commitment will continue throughout a student's career at Lawrence for as long as the family evidences financial need and the student is making satisfactory progress toward the completion of a degree. Academic and musical merit awards are reviewed annually for renewal; students must meet specifically stated criteria for continued eligibility of merit awards.

The largest single source of aid funds for Lawrence students is the Lawrence University Grant program. This resource comes from endowment income and annual contributions from alumni and friends of the university.

Loan options available to eligible students and parents include the Federal Direct Stafford Student Loan, the Federal Perkins Loan, and the Federal PLUS parent loan, as well as private sources.

Returning students are send information in early February explaining how to apply for financial aid for the following academic year. The priority deadline for returning students to apply for financial aid is April 15. Further, exit interviews are required for all student recipients of federal loans prior to leaving the university.

Approximately half of the student body works part-time on campus as part of the student employment program. Campus employment allows students to earn money to pay for a portion of their college expenses.

ADMISSION, FEES, AND FINANCIAL AID

Applicants are encouraged to apply for any local scholarships for which they may be eligible.

Lawrence-sponsored merit scholarships typically range from \$12,000 to \$40,000 over four years (up to

\$50,000 for students in the double-degree program).

Lawrence is need-blind in its admission policy and, therefore, does not consider financial need in evaluating a student's admissibility to the university.

AWARDS, SOCIETIES, AND FELLOWSHIPS



Awards and prizes

A variety of awards and prizes are made to students and faculty members at the annual Honors Convocation in the spring, including:

The John J. and Graciela Alfieri Tuition Scholarship in Spanish
 The Mrs. H. K. Babcock Award, for service to students
 The Paul V. Bacon Prize in Latin
 The Louis C. Baker Memorial Award in Modern Languages
 The Baker Prize in Modern Languages
 The Ruth Bateman Award, for excellence in scholarship, athletic ability, and leadership by a woman
 The Andrew C. Berry-James C. Stewart Prize in Mathematics
 The H. S. Biggers Scholarship Prize
 Botanical Society of America Merit Award
 J. Bruce Brackenridge Prize in Physics
 The Campus Life Award, for leadership and service
 The John Allen "Wally" Chambers Memorial Leadership Award
 The Iden Charles Champion Award in Commerce and Industry, to a student in the Department of Economics
 The Iden Charles Champion Cup, for excellence in scholarship, athletic ability, college spirit, and loyalty
 The Undergraduate Award in Analytical Chemistry
 The American Institute of Chemists Award
 The POLYED Organic Chemistry Award
 The Senior Chemistry Award
 The CRC Press Freshman Chemistry Achievement Award
 The Sophomore Prize in Computer Science
 The F. Theodore Cloak Award in Theatre
 The Maurice P. and Regina C. Cunningham Prize in Greek
 The Maurice Cunningham Phi Beta Kappa Prize, to an outstanding junior
 The Margaret Gary Daniels Keyboard Performance Award
 The Arthur C. Denney Trophy, to a track man for team spirit and leadership
 Alice S. Diderrich Prize in Creative Writing
 The Clyde Duncan Scholarship
 The Miriam Clapp Duncan Award in Organ and Harpsichord

The Herman Erb Prize in German
 The Otho Pearre Fairfield Prize Scholarship, to a junior for distinguished service to others
 The John Herbert and Mamie E. Farley Prize Scholarship in Philosophy
 The Fraternity Scholarship Cup
 The Outstanding Freshman Athletic Award for Men
 The Outstanding Freshman Athletic Award for Women
 The Freshman Studies Teaching Award
 The Freshman Studies Writing Prize
 The Christine Gerdes Award in Anthropology
 The Judith Anne Gustafson Memorial Award, for outstanding scholarship and character
 The Richard A. Harrison Award for Research in the Humanities and Social Sciences
 The Bernard E. Heselton Award
 The Paul C. Hollinger Award in Music History
 The Joseph A. Hopfensperger Björklunden Scholarships
 The Marjory Irvin Prize, for excellence in piano performance
 The Anne Prioleau Jones Tuition Scholarship in French
 The Martin Luther King Award, mirroring the excellence for which Dr. King is remembered
 The Ralph V. Landis Award, for outstanding contributions to Lawrence athletics by a male athlete
 The Lantern Community Service Award
 The Latin League of Wisconsin College Awards
 The Charles F. Lauter International Student Prize, awarded for scholarship, leadership, service, and support for the international community at Lawrence
 The Letterwinner Award, for outstanding athletic participation
 The Lewis Prize, to the senior whose academic rank is the highest
 The La Vahn Maesch Prize Scholarship in Organ
 The Edith A. Mattson Prize, awarded for significant contribution to life in Russell Sage Hall
 The Jessie Mae Pate McConagha Prize, for scholarship in history
 The William A. McConagha Prize, for excellence in economics
 The John F. McMahon Tuition Scholarship in German
 The Elizabeth Black Miller String Scholarships
 The James Ming Scholarship in musical composition
 The Mortar Board Honorary Award, for faculty excellence

AWARDS, SOCIETIES, AND FELLOWSHIPS

The Edwin H. Olson Award in Human Services
The Peabody Prize in Latin
The Peerenboom Prize Scholarship in the Field of Semantics
The Phi Beta Kappa Freshman Scholarship Prize
The Pi Kappa Lambda Composition Award
The Pi Kappa Lambda Jazz Composition Award
The Pi Kappa Lambda Freshman Prize
The Pi Kappa Lambda Sophomore Prize
The Pi Kappa Lambda Music Education Teaching Award
The Political Science Journal Award
The Charles E. Pond Award for Men
The Pond Athletic Award for Women
The Mojmir Povolny Prize in Government
The President's Prize, for outstanding academic performance
The Presser Foundation Music Scholarship
The E. Dane Purdo Award, to an exceptional student in art or ceramics
The William F. Raney Prize in History
The Marion Read Award, for outstanding contributions to Lawrence athletics
The Gervais E. and Mary Katherine Reed Award, for achievement and service, to a senior woman
The Theodore L. Rehl Prize, for excellence in the performance of chamber music
The Alexander J. Reid Prize in English
The Estelle Ray Reid Scholarship in Art
The Estelle Ray Reid Prize in Library Science
The Thomas B. Reid Scholarship in Journalism
The Elizabeth Richardson Award, for outstanding women majoring in studio art and art history
The Sumner Richman Student Research Award in Biology
The Patricia Ritter Prize in Chinese Culture
The Patricia Ritter Prize in Chinese Language
The Howard and Helen Russell Award for Excellence in Biological Research
The Fred Schroeder Prize in Wind Performance
The Louis Henry Schutte Memorial Prize in English
The William M. Schutte Grant for Student Summer Research
The John H. Scidmore Memorial Award, for scholarship, service, and devotion to senior classmates
The Senior Art Prize for Men
The Sorority Scholarship Cup

The Warren Hurst Stevens Prize Scholarship, for scholarship and useful activity in university affairs by a junior man
The Tank-Palmquist-Ross Geology Award
The Jean Wiley Thickens Prize, in science education
The Tichenor Prize in English
The Harriet Tubman Prize
The E. Graham Waring Prize in Religious Studies
The Edwin N. and Ruth Z. West Scholarships, for scholarship and leadership
The Ralph White Prize in Mathematics
The Alexander Wiley Prize, for principled independence of thought, moral courage, and creative commitment to a significant cause
The Charlotte Wood Prize in English
The Henry Merritt Wriston Scholarship Award, for academic excellence and multiple abilities

Academic honorary societies

The Lawrence chapter of Phi Beta Kappa elects as members senior students who have demonstrated superior scholarship. The society also sponsors lectures and awards scholastic honors for academic performance in the freshman and junior years.

Pi Kappa Lambda is the highest honor for Conservatory of Music students, recognizing exceptional musical and scholastic ability.

Mortar Board, a national honor society for senior men and women, elects members at the end of their junior year on the basis of outstanding leadership, scholarship, and service to the academic community.

Lambda Sigma, a national honorary society for sophomore men and women, fosters leadership, scholarship, fellowship, and the spirit of service among college students.

Departmental honorary societies include Phi Sigma, biology; Eta Sigma Phi, classics; and Psi Chi, psychology.

Fellowships

Many fellowships and other sources of financial aid are available for graduate study. The Career Center library contains several comprehensive directories of financial aid for graduate and specialized study as well as more detailed information on specific fellowships. Students also should visit the Fellowships and Scholarships for Students Web page (www.lawrence.edu/dept/faculty_dean/fellowships.shtml), consult with department chairs

about fellowships in their fields, and check departmental bulletin boards on which fellowship notices are posted.

Lawrence students regularly compete for the following major fellowships.

Fulbright Grants

Mr. Law

The Fulbright Program makes grants to U.S. citizens and nationals of other countries for a variety of educational activities in approximately 100 countries, primarily to those involved in university teaching, advanced research, graduate study, and teaching in elementary and secondary schools.

Gates Cambridge Trust

Mr. Boleyn-Fitzgerald

The Trust provides full-cost scholarships for graduate study at the University of Cambridge. Candidates must have demonstrated academic achievement, be admissible to Cambridge, and be committed to "use the benefits of higher education for the common good."

Goldwater Scholarships

Ms. Blackwell

The Barry M. Goldwater Scholarships seek to foster and encourage excellence in science and mathematics. Sophomores and juniors who are planning careers in math or science may apply for one or two years of support and for consideration for graduate school support.

Howard Hughes Fellowships

Mr. Rence

Howard Hughes Predoctoral Fellowships in the Biological Sciences support full-time study toward a Ph.D. or Sc.D. degree in biological science, including biochemistry and biophysics.

Marshall Scholarships

Mr. Boleyn-Fitzgerald

The Marshall Scholarship Program enables U.S. citizens who are graduates of U.S. colleges and universities to study for a degree from a university in the United Kingdom for a period of at least two academic years in any subject.

Mellon Fellowships

Mr. Taylor

The Andrew W. Mellon Foundation awards graduate fellowships for as many as three years in order to attract exceptionally promising students into preparation for careers of humanities teaching and scholarship.

National Science Foundation Graduate Fellowships

Mr. Brandenberger

Three-year \$15,000 plus tuition-waiver fellowships are awarded for study and research leading to master's or doctoral degrees in the mathematical, physical, biological, engineering, and behavioral and social sciences, including the history of science and philosophy of science, and to research-based Ph.D. degrees in science education.

National Security Education Program (graduate)

NSEP Graduate International Fellowships support graduate study in foreign languages and area studies of regions critical to U.S. national security. Study concerning 60 countries and 30 languages receives three years of support at \$4,000 a year and \$20,000 a year for an overseas component.

National Security Education Program (undergraduate)

NSEP focuses on geographical areas, languages, and fields of study deemed critical to U.S. national security. Grants of up to \$8,000 are available for study in any of 50 countries.

Rhodes Scholarships

Mr. Pourciau

The will of Cecil Rhodes provides funds for up to 32 unmarried U.S. citizens selected annually to study for a degree at Oxford University. These highly competitive awards are given for two or three years.

Rotary Graduate Fellowships

Mr. Seaman

The Rotary Foundation awards graduate scholarships to allow men and women to complete one academic year of study in another country where Rotary Clubs are located.

Truman Scholarships

Mr. Purkey

The Harry S. Truman Scholarship Foundation makes awards to college juniors who have demonstrated interest in and outstanding potential for leadership in public service. This grant covers expenses of up to \$30,000 over four years, including three years of graduate school.

Udall Scholarships

Mr. De Stasio

The Morris K. Udall Scholarship provides funding for undergraduate work in environmental studies or Native American studies. The maximum stipend is \$5,000, and college sophomores or juniors may apply.

Watson Fellowships

Mr. Spurgin

Grants of \$22,000 (\$31,000 if the student is married) are awarded by the Thomas J. Watson Foundation for “a focused and disciplined *Wanderjahr* of the student’s own devising.” Lawrence nominates four students each year.

DIRECTORY



2003 Board of Trustees

Officers of the Corporation

Jeffrey D. Riester, chair
 William O. Hochkammer, Jr., vice chair
 Margaret Carroll, secretary
 William F. Hodgkiss, treasurer
 Lori A. Glynn, assistant secretary and assistant treasurer

Edith G. Andrew

Retired

William J. Baer, '72

Partner, Arnold & Porter

Oscar C. Boldt

Chairman/contractor, The Boldt Group, Inc.

Douglas A. Brengel, '72

Managing director/investment banker, Salomon Smith Barney

Robert C. Buchanan, '62

President, Fox Valley Corporation

Margaret Carroll, '61

Editorial consultant (self-employed)

G. Craig Christensen, '71

Partner, Semper Development, Ltd.

John H. Ellerman, '58

Retired

James D. Ericson

Chairman *emeritus*, Northwestern Mutual

James L. Fetterly, '58

Of counsel, Robins, Kaplan, Miller & Ciresi, LLP

J. Terrence Franke, '68

Principal, Hewitt Associates

Henry Louis Gates Jr.

W.E.B. Du Bois Professor of the Humanities; chair, African and African American studies, Harvard University

Susan Nelson Goldsmith, '65

Richard L. Gunderson

Retired chairman of the board, Aid Association for Lutherans

Barbara Bryant Hiller, '68

Author, children's books

William O. Hochkammer, Jr., '66

Attorney/partner, Honigman Miller Schwartz & Cohn

Catheryn E. Hoehn, '64

Counselor-special projects, Troy High School

Margaret Banta Humleker, '41

Former director, Banta Company

Harry M. Jansen Kraemer, Jr., '77

Chairman and chief executive officer, Baxter International, Inc.

Harold E. Jordan, '72

Chief executive officer, Madras Packaging, LLC

Kim Hiatt Jordan, '58

Advisory board, Arthritis Foundation, North Texas Chapter; Board member, Dallas Institute of Humanities

Thomas C. Kayser, '58

Attorney, Robins, Kaplan, Miller & Ciresi, LLP

Mollie Herzog Keys, '64

Retired

David N. Knapp, '89

Vice president, personal financial planning, Northern Trust

John T. Leatham, '58

Retired

Lewis C. Lofgren

Chief executive officer, ADE, Inc.

John A. Luke, Jr., '71

President and chief executive officer, MeadWestvaco Corporation

James Hart Merrell, '75

Professor of history, Vassar College

Gregory R. O'Meara, '72

Partner/attorney, O'Meara & Kinnealey

Overton B. Parrish, '55

President and chief executive officer, Phoenix Health Care

Judith A. Paul

Co-chairman of the board, Renaissance Learning, Inc.

Constance Clark Purdum, '55

WIU Foundation Board, Lifeline Theatre, Mishawaka Foundation

Marion C. Read

Retired

Jeffrey D. Riester, '70

Attorney/manager, Appleton office, Godfrey & Kahn, SC

Robert J. Schaupp, '51

President, P & S Investment Company, Inc.

Campbell Scott, '83

Actor, director

Steven Simon, '68

President, Simon Ventures

Donald A. Smart, '64

Retired

Cynthia Stiehl, C'89

Singer

Richard Warch

President, Lawrence University

Priscilla Peterson Weaver, C'69

Attorney, Mayer, Brown, Rowe & Maw

Emeriti Trustees

George Banta III, '45

Retired chairman of the board, George Banta Company

Catherine B. Cleary

Retired chairman of the board, First Wisconsin Trust Company

Elizabeth F. Cutler

Fred Herbolzheimer, Jr.

Retired president, Thilmany Pulp and Paper Company; retired senior vice president and director, Hammermill Paper Company

J. Thomas Hurvis, '60

President and chief executive officer, Old World Industries, Inc.

Marjorie Buchanan Kiewit, '43

President *emerita*, Peter Kiewit Foundation

Henry H. Kimberly, Jr., '42

Retired president, Morgan Company

Herbert V. Kohler, Jr.

Chairman, chief executive officer, and president, Kohler Company

Donald S. Koskinen, '50

Retired president, Banta Company

George W. Mead II

Chairman, Mead Witter Foundation

Virginia S. Purdy, '38

Owner/operator, Purdy Ranch; President's Council, Defenders of Wildlife

John P. Reeve, '34

Retired president and chief executive officer, Appleton Papers, Inc.

Arthur P. Remley

Retired attorney

Nancy V. Scarff

Trustee, Stephen Edward Scarff Memorial Foundation

Mary B. Sensenbrenner

Donald C. Shepard

Retired chairman of the board, Menasha Corporation

Mowry Smith

Retired senior vice president and secretary, Menasha Corporation

Faculty

Minoo D. Adenwalla (1959)

Professor *emeritus* of government
University of Bombay, B.A.; Northwestern
University, M.S., Ph.D.
Interests: South Asian and British politics, political
philosophy

Dan Alger (2000)

Associate professor of economics
Lawrence University, B.A.; Northwestern
University, M.S., Ph.D.
Interests: game theory, regulatory agencies

Matthew E. Ansfield (2000)

Assistant professor of psychology
University of Wisconsin–Madison, B.S.; University
of Virginia, Ph.D.
Interest: social psychology

Janet Anthony (1984)

Professor of music
University of Arizona, B.Mus.; Hochschule für
Musik und Darstellende Kunst, Vienna; State
University of New York at Stony Brook, M.M.
Interests: violoncello, music history, chamber
music

Rachel Barnes (2001)

Lecturer in art at the London Center
University of East Anglia, B.A.; Barber Institute of
Fine Arts, M.Phil.
Interest: art history

Faith Barrett (2003)

Assistant professor of English
Swarthmore College, B.A.; University of Iowa
M.F.A.; University of California, Berkeley, M.A.,
Ph.D.
Interests: 19th-century American literature, early
American literature, poetry, creative writing

John H. Benson (1997)

Instructor in music
University of Minnesota, B.S.; University of
Wisconsin–Madison, B.Mus.; University of
Washington, M.Mus.
Interests: theory, composition

Gene D. Biringer (1995)

Associate professor of music

Rutgers University, B.A.; University of Illinois,
M.M.; Yale University, M.Phil., Ph.D.
Interests: music theory, composition, music
history

Richard Bjella (1984)

Associate professor of music and director of
choral studies
Cornell College, B.Mus.; University of Iowa, M.M.
Interests: choral conducting, music education

Marcia Bjørnerud (1995)

Professor of geology
University of Minnesota–Minneapolis, B.S.;
University of Wisconsin–Madison, M.S., Ph.D.
Interests: structural geology, tectonics, rock
mechanics, earth history

Mary Frances Blackwell (1989)

Associate professor of chemistry
University of Illinois, Urbana, B.A.; University of
California, Berkeley, Ph.D.
Interests: photosynthesis electron transport,
self-organization, biophysics and the
mathematical description of biological
phenomena, enzyme kinetics, and other
nonlinear processes

Peter Blitstein (2001)

Assistant professor of history
Johns Hopkins University, B.A.; University of
California, Berkeley, M.A., Ph.D.
Interests: history of the Russian Empire, the
Soviet Union, and Eastern Europe

Gina Bloom (2001)

Assistant professor of English
University of Pennsylvania, B.A.; University of
Michigan, M.A., Ph.D.
Interests: English Renaissance literature, gender
studies

Ann Kohlbeck Boeckman (1992)

Instructor in music
Lawrence University, B.Mus.; Western Illinois
University, M.A.
Interests: music theory, piano, early childhood
education

Patrick Boleyn-Fitzgerald (2001)

Assistant professor of philosophy
Miami University, B.A.; University of Arizona, M.A.,
Ph.D.; Oxford University, M.Phil.
Interest: biomedical ethics

Alexis L. Boylan (2002)

Assistant professor of art history
Bryn Mawr College, B.A.; Rutgers University, M.A.,
Ph.D.
Interests: American and European art history,
photography, popular culture, urban studies,
gender studies

Joanne Hayes Bozeman (1993)

Instructor in music
University of Arizona, Tucson, B.Mus.
Interests: voice, singing diction, vocal technique
and pedagogy

Kenneth W. Bozeman (1977)

Frank C. Shattuck Professor of Music
Baylor University, B.Mus.; University of Arizona,
M.Mus.; Hochschule für Musik, Munich
Interest: voice

John R. Brandenberger (1968)

Alice G. Chapman Professor of Physics
Carleton College, B.A.; Brown University, Sc.M.,
Ph.D.
Interests: atomic physics, laser physics, modern
optics

Paul E. Bunson (2002)

Assistant professor of physics
University of Pennsylvania, B.S.E.E.; University of
Oregon, M.S., Ph.D.
Interests: defects in solids, radiation effects,
theoretical and computation techniques for
solutions to wave equations, optical physics

Karen L. Carr (1987)

Professor of religious studies
Oberlin College, B.A.; Stanford University, Ph.D.
Interests: 19th- and 20th-century religious
thought, philosophy of religion, comparative
religion

Alice K. Case (1980)

Instructor in art
Coe College, B.A.; Lake Forest College; Mundelein
College of Loyola University; Northern Illinois
University; Massachusetts College of Art
Interests: drawing, art education,
computer-assisted art

William A. Chaney (1952)

Professor *emeritus* of history
University of California, Berkeley, B.A., Ph.D.;
Society of Fellows, Harvard University
Interests: the Middle Ages, ancient history

Jeffrey J. Clark (1998)

Assistant professor of geology
Middlebury College, B.A.; Johns Hopkins
University, Ph.D.
Interests: geomorphology, earth surface
processes, human influences on the
environment

Donna Clementi (2003)

Instructor in education
St. Olaf College, B.A.; University of Wisconsin–
Milwaukee, M.S.
Interest: foreign language instruction

Edward Clemons (2002)

Instructor in mathematics
University of Wisconsin–Platteville, B.S.;
University of Wisconsin–Oshkosh, M.S.
Interest: statistics

Paul M. Cohen (1985)

Professor of history and the Patricia Hamar Boldt
Professor of Liberal Studies
Clark University, B.A.; University of Chicago, M.A.,
Ph.D.
Interest: modern European intellectual history

Jeffrey A. Collett (1995)

Associate professor of physics
St. Olaf College, B.A.; Harvard University, A.M.,
Ph.D.
Interests: condensed matter physics, x-ray
scattering, phase transitions, and critical
phenomena

David M. Cook (1965)

Professor of physics and the Philetus E. Sawyer
Professor of Science
Rensselaer Polytechnic Institute, B.A.; Harvard
University, M.S., Ph.D.
Interests: mathematical physics, pedagogic
applications of analog and digital computing

James D. Dana (1961)

Professor *emeritus* of economics
Yale University, B.A.; Massachusetts Institute of
Technology, Ph.D.; University of Minnesota
Interests: capital theory, economics of education

John E. Daniel (2002)

Associate professor of music
Ball State University, B.Mus.; University of Iowa,
M.A.; University of Michigan
Interest: trumpet

Carla N. Daughtry (2000)

Instructor in anthropology
Mount Holyoke College, B.A.; University of
Michigan, M.A.

Interests: cultural anthropology, refugee
communities

James H. DeCorsey (1990)

Associate professor of music
Stanford University, B.A.; Yale University, M.A.,
M.M.A., D.M.A.

Interests: horn, chamber music, music history

Dominique-René de Lerma (1993)

Visiting professor of music
University of Miami, B.Mus.; Indiana University,
Ph.D.

Interests: music history, musicology, oboe

Cecile Despres-Berry (2002)

Instructor in English as a second language
Earlham College, B.A.; University of Texas at
Austin, M.A.

Interest: second language writing

Bart T. De Stasio, Jr. (1992)

Associate professor of biology
Lawrence University, B.A.; University of Rhode
Island; Cornell University, Ph.D.

Interests: evolutionary ecology, aquatic biology,
predator-prey interactions

Elizabeth De Stasio (1988-89; 1992)

Associate professor of biology and Raymond H.
Herzog Professor of Science
Lawrence University, B.A.; Brown University, Ph.D.
Interests: interactions of biological molecules,
evolution

Donna Di Bella (1996)

Lecturer in music
Rutgers University, B.A.; Westminster Choir
College; Suzuki Institute, University of
Maine-Orono

Interests: theory, sight-singing, organ

Mark L. Dintenfuss (1968)

Professor of English
Columbia University, B.A., M.A.; University of
Iowa, M.F.A.

Interests: prose fiction, American literature,
composition

Judith Dobbs (1991)

Lecturer in history at the London Center
Vassar College, B.A.; Bedford College, University
of London, M.Phil.

Interests: Victorian art, history, and literature

Franklin M. Doeringer (1972)

Nathan M. Pusey Professor of East Asian Studies
and professor of history
Columbia University, B.A., Ph.D.

Interests: East Asian history, literature

John P. Dreher (1963)

Lee Claflin-Robert S. Ingraham Professor of
Philosophy
St. Peter's College, B.A.; Fordham University, M.A.;
University of Cologne; University of Chicago,
Ph.D.

Interests: history of philosophy, environmental
ethics, American pragmatism

Joseph D'Uva, Jr. (2002)

Assistant professor of art
The School of the Art Institute of Chicago, B.F.A.;
University of Iowa, M.A., M.F.A.

Interests: non-toxic art materials and processes,
collecting toys for source material

José Luis Encarnación (2002)

Minority pre-doctoral fellow in music
Berkeley College of Music, B.Mus.; Eastman
School of Music, M.Mus.

Interest: jazz and improvisational music

James S. Evans (1966)

Professor of computer science and chemistry and
director of information technology planning
Bates College, B.A.; Princeton University, M.A.,
Ph.D.

Interests: structure and interactions of proteins,
computer architecture and organization

Fan Lei (1993)

Associate professor of music
Central Conservatory of Music (Beijing), B.Mus.;
Oberlin College, Artist Diploma; Yale School
of Music, Certificate of Performance, M.M.

Interests: clarinet, chamber music

Gustavo Fares (2000)

Associate professor of Spanish
 Colegio Nacional de Buenos Aires, B.A.;
 Universidad de Buenos Aires, J.D.; West Virginia
 University, M.A., M.F.A.; University of
 Pittsburgh, Ph.D.

Interests: Argentinian literature, Latin American
 art

Merton D. Finkler (1979)

Professor of economics
 University of California, San Diego, B.A.; London
 School of Economics, M.Sc.; University of
 Minnesota, Ph.D.

Interests: public finance, macroeconomic policy

Michael Fosdale (1999)

Lecturer in government at the London Center
 London Guildhall University, B.A.; Birkbeck
 College, University of London, M.A.

Interest: modern British politics

Mark Frazier (2001)

Assistant professor of government
 Princeton University, B.A.; University of
 Washington, M.A.; University of California,
 Berkeley, Ph.D.

Interest: Asian political economy

Dorrit F. Friedlander (1951)

Professor *emerita* of German
 University of Cincinnati, B.A., M.A.; University of
 Heidelberg

Interest: German drama of the 20th century

Richmond Claude Frielund (1979-84; 1985)

Associate professor of theatre arts
 University of Minnesota, B.A.; University of
 Wisconsin-Superior, M.A.; University of
 Michigan, M.F.A.

Interests: design and technical theatre

Frederick Gaines (1977)

Professor *emeritus* of theatre and drama
 University of Nebraska, B.A., M.A.; University of
 Manchester, M.F.A.; University of Minnesota,
 Ph.D.

Interests: playwriting, directing

Peter J. Gilbert (1990)

Associate professor, library
 Carleton College, B.A.; University of
 Wisconsin-Madison, M.A.

Interests: reference, networked information
 resources, American library history

Peter S. Glick (1985)

Professor of psychology
 Oberlin College, A.B.; University of Minnesota,
 Ph.D.

Interests: stereotyping, discrimination, prejudice

Samedi Sage Goellner (2003)

Instructor in French
 University of Wisconsin-Madison, B.A.; University
 of Michigan, M.A.

Interests: Francophone literature, 19th-century
 literature

Bertrand A. Goldgar (1957)

Professor of English and John N. Bergstrom
 Professor of Humanities
 Vanderbilt University, B.A., M.A.; Princeton
 University, M.A., Ph.D.

Interests: Pope and Swift, politics and literature,
 satire

Natasha Gray (1999)

Assistant professor of history
 Bryn Mawr College, B.A.; Columbia University,
 M.A., Ph.D.

Interest: African history

Joseph N. Gregg, Jr. (1991)

Associate professor of mathematics
 Texas A&M University, B.S., M.S.; Princeton
 University, Ph.D.

Interests: architecture of large software systems,
 software for math education, complex
 systems

Christian R. Grose (2002)

Assistant professor of government
 Duke University, B.A.; University of Rochester,
 M.A., Ph.D.

Interests: American politics, political
 methodology

Beth Ann Haines (1992)

Associate professor of psychology
 University of Wisconsin-Milwaukee, B.S.;
 University of Wisconsin-Madison, M.S., Ph.D.

Interests: cognitive development,
 problem-solving, social development, learning
 styles

David J. Hall (2002)

Assistant professor of chemistry
Butler University, B.S.; University of
Wisconsin–Madison, Ph.D.
Interest: mechanisms by which rhinovirus
activation of immune cells leads to the
exacerbation of asthma

David Helvering (2003)

Instructor in music
Arkansas State University, B.M.E.; Sam Houston
State University, M.Mus.; University of Iowa
Interest: music theory

Martha Hemwall (1988)

Adjunct associate professor of anthropology
Lawrence University, B.A.; Brown University, M.A.,
Ph.D.
Interests: urban anthropology, educational
anthropology, applied anthropology, gender
studies, disability studies, theories of change

Bruce E. Hetzler (1976)

Professor of psychology
DePauw University, B.A.; Northwestern University,
M.A., Ph.D.
Interests: neuropharmacology, effects of alcohol
on the brain, computer analysis of brain waves

John Higgins (2000)

Assistant professor of economics
State University of New York at Stony Brook, B.A.;
Columbia University, M.A., Ph.D.
Interests: international trade, growth and
technological change

William Hixon (2000, 2003)

Assistant professor of government
Washington University, B.A.; University of
Rochester, M.A., Ph.D.
Interests: public policy, environmental public
policy, Congressional politics

Karen A. Hoffmann (1998)

Assistant professor of English
Lawrence University, B.A.; Indiana University, M.A.,
Ph.D.
Interests: American and African-American
literature

Eilene Hoft-March (1988)

Associate professor of French
Carroll College, B.A.; University of California,
Berkeley, M.A., Ph.D.
Interests: 20th-century French literature,
evolution of the novel, autobiography

Catherine Hollis (2001)

Assistant professor of English
New York University, B.F.A.; University of
California, Berkeley, Ph.D.
Interests: modern British literature, post-colonial
literature, film studies

Jason Hoogerhyde (1999)

Instructor in music
Lawrence University, B.Mus.; Boston University,
M.M.; University of Cincinnati, College-
Conservatory of Music, D.M.A.
Interests: music theory, composition

Eugénie Hunsicker (1999)

Assistant professor of mathematics
Haverford College, B.A.; University of Chicago,
M.Sc., Ph.D.
Interests: geometry, topology, and analysis

Kathleen J. Isaacson (1977)

Associate professor, library
University of Wisconsin–Madison, B.A.; University
of Wisconsin–Oshkosh, M.A.L.S.
Interests: reference, automation, numeric data
bases

Nicholas James (1997)

Lecturer in anthropology at the London Center
Oxford University, B.A.; University of London,
M.A.; University of Michigan, M.A.; University
of Birmingham, Ph.D.
Interests: archaeology, Native American studies,
cultural heritage management

Joy Jordan (1999)

Assistant professor of statistics
Indiana University, B.A.; University of Iowa, M.S.,
Ph.D.
Interests: order-restricted inference, categorical
data, duality, statistical education

Steven H. Jordheim (1981)

Professor of music
University of North Dakota, B.Mus.; Northwestern
University, M.Mus.
Interests: saxophone, instrumental pedagogy,
chamber music

Suzanne Bunker Jordheim (1989)

Lecturer in music
Lewis and Clark College, B.Mus.; Northwestern
University, M.M.
Interests: flute, flute pedagogy, woodwind
techniques

Jerzy Jura (2001)

Assistant professor of Spanish
Jagiellonian University; University of
Wisconsin–Madison, M.A., Ph.D.
Interests: contemporary Spanish literature and
culture

Nicholas Keelan (1985)

Associate professor of music
Henderson State University, B.M.E.; University of
Northern Colorado, M.M.
Interests: low brass, music education, jazz
ensembles

Edmund M. Kern (1992)

Associate professor of history
Marquette University, B.A.; University of
Minnesota, M.A., Ph.D.
Interests: early modern Europe, religious culture,
Hapsburgs, Austria

Michael I. Kim (1996)

Associate professor of music
University of Calgary, B.Mus.; The Juilliard School,
M.M., D.M.
Interests: piano, music theory

Susan Klotzbach (2003)

Lecturer in music and university organist
University of Iowa, B.Mus.; Eastman School of
Music, M.Mus., D.M.A.
Interest: organ

Andrew Knudsen (2003)

Assistant professor of geology
Hamilton College, B.A., University of Idaho, Ph.D.
Interests: environmental mineralogy,
low-temperature geochemistry

Bonnie Koestner (2001)

Assistant professor of music
Lawrence University, B.Mus.; University of
Wisconsin–Madison, M.Mus.
Interest: voice coach/accompanist

Kurt D. Krebsbach (2002)

Associate professor of computer science
Lawrence University, B.A.; University of
Minnesota, M.S., Ph.D.
Interests: artificial intelligence, automated
planning, multi-agent systems, functional
programming, music, zymurgy

Elizabeth Krizenesky (1999)

Instructor in Russian
Ripon College, B.A.
Interest: Russian language

Kathryn M. Kueny (1995)

Associate professor of religious studies
University of Wisconsin–Madison, B.A.; University
of Chicago, M.A., Ph.D.
Interest: Islam

Andrew B. Kunz (2002)

Assistant professor of physics
University of Illinois, B.S.; University of
Minnesota, Ph.D.
Interest: physics education and outreach

Ruth M. Lanouette (1992)

Associate professor of German
Millersville State University, B.A.; University of
Pittsburgh, M.A.; Princeton University, Ph.D.
Interests: Germanic linguistics, language
pedagogy, history of German

Carol L. Lawton (1980)

Professor of art history
Vassar
College, B.A.; University of Pittsburgh, M.A.;
Princeton University, M.F.A., Ph.D.
Interests: Greek and Roman art

Karen Leigh-Post (1996)

Assistant professor of music
Lawrence University, B.Mus.; University of
Arizona, M.M.; Rutgers University, D.M.A.
Interests: vocal performance, opera

Robert Levy (1979)

Professor of music and conductor of the
Lawrence University Wind Ensemble
Ithaca College, B.S.; North Texas State University,
M.M.E.

Interests: trumpet, wind ensemble and band

Frank C. Lewis (2000)

Instructor in art; director of exhibitions and curator of the Wriston Art Center
Emory and Henry College, B.A.; University of Chicago, M.A.

Interests: painting, photography, woodworking

Julie Lindemann (2000)

Instructor in art
University of Wisconsin–Madison; M.F.A., Illinois State University

Interest: photography

Jerrold P. Lokensgard (1967)

Robert McMillen Professor of Chemistry
Luther College, B.A.; University of Wisconsin–Madison, M.A., Ph.D.

Interests: organic chemistry, especially the synthesis of naturally occurring compounds

Nicholas C. Maravolo (1966)

Professor of biology
University of Chicago, B.S., M.S., Ph.D.

Interest: physiology of plant growth and development

Patricia Marinac (2001)

Instructor in education
Lawrence University, B.A.; University of Wisconsin–Stevens Point, M.S.

Interest: teacher education

Rebecca Epstein Matveyev (1996)

Associate professor of Russian
Rice University, B.A.; University of Wisconsin–Madison, M.A., Ph.D.

Interests: 19th-century literature, foreign-language pedagogy, literary translation

Stephen McCardell (1999)

Instructor in music
Lawrence University; Mannes College of Music, B.Mus., M.M.

Interests: music theory, composition

Randall L. B. McNeill (1999)

Assistant professor of classics
Harvard University, B.A.; Yale University, M.A., Ph.D.

Interests: literary self-presentation, ancient propaganda, Roman poetry, Greek and Roman

history

Julie McQuinn (2003)

Instructor in music
Oberlin College, B.A., B.Mus.; New England Conservatory; University of Illinois, M.Mus.; Northwestern University

Interest: musicology

Marco Mena (2000)

Instructor in Spanish
University of Northern Iowa, B.A.; Mankato State University, M.S.

Interest: Latin American literature

Gerald I. Metalsky (1992)

Associate professor of psychology
University of California, Berkeley, B.A.; State University of New York at Stony Brook, M.A.; University of Wisconsin–Madison, Ph.D.

Interests: origins of psychopathology, cognition and emotion, psychodiagnostics, psychotherapy

Joanne Metcalf (2001)

Assistant professor of music
University of California, Santa Barbara, B.A.; Duke University, M.A., Ph.D.

Interest: music composition

George E. Meyer (2002)

Stephen Edward Scarff Memorial Visiting Professor of Environmental Studies
St. Norbert College, B.A., University of Wisconsin–Madison, J.D.

Interests: environmental management and regulation

Patrice Michaels (1994)

Associate professor of music
Pomona College, B.A.; University of Minnesota, M.F.A.

Interests: voice, opera theatre

Matthew C. Michelic (1987)

Associate professor of music
University of Wisconsin–Milwaukee, B.F.A.; Indiana University, M.M.

Interests: viola, chamber music, theory

Anton Miller (2000)

Assistant professor of music
Indiana University, B.Mus., Performer's Certificate; The Juilliard School, M.M.

Interests: violin, chamber music

Brigetta Miller (1996)

Assistant professor of music
Lawrence University, B.Mus.; Silver Lake College,
M.M.

Interests: elementary and secondary education,
multicultural education

W. Flagg Miller (2002)

Lecturer in anthropology and Freshman Studies
Dartmouth College, B.A.; Oxford University;
University of Michigan, Ph.D.

Interests: anthropology, poetics, media studies,
nationalism, tribalism, popular culture, the
Middle East and North Africa, Yemen

Kathleen M. Murray (1986)

Dean of the faculty and professor of music
Illinois Wesleyan University, B.Mus.; Bowling
Green State University, M.M.; Northwestern
University, D.M.

Interests: piano, piano pedagogy

Rex Myers (1999)

Lecturer in history and Freshman Studies
Western State College, B.A.; University of
Montana, M.A., Ph.D.

Interests: American West/frontier, transportation,
Freshman Studies

Yoko Nagase (2001)

Assistant professor of economics
Aoyama Gakuin University, B.A.; University of
Oregon, Ph.D.

Interests: environmental and resource economics

Rob Neilson (2003)

Assistant professor of art
College of Creative Studies, B.F.A.; University of
North Carolina, Chapel Hill, M.F.A.

Interest: sculpture

Howard E. Niblock (1981)

Interim assistant dean of the Conservatory of
Music and professor of music
University of Michigan, B.A.; Michigan State
University, M.M.; University of
Wisconsin–Madison

Interests: oboe, theory, aesthetics

Karen Nordell (2000)

Assistant professor of chemistry
Northwestern University, B.A.; Iowa State
University, Ph.D.

Interest: materials chemistry

Dmitri Novgorodsky (2002)

Assistant professor of music
Moscow Tchaikovsky Conservatory, B.Mus., M.
Mus.; Yale University, M.Mus., M.M.A.

Interest: piano

Michael T. Orr (1989)

Professor of art history
University College London, B.A.; Cornell
University, M.A., Ph.D.

Interests: medieval and Renaissance art

David Owens (2000)

Lecturer in theatre arts
New England College, B.A.

Interest: set design

Anthony Padilla (1997)

Associate professor of music
Northern Illinois University, B.Mus.; Eastman
School of Music, M.M., Performer's Certificate;
University of Washington, Artist's Diploma

Interest: piano

Esther Palomino (1999)

Instructor in Spanish
Colegio San Jose, B.A.; Purdue University, M.A.

Interest: Spanish literature

Karen Park-Koenig (2002)

Instructor in religious studies
Lawrence University, B.A.; University of Chicago
Divinity School, M.A.

Interests: Protestant Reformation and
Renaissance literature, American religious
history

Alan E. Parks (1985)

Professor of mathematics
University of Wisconsin–Madison, B.A., M.A.,
Ph.D.

Interests: application of mathematics, computer
algorithms, dynamics

Peter N. Peregrine (1995)

Associate professor of anthropology
Purdue University, B.A., M.S., Ph.D.

Interests: anthropological theory, evolution of
complex societies, culture contact and culture
change, integration of archaeology and

ethnology

Monte L. Perkins (1987)

Lecturer in music
University of Wisconsin–Madison, B.F.A.;
Wisconsin Conservatory of Music, M.M.
Interest: bassoon, symphonic band

William J. Perreault (1971)

Professor of biology
Siena College, B.A.; Adelphi University, M.S.;
University of Michigan, Ph.D.
Interest: coordination of molecular and
cytological techniques

Brent O. Peterson (2002)

Associate professor of German
Johns Hopkins University, B.A.; University of Iowa,
M.A.; University of Minnesota, Ph.D.
Interests: construction of national and ethnic
identities; the intersection of historical fiction
and history; the “long 19th century”
(1789–1918); post-war, post-wall experiences of
both Germanies

Jerald E. Podair (1998)

Associate professor of history
New York University, B.A.; Columbia University
School of Law, J.D.; Princeton University, M.A.,
Ph.D.
Interests: 20th-century American history, urban
history, American race relations

Bruce Pourciau (1976)

Professor of mathematics
Brown University, B.A.; University of California,
San Diego, M.A., Ph.D.
Interests: optimization theory, analysis,
philosophy of mathematics

Antoinette Powell (2002)

Assistant professor/music librarian
St. Norbert College, B.Mus.; University of
Wisconsin–Milwaukee; University of
Pittsburgh, M.L.S.
Interest: music library

Katherine Privatt (1999)

Assistant professor of theatre arts
Central Missouri State University, B.S.E.;
Southwest Missouri State University, M.A.;
University of Nebraska, Ph.D.

Interest: American theatre

Stewart C. Purkey (1985)

Associate professor of education and Bee Connell
Mielke Professor of Education
Stanford University, A.B.; Reed College, M.A.;
University of Wisconsin–Madison, Ph.D.
Interest: educational reform

Matthew Raunio (2000)

Lecturer in economics
Michigan Technological University, B.S.; University
of Wisconsin–Oshkosh, M.B.A.
Interest: accounting

Bridget-Michaele Reischl (1992)

Associate professor of music and Kimberly Clark
Professor of Music; director of orchestral
studies
Eastman School of Music, B.Mus.; University of
Hartford Hartt School of Music, Artist
Diploma; Bowling Green State University
Interests: orchestral conducting, opera

Bradford G. Rence (1979)

Professor of biology
University of Iowa, B.A.; University of California,
Berkeley, Ph.D.
Interests: neurobiology of invertebrates,
behavioral rhythms

Kathryn Rentel (2001)

Lecturer in education
Georgetown University, B.S.; University of
Minnesota, M.A., Ph.D.
Interest: international development

Gretchen M. Revie (1997)

Assistant professor, library
Carleton College, B.A.; University of
Wisconsin–Madison, M.A.
Interests: reference, interlibrary loan

Terry L. Rew-Gottfried (1985)

Professor of psychology
University of Minnesota, B.A., Ph.D.
Interests: perception of speech and singing,

psychology of cognition and perception

Susan Richards (1999)

Director of the Seeley G. Mudd Library and
associate professor, library
Grove City College, B.A.; Clarion University of
Pennsylvania, M.A.; Kent State University,
M.L.S.; University of New Hampshire, Ph.D.
Interests: library administration, American
women's history, women's literature of the
American West

Dane Maxim Richeson (1984)

Associate professor of music
Ohio State University, B.Mus.; Ithaca College, M.M.
Interest: percussion

Monica Rico (2001)

Assistant professor of history
University of California, Berkeley, B.A., M.A., Ph.D.
Interests: British and American history, landscape
history

Kristi Roenning (2000)

Instructor in art
University of Wisconsin–Milwaukee, B.S.;
University of Minnesota
Interest: art education

Thomas C. Ryckman (1984)

Professor of philosophy
University of Michigan, Flint, B.A.; University of
Massachusetts, M.A., Ph.D.
Interests: philosophy of language, philosophy of
mind, philosophy of science, philosophy of art

Kenneth R. W. Sager (1963)

Professor *emeritus* of education
Lawrence College, B.A.; University of
Wisconsin–Madison, M.A.; Harvard University
Interests: psychology and philosophy of
education, music, humanities

Christine Salerno (2000)

Lecturer in music
Western Michigan University, B.Mus.; University
of Northern Colorado, M.M.E.
Interest: vocal jazz

Richard A. Sanerib, Jr. (1976)

Associate professor of mathematics
St. Anselm College, B.A.; University of Colorado,
M.A., Ph.D.
Interests: logic, algebra, topology, computers,
minority education

Judith Holland Sarnecki (1985-87; 1990)

Associate professor of French
Knox College, B.A.; Portland State University,
M.A.T.; University of Iowa, M.A.; University of
Wisconsin–Madison, Ph.D.
Interests: 20th-century French literature and
theory, cinema, women authors, gender issues

Jinnie Schiele (2001)

Lecturer in theatre at the London Center
Queen Mary College, London, B.A., M.A., Ph.D.
Interest: post-war British theatre

Gerald Seaman (2000)

Associate dean of the faculty and associate
professor of French
University of Wisconsin–Madison, B.A.; Stanford
University, M.A., Ph.D.
Interest: medieval French literature

Jodi L. Sedlock (2002)

Assistant professor of biology
Loyola University, B.A., B.S.; University of Illinois
at Chicago, Ph.D.
Interests: tropical diversity, community ecology,
foraging behavior, conservation biology, small
mammals, particularly bats

Donnie Sendelbach (2001)

Director of the humanities computing laboratory
and lecturer in Russian
Grinnell College, B.A.; Ohio State University, M.A.,
Ph.D.
Interests: instructional technologies, Russian
literature

Rico Serbo (1999)

Assistant professor of music
University of the Pacific, B.A.
Interests: voice, opera

John Shimon (2000)

Instructor in art
University of Wisconsin–Madison, B.A.; Illinois
State University, M.F.A.
Interest: photography

Katherine Short-Meyerson (2000)

Lecturer in psychology
University of Wisconsin–Madison, B.A., M.S., Ph.D.
Interest: child psychology

Claudena M. Skran (1990)

Associate professor of government
Michigan State University, B.A.; Oxford University,
M.Phil., Ph.D.
Interests: international relations, international
organizations, refugees

Timothy A. Spurgin (1990)

Associate professor of English and the Bonnie
Glidden Buchanan Professor of English
Literature
Carleton College, B.A.; University of Virginia, M.A.,
Ph.D.
Interests: 19th-century English literature, the
novel, Dickens, literary criticism and theory

Jeffrey Stannard (2001)

Associate dean of the Conservatory of Music and
associate professor of music
University of Iowa, B.M.; University of Michigan,
M.M., D.M.A.
Interest: trumpet

Matthew R. Stoneking (1997)

Associate professor of physics
Carleton College, B.A.; University of
Wisconsin–Madison, Ph.D.
Interests: non-neutral plasma physics, magnetic
confinement of neutral plasmas

Frederick I. Sturm (1977-91, 2002)

Professor of music
Lawrence University, B.Mus.; University of North
Texas; Eastman School of Music, M.Mus.
Interests: jazz studies, improvisational music,
composition

Kuo-ming Sung (1994)

Associate professor of East Asian languages and
cultures
National Taiwan University, B.A.; University of
California, Los Angeles, M.A., C. Phil., Ph.D.
Interests: generative linguistics, comparative
syntax, language pedagogy

Phillip A. Swan (2002)

Instructor in music
Concordia College, B.A.; University of Texas at
El Paso, M.M.
Interests: choral conducting, music education,
voice

Mari Taniguchi (1961)

Professor *emerita* of music
Eastman School of Music, B.Mus., M.Mus., Artist's
Diploma; student of Mario Basiola and Olga
Ryss
Interests: voice, vocal literature

Rosa Tapia (2002)

Instructor in Spanish
Universidad de Grenada, B.A.; University of
Delaware, M.A.; Pennsylvania State University
Interests: Spanish peninsular and Latin American
literature, foreign language teaching
methodology and applications of technology,
literary theory, cultural studies, film

Daniel J. Taylor (1974)

Hiram A. Jones Professor of Classics
Lawrence University, B.A.; University of
Washington, M.A., Ph.D.
Interests: classical linguistics, Varro, Renaissance
philology

Hans Ternes (1968)

Professor of German
University of Illinois, B.A., M.A.; University of
Pennsylvania, Ph.D.; University of Freiburg;
University of Munich; University of Bucharest
Interests: 20th-century German literature

David E. Thompson (2002)

Assistant professor of chemistry
Carleton College, B.A.; University of
Wisconsin–Madison, Ph.D.
Interests: analytical instrumentation and physical
analysis, chemistry of malaria, laser
spectroscopy

Stéphane Tran Ngoc (2001)

Assistant professor of music
Conservatoire National Supérieur de Musique de
Paris, violin studies; Brooklyn College
Conservatory of Music, M.Mus.; The Juilliard
School, D.M.A.
Interest: violin

Timothy X. Troy (1997)

Associate professor of theatre arts and J. Thomas
and Julie Esch Hurvis Professor of Theatre and
Drama
Lawrence University, B.A.; University of Iowa,
M.F.A.
Interests: directing, musical theatre

Matt Turner (2001)

Lecturer in music
Lawrence University, B.Mus.; New England
Conservatory of Music, M.Mus.
Interests: jazz, improvisation

Mark Urness (2003)

Instructor in music
University of Northern Iowa, B.A.; University of
Cincinnati College-Conservatory of Music,
M.Mus.; University of Iowa
Interests: double bass, jazz

Mary Van De Loo (2002)

Instructor in music
Lawrence University, B.Mus.; University of
Oklahoma, M.Mus.
Interest: piano

Lifongo J. Vetinde (1996)

Associate professor of French
Université de Yaoundé (Cameroun), B.A.;
Université de Dijon (France); University of
Oregon, M.A., Ph.D.
Interest: Francophone African literature

Patricia Vilches (2000)

Associate professor of Spanish and Italian
University of Illinois at Chicago, B.A.; University
of Chicago, M.A., Ph.D.
Interests: Latin American literature and culture;
Italian Renaissance literature

Donna Vinter (2001)

Lecturer in English at the London Center
Canisius College, B.A.; Harvard University, M.A.,
Ph.D.
Interest: English theatre

Dirck Vorenkamp (1997)

Associate professor of religious studies
University of Tulsa, B.S.; University of Kansas,
M.A.; University of Wisconsin-Madison, Ph.D.
Interests: Asian religions, Buddhism

Nancy A. Wall (1995)

Associate professor of biology
Presbyterian College, B.S.; University of South
Carolina, M.A.; Vanderbilt University, Ph.D.
Interests: cranio-facial development, pattern
formation differentiation, developmental
neurobiology

Eileen Walsh (2003)

Assistant professor of anthropology
Harvard University, B.A.; Temple University, M.A.,
Ph.D.
Interests: anthropology of China, gender, and
migration

Ernestine Whitman (1978)

Professor of music
Emory University, B.A.; New England
Conservatory, M.M.; University of
Wisconsin-Madison, D.M.A.
Interests: flute, theory

Jere Wickens (1988)

Adjunct assistant professor of anthropology
Dartmouth College, A.B.; Indiana University, M.A.,
Ph.D.
Interests: archaeology and history of Greece

Bradley Wiese (1988)

Lecturer in education
University of Wisconsin-Eau Claire, B.A.;
University of Wisconsin-Oshkosh, M.S.E.
Interest: teacher education

Corinne Wocelka (1985)

Associate professor, library
University of Wisconsin-Green Bay, B.A.;
University of Wisconsin-Oshkosh, M.A.L.S.
Interests: Wisconsin writers, library automation

Gary A. Wolfman (1992)

Lecturer in music
University of Wisconsin-Eau Claire, B.M.E.;
University of Wisconsin-Madison, M.M.
Interests: music education, conducting, string
pedagogy

Steven J. Wulf (2002)

Assistant professor of government
Cornell University, B.A.; Yale University, M.A., M.
Phil., Ph.D.
Interests: political philosophy, American politics,
history of ideas

Nathan Wysock (2003)

Lecturer in music
Illinois State University, B.Mus.; Eastman School
of Music, M.Mus., D.M.A.
Interest: guitar

Ayako Yamagata (2002)

Assistant professor of East Asian languages and cultures
Sophia University, Tokyo, B.A.; Michigan State University, M.A., Ph.D.
Interests: semantics of tense and aspect of natural language, second language acquisition of Japanese, practical application of linguistic knowledge to language pedagogy

Jane Parish Yang (1991)

Associate professor of East Asian languages and cultures
Grinnell College, B.A.; University of Iowa, M.A.; University of Wisconsin–Madison, Ph.D.
Interests: classical and modern Chinese literature, Chinese children's literature, foreign language pedagogy, translation

Richard L. Yatzeck (1966)

Professor of Russian
University of Wisconsin–Madison, B.A., Ph.D.; University of Chicago, M.A.
Interests: comparative literature, German and English literature

Emeriti faculty

Minoo D. Adenwalla (1959-2002)

Professor *emeritus* of government
University of Bombay, B.A.; Northwestern University, M.S., Ph.D.

Graciela Alfieri (1960-79)

Professor *emerita* of Spanish
Universidad de Concepción, Chile; University of Illinois, M.A.; University of Iowa, M.A., Ph.D.; University of Madrid

Corry F. Azzi (1970-2002)

Professor *emeritus* of economics
Lawrence University, B.A.; Harvard University, Ph.D.

Ruth T. Bateman (1953-87)

Associate professor *emerita* of physical education
Sargent College; Boston University, B.S.

Robert Below (1964-96)

Professor *emeritus* of music
University of Louisville, Mus.B., Mus.M.; Hochschule für Musik, Köln/Rhein

William S. Boardman (1965-2002)

Professor *emeritus* of philosophy
DePauw University, B.A.; University of Minnesota, Ph.D.

Carol J. Butts (1959-69, 1974-93)

Associate professor *emerita*, library
Lawrence College, B.A.; University of Michigan, M.A.L.S.

William A. Chaney (1952-99)

Professor *emeritus* of history
University of California, Berkeley, B.A., Ph.D.; Society of Fellows, Harvard University

James D. Dana (1961-2001)

Professor *emeritus* of economics
Yale University, B.A.; Massachusetts Institute of Technology, Ph.D.; University of Minnesota

Gene Davis (1956-91)

Associate professor *emeritus* of physical education
University of Wisconsin–La Crosse, B.A.; Ohio State University, M.A.

Elizabeth T. Forter (1953-88)

Professor *emerita* of English
University of Wichita, B.A.; University of Wisconsin–Madison, M.A., Ph.D.

Dorrit F. Friedlander (1951-93)

Professor *emerita* of German
All Saints Episcopal College, University of Cincinnati, B.A., M.A.; University of Heidelberg

Peter A. Fritzell (1966-2003)

Professor *emeritus* of English
University of North Dakota, B.A.; Stanford University, M.A., Ph.D.

Frederick Gaines (1977-2000)

Professor *emeritus* of theatre and drama
University of Nebraska, B.A., M.A.; University of Manchester, M.F.A.; University of Minnesota, Ph.D.

H. Hartmut Gerlach (1966-94)

Associate professor *emeritus* of German
University of Zürich; University of Tübingen; University of Göttingen; Indiana University, M.A., Ph.D.

Chong-Do Hah (1961-2003)

Professor *emeritus* of government
Indiana University, B.A., Ph.D.; University of Virginia, M.A.

J. Michael Hittle (1966-2001)

Professor *emeritus* of history
Brown University, B.A.; Harvard University, M.A.,
Ph.D.

Joseph A. Hopfensperger (1952-90)

Professor *emeritus* of theatre and drama; director
of Björklunden
Lawrence College, B.A.; Northwestern University,
M.A.

Marjory Irvin (1947-87)

Professor *emerita* of music
Illinois Wesleyan University, Mus.B., Mus.M.;
Juilliard School of Music; Aspen Institute of
Music; American Conservatory; Indiana
University

Cliffe D. Joel (1968-97)

Professor *emeritus* of chemistry
Pomona College, B.A.; Harvard University, M.A., Ph.D.

John Koopman (1960-94)

Professor *emeritus* of music
Drake University, B.Mus.Ed., M.Mus.Ed.; Indiana
University

Michael J. LaMarca (1965-95)

Professor *emeritus* of biology
State University of New York-Albany, B.A.; The
University of Chicago; Cornell University, Ph.D.

Richard G. Long (1969-93)

Associate professor *emeritus* of mathematics
Reed College, B.A.; University of Washington,
Ph.D.

Hugo Martinez-Serros (1966-95)

Professor *emeritus* of Spanish
The University of Chicago, B.A.; Northwestern
University, M.A., Ph.D.

Ronald J. Mason (1961-95)

Professor *emeritus* of anthropology
University of Pennsylvania, B.A.; University of
Michigan, M.A., Ph.D.

John F. McMahon (1947-76)

Professor *emeritus* of German
Haverford College, B.A.; University of
Pennsylvania, M.A.; University of Bonn;
Columbia University, Ph.D.

Edwin H. Olson (1957-89)

Professor *emeritus* of psychology
Hamline University, B.A.; University of Denver,
M.A., Ph.D.

John C. Palmquist (1968-96)

Professor *emeritus* of geology
Augustana College, B.A.; University of Iowa, M.S.,
Ph.D.

Mary F. Poulson (1964-93)

Professor *emerita* of physical education
Valparaiso University, B.A.; Miami University,
M.Ed.; Colorado State College

Mojmir Povolny (1958-92)

Professor *emeritus* of government
Masaryk University, Jur.D.; University of Paris; The
University of Chicago, Ph.D.

E. Dane Purdo (1955-91)

Professor *emeritus* of art
University of Michigan, B.A., M.A.; Cranbrook
Academy of Art, M.F.A.; Royal College of Art,
London

Gervais E. Reed (1964-96)

Professor *emeritus* of French
Princeton University, B.A.; Brown University, M.A.,
Ph.D.

Theodore L. Rehl (1958-92)

Professor *emeritus* of music
Oberlin Conservatory of Music, Mus.B., Mus.M.;
University of Southern California, Indiana
University

Dennis N. Ribbens (1971-98)

Professor and university librarian *emeritus*
Calvin College, B.A.; University of
Wisconsin-Madison, M.A., Ph.D.

Sumner Richman (1957-95)

Professor *emeritus* of biology
Hartwick College, B.A.; University of
Massachusetts, M.A.; University of Michigan,
Ph.D.

Ronald D. Roberts (1963-93)

Professor *emeritus* of physical education
University of Wisconsin-Madison, B.S., M.S.;
Brigham Young University, Ph.D.

Vernon W. Roelofs (1947-71)

Professor *emeritus* of history
Calvin College, B.A.; University of Michigan, M.A.,
Ph.D.

Robert M. Rosenberg (1956-91)

Professor *emeritus* of chemistry
Trinity College, B.S.; Northwestern University,
Ph.D.

Theodore W. Ross (1966-99)

Associate professor *emeritus* of geology
Indiana University, B.S., M.A.; Washington State
University, Ph.D.

Kenneth R. W. Sager (1963-2001)

Professor *emeritus* of education
Lawrence College, B.A.; University of
Wisconsin–Madison, M.A.; Harvard University

Ben R. Schneider (1955-83)

Professor *emeritus* of English
Williams College, B.A.; Columbia University, M.A.,
Ph.D.; Cambridge University

Dan Sparks (1963-93)

Associate professor *emeritus* of music
Cincinnati Conservatory of Music, B.M., M.M.;
Eastman School of Music

John M. Stanley (1961-99)

Professor *emeritus* of religious studies
Williams College; University of Colorado, B.A.;
Pacific School of Religion, B.D.; Columbia
University/Union Theological Seminary, Ph.D.

Mari Taniguchi (1961-2000)

Professor *emerita* of music
Eastman School of Music, B.Mus., M.Mus., Artist's
Diploma; student of Mario Basiola and Olga
Ryss

Ronald W. Tank (1962-90)

Professor *emeritus* of geology
University of Wisconsin–Madison, B.S., M.S.;
Indiana University, Ph.D.

Leonard L. Thompson (1965-66, 1968-95)

Professor *emeritus* of religious studies
DePauw University, B.A.; Drew University, B.D.;
The University of Chicago, M.A., Ph.D.

Arthur A. Thrall (1956-90)

Professor *emeritus* of art
University of Wisconsin–Milwaukee, B.S., M.S.;
University of Wisconsin–Madison; University
of Illinois; Ohio State University

Herbert K. Tjossem (1955-93)

Professor *emeritus* of English
University of Minnesota, B.A.; The University of
Chicago, M.A.; Yale University, Ph.D., University
of Heidelberg

Allen C. West (1966-93)

Professor *emeritus* of chemistry
Princeton University, B.A.; Cornell University, Ph.D.

Richard W. Winslow (1958-92)

Professor *emeritus* of Spanish
University of Minnesota, B.A., M.A., Ph.D.;
University of Mexico; University of
California–Los Angeles

Administrative offices and officers

Office of the President

Richard Warch, president of the university
Stephen J. Butts, director of institutional research

Office of the Dean of the Faculty

Kathleen M. Murray, dean of the faculty
David L. Berk, director of instructional technology
Geoffrey Gajewski, associate dean of student academic services
Martha Hemwall, dean of student academic services
Andrew Law, director of international and off-campus programs
Frank Lewis, director of exhibitions and curator of the Wriston Art Center
Anne S. Norman, registrar
Gerald Seaman, associate dean of the faculty
Donnie Sendelbach, director of humanities computer laboratory
Fred Snyder, director of the Lawrence Academy of Music
Jeffrey Stannard, associate dean of the conservatory

Office of the Dean of Students

Nancy D. Truesdell, dean of students
Jennifer Beck, residence hall director/health and wellness programming coordinator
Rod Bradley, assistant dean of students for multicultural affairs
Christopher Cook, residence hall director/campus activities programs coordinator
Karleen Dietrich, assistant director of campus activities
Kathleen F. Fuchs, director of counseling services
Scott Fuller, director of international student services
Kathleen Heinzen, director of the Career Center
Jerri Kahl, associate director of counseling services
Maria Gracia Kutney, career information specialist
Curt Lauderdale, residence hall director/student affairs special projects coordinator
Elizabeth Matelski, residence hall director/diversity center programs coordinator
Scott Radtke, assistant director of counseling services and alcohol education coordinator
Nick Reider, residence hall director/intramural athletics coordinator
Albert Reiser, residence hall director/academic skills

counselor and coordinator of content tutoring
Carol Saunders, R.N., director of health services
Paul Shrode, associate dean of students for activities
Amy Uecke, associate dean of students for residence life
Jamie Van Boxel, residence hall director/residence life programs coordinator

Office of Admissions and Financial Aid

Steven T. Syverson, dean of admissions and financial aid
Roseanna Cannizzo, director of conservatory admissions
Jennifer England, associate director of admissions
Luke Fischer, conservatory admissions counselor
Clinton Foster, assistant director of admissions – multicultural recruitment
Lee Hanagan, admissions operations supervisor
Sara Holman, director of financial aid
Joan Krush, associate director of admissions
Monita Mohammadian, associate director of admissions/Minneapolis regional representative
Tricia Ross, associate director of admissions
Phyllis Schultz, director of operations – admissions and financial aid
Carin Smith, senior associate director of admissions/Chicago regional representative

Office of the Vice President for Business Affairs and Administration

William F. Hodgkiss, vice president for business affairs and administration
Mark Breseman, director of Björklunden
Frederica Doeringer, director of business services coordination
James Evans, director of information technology planning
William Fortune, director of food services
Harold Ginke, director of the physical plant
Lori Glynn, controller
Stephen A. Hirby, director of administrative information management
Barry Hoopes, director of human resources
Vince Maas, director of campus services

Office of the Vice President for Development and External Affairs

Gregory A. Volk, vice president for development

and external affairs

Steven Blodgett, director of public affairs
 Elizabeth Boutelle, graphic designer
 Gordon Brown, university editor
 Louise Eklund, director of major and planned giving
 Laura Gehrman, assistant director of annual giving
 Beth Giese, director of corporate and foundation relations
 Cara Helmke, special events assistant, alumni relations
 Cal Husmann, executive director of major and planned giving
 Joann Jording, user services coordinator
 Stacy Mara, director of annual giving
 Karen Park-Koenig, assistant director of corporate and foundation relations
 Rick Peterson, associate director of public affairs, manager of news services
 Andrea M. Powers, associate director of alumni relations
 Janice Daniels Quinlan, director of alumni relations
 Sarah Ramage, development research officer
 Timothy Riley, director of donor relations
 Karen Schneider, assistant director of donor relations
 Dwight Seuser, director of advancement operations
 Shana Shallue, public events manager
 Jennifer Stone, assistant director of annual giving
 Marsha Tuchscherer, art director
 Joseph Vanden Acker, sports information director

Computer Services

Michael Corbett, director of computer services
 Steve Armstrong, systems administrator II
 Dave Gill, application developer II
 Kari Hinkens, senior systems analyst
 Jennie Lauzen, user services specialist I
 Jeanne Loehnis, application systems manager
 Robert Lowe, network manager
 Donna Matey, senior systems analyst
 Dana Rose-Schmalz, user services manager
 Sean Schipper, systems administrator I
 Charles Schroeder, senior systems manager
 Damien Velasco, microcomputer specialist II
 Eric Wagner, senior systems analyst
 Samuel Wiltzius, microcomputer specialist I

Library

Susan L. Richards, director of the Seeley G. Mudd Library
 Carol J. Butts, archivist
 Peter Gilbert, reference and instructional technology librarian
 Kathleen Isaacson, library systems coordinator and reference librarian
 Michael May, inter-library loan/circulation assistant
 Cynthia M. Patterson, circulation services supervisor
 Antoinette Powell, music librarian
 Gretchen M. Revie, reference and instruction librarian
 Tom Sykes, media center director
 Corinne Wocelka, director of technical services

Athletics and Recreation

Kim Tatro, athletic director and head coach of softball
 David Brown, head coach of football
 Erin L. Buenzli, athletic trainer
 Blake Johnson, head coach of men's soccer
 Patrick Juckem, assistant football coach, assistant men's basketball coach, and athletic equipment manager
 Matthew Kehrein, head coach of men's and women's track and field and assistant football coach
 Kurt Kirner, coordinator of the recreation center program; head coach of men's and women's swimming and diving
 Korey Krueger, head coach of baseball and athletic equipment manager
 Kendra Marlowe, head coach of women's volleyball and assistant recreation center coordinator
 Amy Proctor, head coach of women's basketball
 David Ruhly, head coach of men's hockey and men's golf
 Moira Ruhly, head coach of women's soccer and assistant track and field coach
 John Tharp, associate athletic director and head coach of men's basketball

2003-04 Academic Year Calendar

Fall Term (Term I)

September 17	Wednesday	Residence halls open for new students (8:00 a.m.)
September 18	Thursday	Welcome Week commences
September 21	Sunday	Residence halls open for returning students
September 22	Monday	First class meeting of Freshman Studies
September 23–25	Tuesday-Thursday	Registration for new students
September 24–25	Wednesday-Thursday	Registration for continuing students
September 24	Wednesday	First day of Fall Term classes
October 7	Tuesday	Last day to make class changes or select the S/U option for Fall Term classes
November 6–9	Thursday-Sunday	Mid-term reading period
November 14	Friday	Last day to withdraw from Fall Term classes
November 26–30	Wednesday-Sunday	Thanksgiving recess
December 5	Friday	Last day of Fall Term classes
December 6–8	Saturday-Monday	Reading period
December 9–12	Tuesday-Friday	Final examinations
December 14	Sunday	Residence halls close (noon)

Winter Term (Term II)

January 4	Sunday	Residence halls open (9:00 a.m.)
January 5–7	Monday-Wednesday	Registration
January 5	Monday	First day of Winter Term classes
January 16	Friday	Last day to make class changes or select the S/U option for Winter Term classes
February 12–15	Thursday-Sunday	Mid-term reading period
February 20	Friday	Last day to withdraw from Winter Term classes
March 1	Monday	Dean's Day (no classes)
March 12	Friday	Last day of Winter Term classes
March 13–15	Saturday-Monday	Reading period
March 16–19	Tuesday-Friday	Final examinations
March 20	Saturday	Residence halls close (noon)

Spring Term (Term III)

March 28	Sunday	Residence halls open (9:00 a.m.)
March 29–31	Monday-Wednesday	Registration
March 29	Monday	First day of Spring Term classes
April 9	Friday	Last day to make class changes or select the S/U option for Spring Term classes
May 6–9	Thursday-Sunday	Mid-term reading period
May 14	Friday	Last day to withdraw from Spring Term classes
May 31	Monday	Memorial Day (no classes)
June 4	Friday	Last day of Spring Term classes
June 5–6	Saturday-Sunday	Reading period
June 7–10	Monday-Thursday	Final examinations
June 11	Friday	Residence halls close for underclassmen (noon)
June 13	Sunday	Commencement
June 13	Sunday	Residence halls close for seniors (6:00 p.m.)

2004-05 Academic Year Calendar

Fall Term (Term I)

September 15	Wednesday	Residence halls open for new students (8:00 a.m.)
September 16	Thursday	Welcome Week commences
September 19	Sunday	Residence halls open for returning students
September 22	Wednesday	First class meeting of Freshman Studies
September 22–24	Wednesday-Friday	Registration for new students
September 23–24	Thursday-Friday	Registration for continuing students
September 23	Thursday	First day of Fall Term classes
October 6	Wednesday	Last day to make class changes or select the S/U option for Fall Term classes
November 4–7	Thursday-Sunday	Mid-term reading period
November 12	Friday	Last day to withdraw from Fall Term classes
November 24–28	Wednesday-Sunday	Thanksgiving recess
December 3	Friday	Last day of Fall Term classes
December 4–6	Saturday-Monday	Reading period
December 7–10	Tuesday-Friday	Final examinations
December 11	Saturday	Residence halls close (noon)

Winter Term (Term II)

January 2	Sunday	Residence halls open (9:00 a.m.)
January 3–5	Monday-Wednesday	Registration
January 3	Monday	First day of Winter Term classes
January 14	Friday	Last day to make class changes or select the S/U option for Winter Term classes
January 17	Monday	Martin Luther King, Jr., Day (no classes)
February 10–13	Thursday-Sunday	Mid-term reading period
February 18	Friday	Last day to withdraw from Winter Term classes
March 11	Friday	Last day of Winter Term classes
March 12–14	Saturday-Monday	Reading period
March 15–18	Tuesday-Friday	Final examinations
March 19	Saturday	Residence halls close (noon)

Spring Term (Term III)

March 27	Sunday	Residence halls open (9:00 a.m.)
March 28–30	Monday-Wednesday	Registration
March 28	Monday	First day of Spring Term classes
April 8	Friday	Last day to make class changes or select the S/U option for Spring Term classes
May 5–8	Thursday-Sunday	Mid-term reading period
May 13	Friday	Last day to withdraw from Spring Term classes
May 30	Monday	Memorial Day (no classes)
June 3	Friday	Last day of Spring Term classes
June 4–5	Saturday-Sunday	Reading period
June 6–9	Monday-Thursday	Final examinations
June 10	Friday	Residence halls close for underclassmen (noon)
June 12	Sunday	Commencement
June 12	Sunday	Residence halls close for seniors (6:00 p.m.)

Directions to Lawrence

From Chicago, bypassing Milwaukee

I-94 north from Chicago joins I-894 south of Milwaukee. I-894 joins highways 45 and 41 north of Milwaukee. Continue north on Hwy. 41 to Appleton. Take the College Avenue exit and proceed east four miles through downtown Appleton to campus.

From the Twin Cities

I-94 east to Hwy. 10 (Osseo, Wis.). Hwy. 10 east to Appleton, connecting with the Hwy. 441 bypass. Take the College Avenue exit and proceed west two miles to campus.

Driving times

Chicago (The Loop)	3.5 hours
Green Bay	30 minutes
Iowa City	5.5 hours
Madison	2 hours
Milwaukee	2 hours
Minneapolis/St. Paul	5.5 hours

Airlines to Appleton (Outagamie County Airport)

Midwest Express via Milwaukee
Northwest Airlinck via Minneapolis/St. Paul, Detroit
United Express via Chicago
Comair via Cincinnati

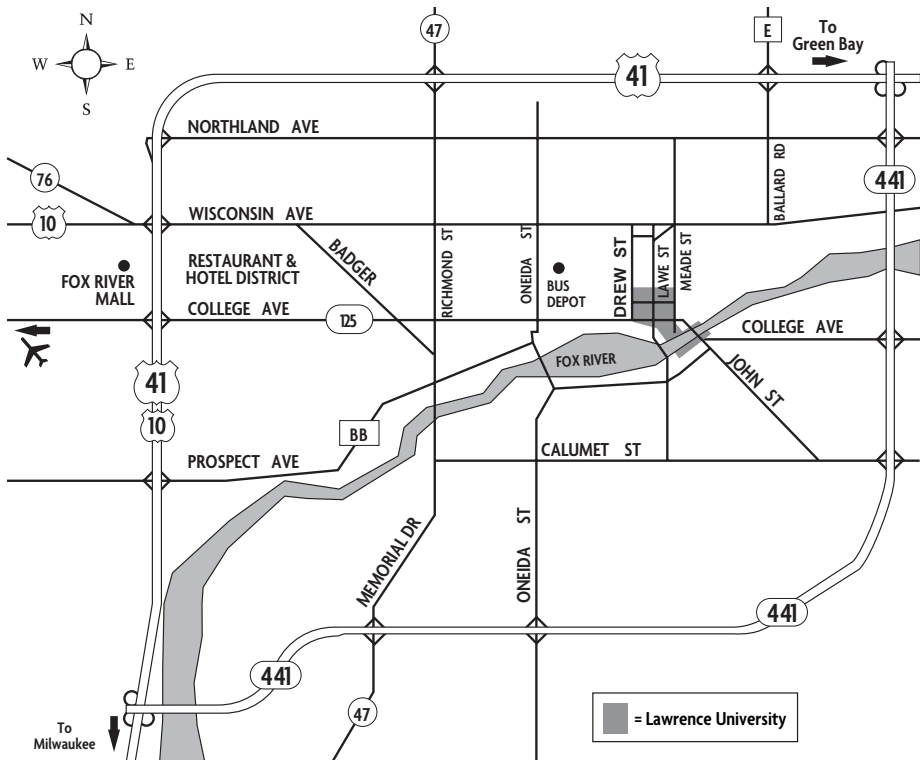
Rental cars available at airport

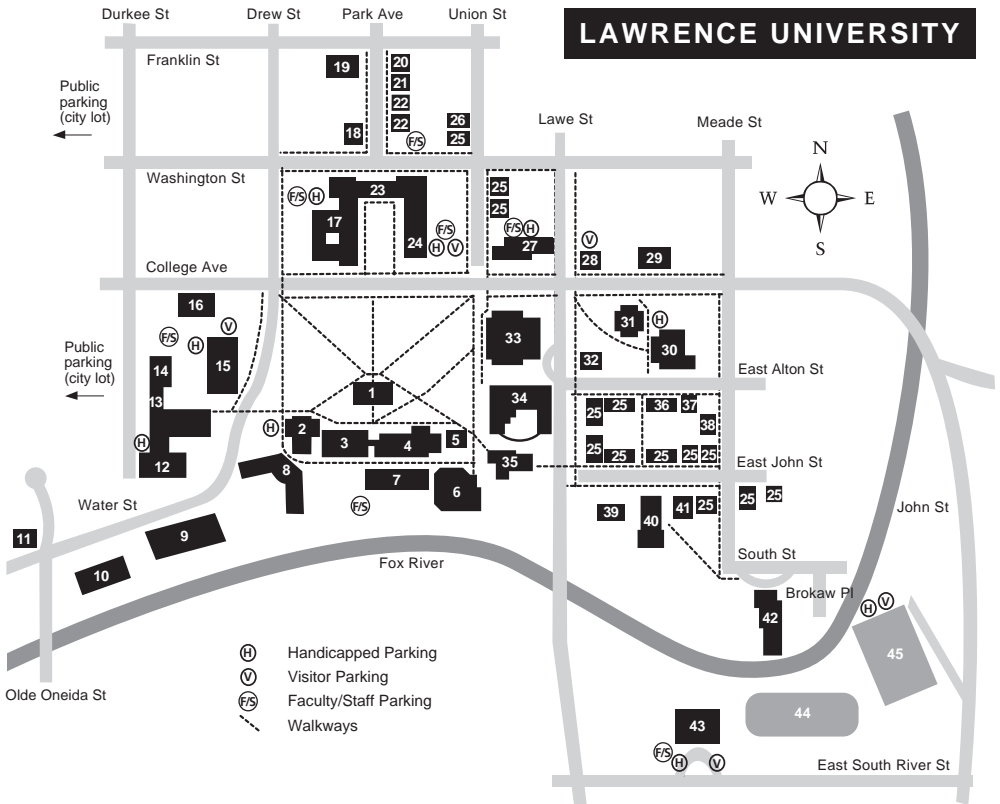
Avis	920-730-7575	800-331-2847
Hertz	734-2032	800-654-3131
National	739-6421	800-227-7368

Taxicabs

Appleton Yellow Taxi	920-733-4444
Fox Valley Cab	920-734-4546 877-734-4546

Lawrence Campus and Vicinity





1. Main Hall (1853; renovated 2002)
Classrooms, faculty offices, humanities computing laboratory, John G. Strange Student Commons. In 1974, Main Hall was entered in the National Register of Historic Places.
2. Ormsby Hall (1889; renovated 1973)
Residence hall
3. Science Hall (2000)
Classrooms, laboratories, faculty offices, atrium
4. Youngchild Hall of Science (1964; renovated 2001)
Classrooms, laboratories, faculty offices, auditorium
5. Sampson House (1881)
Administrative offices
6. Buchanan Kiewit Center (1986)
Swimming pool with diving well, racquet-ball courts, running track, dance and aerobics studio, weight and exercise room, intramural basketball and volleyball courts, saunas
7. Lucia R. Briggs Hall (1997)
Classrooms, laboratories, faculty offices, Center for Teaching and Learning
8. Hiatt Hall (2003)
Residence hall
9. Tennis Courts
10. Heating Plant (1965)
11. Lawrence Academy of Music
12. Colman Hall (1956)
Residence hall, dining facilities, meeting rooms, commuting-student lounge, Panhellenic wing
13. Landis Health and Counseling Center (1966)
14. Landis Peabody Building (1966)
Administrative offices

DIRECTORY

15. Brokaw Hall (1910)
Administrative offices, box office, student residence
16. Alumni Relations, Physical Plant, and Conservatory Faculty Offices (1947)
17. Music-Drama Center (1959)
Conservatory of Music, WLFM, theatre arts department, Harper Hall, Stansbury Theatre, Cloak Theatre
18. Mursell House (1889)
Student publications, LUCC offices
19. President's Home (1904; renovated 2000)
20. Guest House
Accommodations for overnight campus visitors
21. Alumni House
Accommodations for overnight campus visitors, meeting rooms
22. Visiting faculty accommodations
23. Ruth Harwood Shattuck Hall of Music (1991)
Individual and ensemble rehearsal spaces, faculty studios
24. Memorial Chapel (1918; renovated 1993)
Performance and convocation hall
25. Student residences
Housing for upperclass students
26. Waterman House
Conservatory faculty offices
27. Plantz Hall (1961)
Residence hall
28. Wilson House (1904)
Admissions Office
29. Scarff House (1880)
Residence of the Stephen Edward Scarff Memorial Visiting Professor
30. Jason Downer Commons (1968)
Dining facility, Barber Room, Teakwood Room
31. Kohler Hall (1967)
Residence hall
32. Raymond House (1905)
Administrative offices
33. Seeley G. Mudd Library (1975)
Library, media center, Career Center, Information Technology Center, Lincoln Reading Room, Milwaukee-Downer Room
34. Wriston Art Center (1989)
Galleries, seminar room, lecture hall, print and slide storage rooms, studios, faculty offices, amphitheatre
35. Memorial Union (1951)
Riverview Lounge, Grill, Viking Room, the Underground coffeehouse, Union Station campus store, Volunteer Center
36. Draheim House (1959)
Housing for upperclass students
37. Sabin House
Housing for upperclass students
38. Diversity Center
Student organizations, meeting rooms
39. Hulbert House (1908)
Housing for upperclass students
40. Sage Hall (1917; renovated 1972)
Residence hall
41. International House (1900)
42. Trever Hall (1963)
Residence hall
43. Alexander Gymnasium (1929; renovated 1986)
Two gym floors, squash and handball courts, wrestling and weight rooms, indoor golf driving range
44. Whiting Field
Eight-lane, all-weather track; baseball, softball, soccer, and practice fields
45. Banta Bowl (1965)
Football stadium, lighted field

INDEX



A

- Academic
 - accommodations for students with disabilities, 268
 - advising, 20, 264
 - internships, 245, 249
 - program, planning, 19
 - progress, 270
 - regulations, 263
 - services, 13
 - year calendars, 309, 310
- Accompanying, 216
- Accreditation, 8
- Administrative offices and officers, 307
- Admission, 279
- Admission, Conservatory, 213
- Admissions, office of, 307, 320
- Advanced placement, 272
 - see also individual departments
- Alexander Gymnasium, 16, 313
- Allied Health Sciences, 31
- Alumni relations, office of, 308, 313, 320
- Anthropology, 34
- Application deadlines, 279
- Argentina, 254
- Art and art history, 40
- Art Center, Wriston, 14, 313
- Art education, 43
 - see also education, 87
- Art history, 44
- Art, studio, 40
- Artist Series, 15, 248
- Athletics and recreation, 16, 308, 320
- Attendance, class, 267
- Australia, 254
- Austria, 254
- Awards and prizes, 285

B

- Bachelor of Arts degree, 26
- Bachelor of Arts and Bachelor of Music program, five-year, double degree, 29, 222
- Bachelor of Arts degree with a major in music, 162
- Bachelor of Music degree, 27, 213
- Bachelor of Music degree with a major in music education, 217
- Bachelor of Music degree with a major in performance, 214

- Bachelor of Music degree with a major in theory/ composition, 220
- Bills and payments, 280
- Biology, 47
- Biology, Recent Advances in, 52, 248
- Biomedical ethics, 53
- Biosphere 2
 - Earth Semester, 252
 - Universe Semester, 253
- Björklunden, 8, 247, 307
- Board and room, 281
- Board of Trustees, 290
- Briggs Hall, 14, 312
- British West Indies, 255
- Buchanan Kiewit Center, 16, 312
- Business
 - postgraduate study in, 23
 - affairs, office of, 307, 320

C

- Calendar
 - 2003-04 academic year, 309
 - 2004-05 academic year, 310
- Campus
 - facilities, 13
 - life, 13
 - map, 312
 - organizations, 17
 - services, 307
 - visits, 279
- Canada, 255
- Career Center, 13, 23, 249, 307, 313, 320
- Catalog of record, 264
- Center for Teaching and Learning, 13
- Certification, teaching, 24, 40, 87, 125, 173
- Chapel, Memorial, 15, 313
- Chemistry, 58
- Chicago Arts Program, 253
- Chile, 255
- China, 255
- Chinese language, 76
- Choir, 226
- Class changes, 266
- Classes
 - addressing diversity and competencies, 21
 - limited enrollment, 267
- Classical Studies, Intercollegiate Center for, in Rome, 64, 257
- Classics, 64
 - see also linguistics, 152

Cognitive science, 69
 Community Council, Lawrence University, 17
 Community service, 17
 Composition and arranging, 224
 Computer-assisted art, 14, 42
 Computer facilities, 15, 73
 Computer languages, see computer science, 73;
 mathematics, 156
 Computer science, 73
 see also education, 91; mathematics, 156
 Computer science-mathematics major, 73, 157
 Computer Services, 15, 308
 Confidentiality of student education records, 275
 Conservatory of Music, 211, 320
 Counseling services, 13, 307
 Convocations, 247
 Cooperative degree programs, 31
 Costa Rica, 255
 Course(s)
 loads, 265
 numbering, 22
 of study, 33
 overloads/underloads, 265
 repeating, 269
 student-designed, 244
 withdrawing from, 267
 Credit for advanced placement examinations, 272
 Credit for International Baccalaureate Program, 273
 Credits, transfer, 272
 Curriculum, structure of the, 20
 Czech Republic, 256

D

Dean of the faculty, 13, 307
 Dean of student academic services, 13, 307
 Dean of students, 13
 office of, 307, 320
 Dean's list, 274
 Degree requirements, 25
 Development, office of, 307, 320
 Directions to Lawrence, 311
 Directory, 289
 Disabilities, students with, 268
 Diversity Center, 16
 Divisions within the university, 20
 Drama, see theatre arts, 202

E

East Asian languages and cultures, 76
 Ecology, see Forestry and environmental studies, 31;
 biology, 47; environmental studies, 98; Semester
 in Environmental Science, 254; Biosphere 2: Earth
 Semester, 252
 Economics, 82
 Economics-mathematics major, 82, 157
 Education, 87
 see also art education, 43; music education, 227
 Education, residential, 10
 Emeriti faculty, 304
 Emeriti trustees, 291
 Emphasis, areas of, 22, 217, 221
 Engineering, 31
 England, 256, 260
 English, 93
 Ensemble performance study, 225
 Environmental studies, 98
 Forestry and, 31
 Ethnic studies, 106
 Examinations, final, 268
 Expenses, 279

F

Faculty, 292
 see also individual departments
 Faculty advisors, 20, 264
 Faculty, *emeriti*, 304
 Fees, 279
 Fellowships, 286
 Film series, 17
 Financial aid, 282
 office of, 307, 320
 Fine Arts, Division of, 20
 Fine Arts Colloquium, 248
 Five-year Bachelor of Arts/Bachelor of Music degree
 program, 29, 222
 Food service, 15, 307
 see also room and board, 281
 Foreign language requirement, 273
 Foreign study, see individual departments;
 off-campus programs, 250
 Forestry and Environmental Studies, 31
 France, 256
 Francophone Seminar, 258
 Fraternities, 18

French, 113
 Freshman Studies, 21, 117
 Fulbright Grants, 287

G

Gates Cambridge Trust, 287
 Gender studies, 119
 General education, 20
 Geology, 124
 German, 129
 Germany, 256
 Goldwater Scholarships, 287
 Government, 134
 Grade
 changes, 270
 -point averages, 270
 reporting, 269
 satisfactory/unsatisfactory option, 269
 Grading system, 268
 Graduate study, 23
 Grants, see fellowships, 286
 Greece, 257
 Greek, see classics, 64
 Grievance procedures, 276
 Guitar, 215
 Gymnasiums, 16, 313

H

Harpichord, 215
 Health careers, postgraduate study in, 23
 advisory committee, 23, 47
 Health services, 13, 307
 High school, college work completed in, 272
 History, 141
 History, art, 44
 History, music, 230
 History of the university, 7
 Honor code, 264
 Honorary societies, 286
 Honors
 at graduation, 275
 in course, 275
 in independent study, 240
 procedures and guidelines, 241
 thesis, 241
 Howard Hughes Fellowships, 287
 Humanities, Division of, 20
 Humanities Computing Laboratory, 13

I

Improvisational music, 217, 221
 Independent study, 22, 240
 India, 257
 Individual courses of study, 22
 Information Technology Center, 15
 Intercollegiate Center for Classical Studies in Rome, 64, 257
 Interdisciplinary areas, 22, 245
 declaration of, 271
 International Baccalaureate Program, 273
 International and off-campus programs, 22, 250, 307
 International House, 16
 International studies, 151
 International student services, 13, 307
 Internships, 245, 249; see also individual departments
 Intramural sports, 16
 Italy, 257, 258

J

Japan, 258
 Japanese language, 76
 Jazz and improvisational music, 217, 221

K

Kasel Summer Internship Grants, 24, 53, 57
 Kurgan Exchange Term, 192, 258

L

Lambda Sigma, 286
 Language requirement, 273
 Languages, see Chinese, 76; classics, 64; computer science, 73; French, 113; German, 129; Japanese, 76; Russian, 190; Spanish, 194
 Latin, see classics, 64
 Law, postgraduate study in, 23
 Lawrence College, 7
 Lawrence education, 10
 Lawrence, history of, 7
 Leaves of absence and withdrawal, 274
 see also tuition, fees, and refunds, 279
 Lectures, 248
 Liberal learning, 10
 Library, 14, 308, 313
 Limited enrollment classes, 267
 Linguistics, 152
 London Center, 260
 LUCC (Lawrence University Community Council), 17

M

Main Hall, 13, 312
 Main Hall Forum, 248
 Majors, 21
 admission to (Conservatory), 214, 217, 220
 declaration of, 271
 student-designed, 244
 see also individual departments
 Map, campus, 312
 Marine Biology Term, 47, 255
 Marshall Scholarships, 287
 Mathematics, 156
 Mathematics-computer science major, 73, 157
 Mathematics-economics major, 82, 157
 Mellon Fellowships, 287
 Memorial Union, 16
 Mexico, 258
 Mielke Internships in Biomedical Ethics, Health,
 Economics, and Medical Humanities, 53, 57
 Milwaukee-Downer College, 7
 Minors, 21
 declaration of, 271
 Mission of Lawrence University, 6
 Mortar Board, 286
 Music, 14, 17, 162, 211
 Music-Drama Center, 14
 Music education, major in (Conservatory), 217
 Music education and pedagogy, 227
 Music history, 230
 Music repertoire and performance studies, 233
 Music theory, 236

N

Natural Sciences, Division of, 20
 Natural sciences, interdisciplinary major in, 163
 with concentration in:
 biology, 48
 chemistry, 60
 geology, 125
 physics, 173
 National Science Foundation Graduate Fellowships,
 287
 National Security Education Program, 287
 Newberry Seminar in the Humanities, 253
 Netherlands, The, 258
 Neuroscience, 164
 Non-discrimination statement, 4

O

Oak Ridge Science Semester, 273
 Occupational therapy, 32
 Off-campus programs, 22, 250
 Offices and officers, administrative, 307
 Organ, 214
 Outreach programs, 320
 Overloads, 265

P

Payments, 280, 320
 Pedagogy, see music education and pedagogy, 227
 Performance, major in (Conservatory), 214
 Performance areas and areas of emphasis, 22
 Percussion, 216
 Petitions, 275
 Phi Beta Kappa, 286
 Philosophy, 168
 Physical education
 see athletics and recreation, 16, 308, 320
 Physics, 172
 Piano, 214
 Pi Kappa Lambda, 286
 Postgraduate considerations and planning, 23
 President, office of, 307, 320
 Presidents of the college, 8
 Professional study, 23
 Progress toward graduation, 270
 Psychology, 178
 Public affairs, office of, 308, 320
 Publications, student, 17
 Purposes of the university, 6

Q

Québec Seminar and Internship, 255

R

Radio station, WLFM, 14
 Recreation, see athletics and recreation, 16, 308, 320
 Buchanan Kiewit Center, 16, 312
 Refunds, 281; see also leaves of absence and
 withdrawal, 274
 Registration, 265
 Religious Studies, 185
 Repeating courses, 269

Requirements, see individual departments; see also
 Bachelor of Arts and Bachelor of Music
 double-degree program, 29, 222; Bachelor of Arts
 degree, 26; Bachelor of Arts degree with a major
 in music, 162; Bachelor of Music degree, 27, 213;
 general education requirements, 25; residence
 requirements, 26, 212
 Residence halls, 15
 see also room and board, 281
 Residence requirements, 26, 212
 Residential education, 10
 Rhodes Scholarships, 287
 Room and board, 281
 Rotary Graduate Fellowships, 287
 Russia, 258
 Russian, 190

S

Satisfactory/Unsatisfactory option, 269
 see also individual departments
 Scholarships, 284
 see also Awards and Prizes, 285; Fellowships, 286
 Science Hall, 14, 312
 Science Hall Colloquium, 248
 Secondary teaching, 24, 40, 87, 125, 173
 Semester in Environmental Science, 254
 Senegal, 258
 Shattuck Hall of Music, 14, 313
 Social Sciences, Division of, 20
 Sororities, 18
 Spain, 259
 Spanish, 194
 Stephen Edward Scarff Memorial Professorship, 140,
 249
 String instruments, 215
 Student
 -designed courses, 244
 -designed interdisciplinary areas, 245
 -designed majors, 244
 government, see Community Council, 17
 -initiated courses, 22, 239
 publications, 17
 Studio art, 40

T

Tanzania, 259
 Teaching certification, 24, 40, 87, 125, 173
 Term system, 265
 Theatre arts, 202

Theatres, 14, 17, 313
 Theory/composition, major in (Conservatory), 220
 Transcripts, 269
 Transfer between degree programs within the
 university, 271
 Transfer credit, 272
 Transfer of credit for continuing students, 272
 Transfer students, evaluation of credit for, 272
 Truman Scholarships, 288
 Trustees, 290
 Trustees, *emeriti*, 304
 Tuition, fees, and refunds, 279
 Tutorial work and independent study, 240
 see also individual departments

U

Udall Scholarships, 288
 Underloads, 265
 Union, Memorial, 16
 United Kingdom, 260
 University courses, 22, 208
 Urban Education, 253
 Urban Studies, 253

V

Visiting artists, 248
 Voice, 215
 Volunteer and community service, 17

W

Washington Semester, 254
 Watson Fellowships, 288
 Wind instruments, 216
 Withdrawing from courses, 267
 WLFM radio, 14
 Wriston Art Center, 14, 313
 Writing for credit, 243
 Writing lab, see Center for Teaching and Learning, 13

Y

Youngchild Hall of Science, 14, 312

For more information

www.lawrence.edu

Requests for information should be directed to the following offices at Lawrence University, Appleton, Wisconsin 54912, area code 920:

Academic affairs

Dean of the faculty, 832-6528

Dean of student academic services, 832-6530

Admissions

Director of admissions, 832-6500

Toll-free, 800-227-0982

excel@lawrence.edu

Alumni relations

Director of alumni relations, 832-6549

alumni@lawrence.edu

Athletics

Director of athletics and recreation, 832-6760

Business affairs, payment of bills

Vice president for business affairs and administration, 832-6536

Career planning

Director of the career center, 832-6561

careercenter@lawrence.edu

Conservatory of Music

Dean of the conservatory, 832-6611

Development

Vice president for development and external affairs, 832-6517

Financial aid

Director of financial aid, 832-6583

Publicity, publications, public events, general information

Director of public affairs, 832-6586

Records and transcripts

Registrar, 832-6578

registrar@lawrence.edu

Student affairs

Dean of students, 832-6596

Summer programs and outreach programs

Director of business services coordination, 832-7685
outreach@lawrence.edu