

This is the Introduction and the College and Its Procedures sections from the 1996-1999 University of Minnesota College of Liberal Arts Bulletin.

College of Liberal Arts

2	Introduction
5	The College and Its Procedures
33	Major Requirements and Course Descriptions
285	CLA Preparation for Degree Work in Other Colleges
294	Administration and Faculty
313	Index
318	Campus Maps

University of Minnesota Mission Statement

The University of Minnesota, founded in the belief that all people are enriched by understanding, is dedicated to the advancement of learning and the search for truth; to the sharing of this knowledge through education for a diverse community; and to the application of this knowledge to benefit the people of the state, the nation, and the world.

The University's mission, carried out on multiple campuses and throughout the state, is threefold:

Research and Discovery

Generate and preserve knowledge, understanding, and creativity by conducting high-quality research, scholarship, and artistic activity that benefit students, scholars, and communities across the state, the nation, and the world.

Teaching and Learning

Share that knowledge, understanding, and creativity by providing a broad range of educational programs in a strong and diverse community of learners and teachers, and prepare graduate, professional, and undergraduate students, as well as non-degree-seeking students interested in continuing education and lifelong learning, for active roles in a multiracial and multicultural world.

Outreach and Public Service

Extend, apply, and exchange knowledge between the University and society by applying scholarly expertise to community problems, by helping organizations and individuals respond to their changing environments, and by making the knowledge and resources created and preserved at the University accessible to the citizens of the state, the nation, and the world.

In all of its activities, the University strives to sustain an open exchange of ideas in an environment that embodies the values of academic freedom, responsibility, integrity, and cooperation; that provides an atmosphere of mutual respect, free from racism, sexism, and other forms of prejudice and intolerance; that

assists individuals, institutions, and communities in responding to a continuously changing world; that is conscious of and responsive to the needs of the many communities it is committed to serving; that creates and supports partnerships within the University, with other educational systems and institutions, and with communities to achieve common goals; and that inspires, sets high expectations for, and empowers the individuals within its community.

Resources

College of Liberal Arts (CLA) courses, major programs, procedures, learning opportunities, and degree and other requirements are described in this biennial bulletin.

The *CLA Bulletin* does not list 8xxx courses, which are open to graduate students only. See the *Graduate School Bulletin* for these listings.

Class Schedule—This publication is distributed each quarter with registration materials. It lists course offerings with class hours, rooms, instructors, and prerequisites, as well as registration instructions, fees, maps, final exam schedules, the liberal education curriculum, and other useful information.

Official Daily Bulletin—Published in *The Minnesota Daily*, this column contains announcements about University courses, registration schedules, study opportunities, meetings, and activities.

Course Guide—The *Course Guide*, a quarterly publication distributed at the University Bookstores, provides course information in addition to college bulletins and the *Class Schedule*.

Other Resources—College offices maintain information about all majors and course offerings. University bulletins are distributed in 240 Williamson Hall.

Advising Services—Every CLA student is assigned for academic advising to a staff or faculty member or group of advisers for help with questions the student cannot answer. For information about the advising system and other advisory services, see Advising in the first section of this bulletin.

University Counseling and Consulting Services

—University Counseling and Consulting Services (UCCS) offers counseling for academic, career, personal, or relationship concerns. Besides counseling, UCCS features a variety of services. The Career Development Center and the Learning and Academic Skills Center offer workshops, courses, and materials for career development or academic skills improvement. The Organizational Development Program offers consultation, assessment, team building, conflict mediation, training, and workshops. UCCS's Office of Measurement Services (OMS) scores exams, surveys, and research instruments and provides consultation to University faculty and staff. OMS operates the Minnesota Statewide Testing Program for Minnesota elementary and secondary schools. The Testing Center administers admissions, placement, and national tests. For more information, call (612) 624-3323 or see <http://ucs1.ucs.umn.edu/uccswww/uccs.html> on the World Wide Web.

Policies

Bulletin Use—The University of Minnesota will change to a semester-based academic calendar beginning academic year 1999-2000. This bulletin is the last quarter-based bulletin that will be produced for the College of Liberal Arts. It covers academic years 1996-97, 1997-98, and 1998-99. Information about semester-based academic programs will be provided in the fall of 1998 in semester-transition publications.

The information in this bulletin and other University bulletins, publications, or announcements is subject to change without notice. University offices can provide current information about possible changes.

This publication is available in alternative formats upon request. Please contact the Office of Admissions, University of Minnesota, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-2008; e-mail admissions@tc.umn.edu).

This bulletin also is available in electronic format on the Internet and may be accessed via the World Wide Web.

Equal Opportunity—The University of Minnesota is committed to the policy that all

persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

In adhering to this policy, the University abides by the Minnesota Human Rights Act, Minnesota Statute Ch. 363; by the Federal Civil Rights Act, 42 U.S.C. 2000e; by the requirements of Title IX of the Education Amendments of 1972; by Sections 503 and 504 of the Rehabilitation Act of 1973; by the Americans With Disabilities Act of 1990; by Executive Order 11246, as amended; by 38 U.S.C. 2012, the Vietnam Era Veterans Readjustment Assistance Act of 1972, as amended; and by other applicable statutes and regulations relating to equality of opportunity.

Inquiries regarding compliance may be directed to Stephanie Lieberman, Director, Office of Equal Opportunity and Affirmative Action, University of Minnesota, 419 Morrill Hall, 100 Church Street S.E., Minneapolis, MN 55455 (612/624-9547).

Access to Student Educational Records—In accordance with regents' policy on access to student records, information about a student generally may not be released to a third party without the student's permission. (Exceptions under the law include state and federal educational and financial aid institutions.) The policy also permits students to review their educational records and to challenge the contents of those records.

Some student information—name, address, electronic (e-mail) address, telephone number, dates of enrollment and enrollment status (full time, part time, not enrolled, withdrawn and date of withdrawal), college and class, major, adviser, academic awards and honors received, and degrees earned—is considered public or directory information. Students may prevent the release of public information only during their terms of enrollment. To do so, they must notify the records office on their campus.

Students have the right to review their educational records. The regents' policy, including a directory of student records, is available for review at 150 Williamson Hall, Minneapolis, and at records offices on other campuses of the University. Questions may be

INTRODUCTION

directed to the Office of the Registrar, 150 Williamson Hall (612/625-5333).

Immunization—Students born after 1956 who take more than one University class are required under Minnesota law to submit an Immunization Record form.

The form, which is sent along with the official University admission letter, must be filled out and returned to Boynton Health Service within 45 days of the first term of enrollment in order for students to continue registering for classes at the University. Complete instructions accompany the form.

Extracurricular Events—No extracurricular events requiring student participation may be scheduled from the beginning of study day to the end of finals week. Exceptions to this policy may be granted by the Senate Committee on Educational Policy. The Senate advises all faculty that any exemption granted pursuant to this policy shall be honored and that students who are unable to complete course requirements during finals week shall be provided an alternative and timely opportunity to do so.

English Proficiency—If English is not your native language, you may be required to take the Test of English as a Foreign Language (TOEFL) or the Michigan English Language Assessment Battery (MELAB). To register for the TOEFL, contact the agency that handles TOEFL registration in your country or write to the Educational Testing Service (Box 899, Princeton, NJ 08540 USA) at least 10 weeks before any scheduled test date. If you are already in the Twin Cities area, you may register for the MELAB with the Minnesota English Center, 320 16th Avenue S.E., University of Minnesota, Minneapolis, MN 55455, or call (612) 624-1503. To register for the MELAB outside the Twin Cities area, contact the English Language Institute, Testing and Certification Division, University of Michigan, Ann Arbor, MI 48109 USA, or call (313) 764-2416.

Smoke-Free Campus Policy—Smoking is prohibited in all facilities of the University of Minnesota, Twin Cities campus except for designated private residence hall rooms.

Welcome to the College of Liberal Arts!

Your student years at a great university will be some of the most exciting and challenging of your life. In your course of study, you will be exposed to new ideas, challenged by issues that have confronted society in one form or another since the dawn of civilization, and stimulated by professors, some of whom are world-renowned leaders in their field. You will meet hundreds of new people, many with backgrounds and experiences quite different from yours. You will make friendships that will last a lifetime.

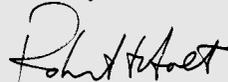
The College of Liberal Arts offers more than 60 majors and thousands of courses. There are many opportunities to enhance and personalize your degree program. The Office of Special Learning Opportunities, the Martin Luther King Program, and the Honors Program are all here to help you enrich your educational experience.

We want you to make the University of Minnesota community *your* community. There are dozens of student clubs and organizations.

I am sure you will find at least one that corresponds to some of your particular interests, providing you with opportunities to develop talents, gain insights, make friends, and have fun.

My heartiest welcome and best wishes for a challenging, rewarding, and exciting time as an undergraduate in the College of Liberal Arts at the University of Minnesota. The faculty, professional staff, and I stand ready to help you refine and achieve your educational goals.

Sincerely,



Robert T. Holt
Interim Dean and Professor of Political Science



Liberal Education and the Student

At the heart of every great university is a college encompassing the basic disciplines of knowledge. That college at the University of Minnesota is the College of Liberal Arts (CLA). The college was formally established in 1868, 17 years after the founding of the University.

The traditional branches of knowledge are housed here—the social sciences, the humanities and fine arts, the sciences, and mathematics. In addition, the college offers professional programs with close ties to these fields. Study and research opportunities are available to you in more than 60 major areas, from the usual, such as English, economics, and history, to the less usual, such as women's studies, theoretical statistics, and speech and hearing science. They include disciplines as old as philosophy and as new as computer science. You also may choose to design an individualized major program.

About 13,400 undergraduate students and about 1,850 graduate students were enrolled in CLA programs in fall 1995. The college is staffed by 485 permanent faculty members who can share the most current research in their fields.

Many students complete their education in CLA. Others take their basic liberal arts coursework in CLA and then transfer to another unit of the University such as the Carlson School of Management or one of the health sciences programs.

As the port of entry to the University for most students, CLA prides itself on its Student Academic Support Services unit, which offers academic advising and other services. The student services staff can help direct you to the many learning opportunities available within CLA and throughout the University and the Twin Cities.

The degree requirements established by the college give you an education solidly based in the liberal arts. Courses that meet the Twin Cities campus-wide liberal education requirements will introduce you to modes of inquiry and subject matter characteristic of the major branches of knowledge, as well as four themes of particular contemporary relevance:

international perspectives, cultural diversity, environmental issues, and citizenship and public ethics. In recognition of the importance of communication and the ability to write, the writing skills requirement is being revised. The current requirement is divided between a formal first-year composition or rhetoric course and an upper level writing course related to your major field of study. The CLA language requirement helps you become proficient in a second language.

A liberal education means not only a breadth of knowledge, but depth and proficiency in a single field of knowledge. You will select a major field and, as part of the study of that discipline, prepare a major project, usually a written paper.

The CLA faculty believes a liberal arts education gives you the analytical skills and flexibility needed for shaping your life and for adapting to new careers.

Liberal Arts Degrees

The College of Liberal Arts offers five bachelor's degrees—bachelor of arts (B.A.), bachelor of fine arts (B.F.A.), bachelor of science (B.S.), bachelor of individualized studies (B.I.S.), and bachelor of music (B.M.).

If you are making satisfactory academic progress, you generally are free to select the major and minor of your choice. Some programs, however, limit the number of majors admitted (architecture, the B.F.A., the B.M., computer science, the B.S. in economics, English, international relations, journalism, music, political science, and speech-communication in CLA, as well as biology, management, education, engineering, health sciences, and some programs in other colleges).

Bachelor of Arts Degree—This degree can be earned through majors in most CLA departments and programs. Its breadth and diversity in general education make it valuable as a base for many kinds of careers or for advanced study. CLA offers several professional majors and specializations as well as interdepartmental programs for the B.A. degree.

Bachelor of Fine Arts Degree—The Department of Art and the Dance Program offer the B.F.A. for students who demonstrate

superior professional promise. Information about program admission and degree requirements can be obtained from the B.F.A. booklet, available in the appropriate department office.

Bachelor of Science Degree—The B.S. degree is offered in six areas: child psychology, speech and hearing science, economics, geography, sociology, and urban studies. The B.S. degree provides heavier major concentration than the B.A., thus leading to more specialized undergraduate study.

Bachelor of Individualized Studies Degree—To earn this degree, you propose an individualized program of study composed of three areas of concentration that is based on your personal academic objectives. Proposals must be evaluated and approved by at least two faculty advisers.

Bachelor of Music Degree—The School of Music offers the B.M. degree for students who demonstrate superior professional promise in performance, music education, and music therapy.

CLA Degrees Earned Concurrently With Other University of Minnesota Degrees—If you transfer to another college on the Twin Cities campus, you may complete your CLA degree by finishing all CLA degree requirements while pursuing degree work in your new college. See your college office for information.

Second Degrees, Second Majors, Minors—If you have earned a bachelor's degree at another institution, you may earn a CLA bachelor's degree with a different major by completing all degree requirements, including 45 CLA credits. If you are a CLA graduate or are in the process of earning a CLA degree, you may earn a different CLA bachelor's degree by completing 45 additional CLA credits and meeting all requirements for the second degree. If you are a CLA graduate and are interested in completing requirements for a second major, but not for a second bachelor's degree in the college, you may complete requirements for another major and have that accomplishment recorded on your official transcript. In addition, students in other colleges may earn majors or minors in CLA.

Degree Requirements

Liberal Education Requirements

The liberal education curriculum that applies to your degree program depends on the date you are admitted to CLA.

Twin Cities Campus Liberal Education Curriculum—The University of Minnesota–Twin Cities liberal education requirements apply to all students entering a baccalaureate degree program in fall quarter 1996 and later. If you entered a degree program before fall 1996 and are uncertain whether the liberal education requirements apply to you, check with your academic adviser. (A description of the liberal education curriculum appears on page 8 of this bulletin. Approved liberal education courses are identified in the quarterly *Class Schedule* and *Course Guide*.)

Second Language Requirement

The study of a second language is considered essential for a liberal education. CLA expects students to begin second language study in high school or earlier.

In many cases, knowledge of a second language gained before entering CLA may be used to meet part or all of the language requirement. If you are unsure about your level of proficiency, consult your college staff for placement assistance. Normally, one to two years of high school language study equals one quarter of college study.

You may repeat language study completed in high school, particularly if your study was not recent. However, it is to your advantage to start your college language study at as high a level as possible. Consult your college advising office or the language department for assistance with course placement.

Qualified students may meet part or all of the entrance and graduation requirements by passing examinations arranged with appropriate departments. (These proficiency examinations do not yield college credits.)

No credit will be granted for first- or second-year courses in a student's primary language of secondary instruction. Eligible students who complete a Twin Cities campus language skills course with a grade of C or higher may request to have credits for preceding courses in the sequence posted retroactively.

Liberal Education Requirements

Effective for all freshmen with fewer than 39 credits enrolling from fall 1994 to summer session II 1996. Beginning fall 1996, the liberal education requirements apply to all students entering a baccalaureate degree program, regardless of prior credits.

A liberal education introduces you to the modes of inquiry and subject matter of the major branches of knowledge, including the factual information and theoretical or artistic constructs that form their foundations; the “ways of knowing”—the kinds of questions asked and how insight, knowledge, and data are acquired and used; the changes over time of their central ideas or expressive forms; and the interrelationships among them and with human society in general. To these ends, study by all undergraduate students on the Twin Cities campus is guided by a common framework.

The Diversified Core Curriculum

Physical and Biological Sciences. Comprehension of physical and biological principles; understanding of and ability to use the methods of scientific inquiry—the ways in which scientists investigate physical and biological phenomena; and appreciation of the importance of science and the value of a scientific perspective.

Requirement: A minimum of three courses totaling at least 12 credits, including one course with a laboratory or field experience in the physical sciences and one course with a laboratory or field experience in the biological sciences.

History and Social Sciences. Knowledge of how historians and social scientists describe and analyze human experiences and behavior; study of the interrelationships among individuals, institutions, structures, events, and ideas; understanding of the roles individuals play in their historical, cultural, social, economic, and political worlds.

Requirement: A minimum of three courses totaling at least 12 credits, including one course with historical perspective.

Arts and Humanities. Understanding of approaches to the human condition through works of art, literature, and philosophy; knowledge of how artists create and humanistic scholars think; ability to make aesthetic judgments.

Requirement: A minimum of three courses totaling at least 12 credits including courses in two of the following: literature, philosophical perspective, and visual or performing arts.

Mathematical Thinking. Acquisition of mathematical modes of thinking; ability to evaluate arguments, detect fallacious reasoning, and evaluate complex reasoning chains; appreciation of the breadth of applications of mathematics and its foundations.

Requirement: A minimum of one course totaling at least four credits.

The Designated Themes of Liberal Education

The designated themes of liberal education offer a dimension to liberal learning that complements the diversified core curriculum. Each of the themes focuses on an issue of compelling importance to the nation and the world, the understanding of which is informed by many disciplines and interdisciplinary fields of knowledge.

Requirement: A minimum of six courses (or five courses if one includes an approved practicum), including one course in each of the following:

Cultural Diversity. Understanding of the roles gender, ethnicity, and race play in structuring the human experience in and developing the social and cultural fabric of the United States.

International Perspectives. Comprehension of the ways in which you are part of a rapidly changing global environment dominated by the internationalization of most human endeavors.

Environment. Knowledge of the interaction and interdependence of the biophysical systems of the natural environment and human social and cultural systems.

Citizenship and Public Ethics. Reflection on and determination of a clearer sense of your present and future civic relationships and your obligations to the community.

Writing Skills

The ability to communicate effectively is a hallmark of a liberally educated individual and a key to a successful and satisfying life. To encourage refining of writing skills, the liberal education curriculum includes both writing courses and writing across the curriculum.

Requirement: Writing skills requirements are being revised. Until the new requirements are in effect, all students will complete the writing requirement specified by the college awarding their baccalaureate degree.

You may satisfy the liberal education requirements with a number of courses and credits different from those of other students because some courses serve multiple goals in the curriculum; e.g., some courses will satisfy a diversified core requirement and a designated theme requirement, and other courses will satisfy the requirements for each of two themes. Thus, you may satisfy the designated theme requirements with a smaller number of courses than is stated in the requirement. Each quarter, the *Class Schedule* will publish the requirements and list all courses that satisfy them. In addition, the *Class Schedule* will list which of these courses are offered that quarter and which are tentatively scheduled for the subsequent quarters during the academic year.

Minnesota Transfer Curriculum

If you complete the Minnesota Transfer Curriculum at any participating Minnesota college or university, you fulfill the University’s Twin Cities campus liberal education requirements. However, you will still need to complete a portion of the writing skills requirements. Contact your college advising office concerning these requirements. For more information on using transfer credits for the liberal education requirements, contact the Office of Admissions (612/625-2008).

University preparation requirement—All students entering CLA will be expected to meet the University’s 1991 second language entrance requirement (two years of high school instruction in the same language). Students planning on the B.A. degree should study a language for three years.

CLA entrance requirement—All B.A., B.F.A., and B.I.S. students who wish to register for French, German, or Spanish courses beyond the third quarter must pass the appropriate entrance proficiency examination. Students who meet the entrance requirement may continue their study at higher levels in the same language or may begin study in another language. Contact the appropriate language department for testing and placement information.

Graduation requirement—The graduation requirement for the B.A., B.F.A., and B.I.S. degrees requires students to demonstrate proficiency usually attained after the first six quarters of college study in one language by passing a graduation proficiency examination that tests skills in reading, writing, listening, and speaking.

Languages for which second language requirement graduation proficiency examinations are available include American Sign Language, Biblical Greek, Chinese, Classical Greek, Dakota, Danish, Dutch, Finnish, French, German, Hindi, Irish, Italian, Japanese, Latin, Modern Hebrew, Norwegian, Portuguese, Russian, Spanish, and Swedish.

English Writing Requirement

The liberal education English writing requirement is being revised. All CLA students must complete the freshman writing skills requirement and one course from the Composition and Communication program (Comp 3011 through 3085, excluding 3022, and approved by the major adviser).

CLA Majors and Minors

Major Requirements

Major Status—Admission to major status in some CLA degree programs requires department permission: architecture, biology, computer science, the B.S. in economics, English,

I.D.I.M., international relations, journalism, music, political science, speech-communication, the B.I.S., the B.F.A., and the B.M. If you are interested in one of these programs, consult the appropriate department office. A list of majors and minors appears on page 10.

Required Preparatory Courses—Most major programs require preparatory or background courses. First-year and sophomore programs should include a substantial number of these because they qualify you to enter advanced and major work. Many of them satisfy some of the general education requirements. See individual program listings in the second section for required preparatory courses.

Major Sequences—Candidates for all CLA degrees except the B.I.S. must complete a major to gain depth of understanding in an area of study. More than 60 major sequences are offered in the college; the second section of this bulletin describes them. Requirements change from time to time. Check with the undergraduate studies office in the major department for current information (ask for a current major requirements sheet).

Majors are programs of concentration. Each represents the judgment of its department about appropriate study of the discipline at the undergraduate level. Individual major programs may be modified by the department or your major adviser.

Major Project—CLA requires that students complete a major project. The project demonstrates analytic and conceptual skills as well as an understanding of the mode of inquiry characteristic of each discipline. For most majors, the format of the project is a written report.

Double Major—You may earn a “double major” by completing background and major requirements for two areas of concentration in addition to other degree requirements. You should usually declare a double-major program by the beginning of your senior year, but you should start to complete basic requirements earlier. If you have a double major, you need not meet the B.A. requirement of 28 3xxx and 5xxx credits outside the major. Students pursuing a double major are urged to consult with both departments about a possible joint major project.

Outside-of-Major Requirement—B.A. programs must include at least 28 3xxx and 5xxx credits outside the major department. Heavy concentration in a major field that limits breadth of learning may defeat the basic purpose of a liberal education, which encompasses breadth as well as depth of knowledge. Established and individualized interdepartmental majors listed below are exempt from this requirement.

Established Interdepartmental Majors— These majors are offered in African studies,

American studies, classical civilization, East Asian studies, European studies, international relations, Jewish studies, Latin American studies, South Asian and Middle Eastern area studies, Russian area studies, urban studies, and women’s studies. Requirements are detailed under appropriate headings in the second section. These majors may be modified in individual cases. Such majors are exempt from taking 28 3xxx and 5xxx credits outside the major department.

CLA offers major and minor programs in the following subjects.

African and Afro-American Studies	Film Studies	Music Education
American Indian Studies	French	Music Therapy
American Studies	French-Italian	Philosophy
Ancient Near Eastern Studies	Geography	Physics
Anthropology	Geology and Geophysics	Physiology
Architecture	German	Political Science
Art	Greek	Psychology
Art History	Hebrew	Religious Studies
Astronomy	History	Russian
Biology	Individualized Studies	Scandinavian Languages and Finnish
Chemistry	Interdepartmental Major	Sociology
Chicano Studies	International Relations (major only)	South Asian and
Child Psychology	Italian	Middle Eastern Area Studies
Chinese	Japanese	Spanish
Classical Civilization	Jewish Studies	Spanish-Portuguese
Computer Science	Journalism	Speech-Communication
Cultural Studies and	Latin	Speech and Hearing Science
Comparative Literature	Latin American Studies	Statistics
Dance	Linguistics	Theatre Arts
East Asian Studies	Mass Communication	Urban Studies
Economics	Mathematics	Women's Studies
English	Microbiology	
European Area Studies	Music	

CLA offers additional minor programs in the following subjects.

Biblical Studies
Dutch
Foreign Studies
History of Medicine
History of Science and Technology
Humanities in the West

Students may prepare in CLA for the following professional programs.

Dental Hygiene
Dentistry
Education
Law
Management
Medical Technology
Medicine
Mortuary Science
Nursing

Occupational Therapy
Pharmacy
Physical Therapy
Public Affairs
Recreation, Park,
 and Leisure Studies
Veterinary Studies

(Preparation for these programs involves from one to four years' study in CLA.)

Individually Designed Interdepartmental Major—This major allows you to design a unique program with an interdisciplinary theme or focus that meets your individual academic interests. It requires approval by the Individualized Programs Office, 220 Johnston Hall, and three faculty advisers. The major usually combines coursework from three or more CLA departments. A senior project is required to integrate the areas of concentration. See the second section for details.

Bachelor of Individualized Studies—For this degree, you design an individualized program of 85 credits that must be evaluated and approved by two or more faculty advisers. Although you have three areas of concentration instead of a major, your program must have a coherence based on stated academic objectives. See the second section for details. The Bachelor of Individualized Studies Office is located in 220 Johnston Hall.

Minor

A minor is an approved concentration of 15 to 25 3xxx and 5xxx credits in a single department or program. It is not a requirement for graduation, but is an option for all CLA students except B.I.S. candidates and degree candidates in other colleges completing an area of concentration outside their major. CLA allows up to 20 percent of minor credits to be taken S-N or earned through directed study, directed instruction, or independent study. Minors are listed on page 10.

General Credit Requirements

Credit Requirements—A minimum of 180 credits acceptable to the college are required for all CLA bachelor's degrees; 72 of these credits must be in 3xxx and 5xxx courses. All credits earned with grades of A, B, or C and a restricted number earned with grades of S or D (see Credit and Grade Standards) are acceptable.

To earn a CLA degree, you must earn at least 45 CLA credits. At least half of the CLA credits applied toward your degree (never fewer than 45) must be graded A-B-C. You must also complete 30 of your last 45 credits with University of Minnesota-Twin Cities coursework. Credits earned by examination may not be applied toward the required 45 CLA credits.

“CLA credits” are credits earned in courses offered by departments listed in the second section of this bulletin and completed through registration on the Twin Cities campus. In addition, all courses approved for the Liberal Education curriculum (see page 8) are treated as CLA courses.

“Non-CLA credits” are credits earned in liberal arts courses offered by other University colleges on the Twin Cities campus. Except for pre-approved courses, credit for courses offered by departments not listed in this bulletin may not be applied toward the required 45 CLA credits. Non-CLA courses may not be applied toward major requirements without department approval.

“Non-liberal arts credits” are credits earned in approved technical or professional college-level courses. Such credits may not be applied toward Liberal Education or major requirements. A maximum of 28 non-liberal arts credits may be applied as electives toward the 180-credit requirement (except for the B.I.S., which allows 40 approved credits from non-CLA departments). A limited number of credits for physical education activity, study skills, and career orientation courses may be included in the 28 non-liberal arts credits. Inquire in your college office for more information about this credit limit as it applies to your program. Credits from typing, word processing, shorthand, first aid, and courses clearly remedial or vocational in nature may not be applied toward any credit requirements.

Degree Requirements After an Absence—If you have not attended CLA for *more than two years* and had completed fewer than 60 credits when you left CLA, consult with a Scholastic Standing Committee representative or with your graduation adviser to determine the graduation requirements that apply to you. If you had completed 60 or more credits at the time of last attendance, you may elect to satisfy either the former or the current requirements, although you are encouraged to complete the current requirements.

If *less than two years* have passed since you last attended CLA, you are under the requirements applicable to you before your absence.

Other Graduation Guidelines

Application for Graduation—You must apply for graduation in 150 Williamson Hall early in the quarter you intend to graduate. See the *Class Schedule* for exact deadlines.

Residence and Reciprocity

Residence—Because the University is a state institution, Minnesota residents pay lower tuition than nonresidents and, in many programs, receive priority consideration for admission. To qualify for resident status, students must reside in Minnesota for at least one calendar year before the first day of class attendance. For more information, contact the Resident Classification and Reciprocity Office, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-6330), or the residency office on your campus.

Reciprocity—The University has reciprocity agreements with North Dakota, South Dakota, Wisconsin, and Manitoba. The University also participates in a reciprocity program with Kansas, Michigan, Missouri, and Nebraska, for students in the following undergraduate colleges: Agricultural, Food, and Environmental Sciences; Architecture and Landscape Architecture; Biological Sciences; Education and Human Development; Human Ecology; Natural Resources; Carlson School of Management; Pharmacy; Dental Hygiene; School of Nursing; and Institute of Technology. If you are a resident of any of these states or this province, you may qualify for reciprocity tuition rates, which are lower than nonresident tuition rates and, in some cases, comparable to resident rates. For more information, contact the Resident Classification and Reciprocity Office, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-6330), or the residency office on your campus.

Admission

The College of Liberal Arts is committed to providing equal opportunity to all qualified persons who seek access to its programs, facilities, and services, and to establishing fair educational standards and applying them equitably in making decisions about admission

and academic standing. CLA faculty and staff encourage applications from persons of color or other groups that have been underrepresented in the college.

Prospective Student Services

Preadmission advising and assistance are offered by the University Office of Admissions. If you would like to visit the campus and talk about plans for study here, contact the Office of Admissions, University of Minnesota, 240 Williamson Hall, 231 Pillsbury St. S.E., Minneapolis, MN 55455 (612/625-2008). Admissions advisers will answer your questions, provide information, and arrange meetings with faculty for you. Admissions schedules campus tours and information meetings for freshmen. Please call two weeks in advance, if possible.

Enrollment Limits—The University of Minnesota has approved enrollment limits for the Twin Cities campus. To remain within those limits, the College of Liberal Arts must limit the number of new students it admits. If the college exceeds its enrollment limit, there will be inadequate funding to meet the educational needs of its students. The college will admit as many qualified students as possible without exceeding its projected enrollment limit.

Application Procedures

How to Apply—Prospective students may obtain application materials at <http://admissions.tc.umn.edu> on the World Wide Web or from the Office of Admissions, University of Minnesota, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-2008). There are separate applications for 1) freshmen and transfers from colleges outside the University of Minnesota system, 2) transfers from other colleges inside the University of Minnesota system, 3) international students, 4) early admission candidates, and 5) adult special students. Freshmen also may use the Minnesota College Admission form, but the University of Minnesota application is preferred.

Freshmen must submit the application, an official high school transcript, official transcripts for any college work attempted, standardized test score reports, the application fee, and any other information requested by the University.

Transfer students must submit the application, official transcripts from high school and each institution previously attended, the application fee, and any other information requested by the University.

Applicants with fewer than 39 quarter credits or 26 semester credits of approved college work must follow the freshman application procedure and deadlines.

When to Apply—Prospective students should apply as early as possible. Please check with the Office of Admissions for information on the application deadline for the quarter you wish to enroll.

International students are strongly advised to apply by the opening of the application review period for the quarter they wish to enter. Applications from international students must be complete by the following deadlines: fall—April 1; winter—October 1; spring—January 1 (transfers only). Transcripts and English test score results must be received by the deadline.

Updating an Application—If you apply and are not admitted and you wish to be considered for a later quarter, you must request that your application be updated before we close admissions for the new quarter.

Updating an Offer of Admission—If you are admitted and do not enroll for that quarter, you must request that your admission status be updated before we close admissions for the new quarter. If admission standards have changed in the meantime, your request will be reviewed in terms of the new requirements.

Summer Session Admission—Students are not admitted to the college for summer session I or II but may enroll as summer-only students. Summer session enrollment and registration information appears in the *Summer Session Bulletin*, available in February; you may register in advance and by mail beginning in May.

New Freshman and Freshman Transfer Admission
High school graduates with no previous college work enter as new freshmen. High school graduates who have completed less than one year of college work (fewer than 39 quarter credits or 26 semester credits) also enter as freshmen. Freshmen are admitted for fall and

winter quarters only. All freshman applicants are considered for admission on the basis of high school rank, satisfaction of preparation requirements (see below), any college courses and grades, choice of major program, and scores on college entrance tests. Special requirements apply to students who wish to enter CLA to prepare for degree programs in the Carlson School of Management, the College of Education, the Institute of Technology, and other competitive programs.

Applicants must submit scores from the American College Testing Program (ACT) or the Scholastic Aptitude Test of the College Board (SAT). The ACT test should be taken during the junior year or the fall of the senior year, the SAT during the fall of the senior year. Test scores should be reported to the Office of Admissions, University of Minnesota, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455.

High School Preparation Requirements—CLA encourages prospective students to complete a strong college preparatory program during high school. In grades 9-12, students planning to enter CLA must complete the following minimum preparation requirements.

1. Four years of English, with emphasis on writing and including instruction in reading and speaking skills and in literary understanding and appreciation.
2. Two years of social studies, including U.S. history.
3. Three years of mathematics, including one year each of elementary algebra, geometry, and intermediate algebra; four years of mathematics is highly recommended for science, engineering, architecture, business, and accounting.
4. Three years of science, including one biological and one physical science (high school chemistry is required for enrollment in college chemistry courses).
5. Two years of a single second language. In addition to the two-year University second language preparation requirement, CLA encourages prospective students to complete as much second language study as possible before enrolling in the college. See the section on the second language graduation requirement.

Students with superior records may be considered for admission with deficiencies in one or more of the preparation areas, but they must make up those deficiencies in their first year in CLA.

A strong pattern of college preparatory coursework throughout high school may enhance students' admissibility. Students who do not continue such a pattern of coursework through grade 12 may compromise their chances of admission, particularly if they are in the "special review" category.

In addition to the preparation requirements, the basic criterion for admission has been an index that combines high school rank percentile and standardized test scores. In fall 1995, 67 percent of CLA freshmen had high school rank percentiles of 76 or higher. The mean high school rank was 79 percent. The mean ACT composite score was 24.4. The mean SAT verbal score was 509 and the mean SAT math score was 580. Please note that applicants are not guaranteed admission even if they match or exceed some or all of these score levels.

Tuition Deposit—If you are admitted to a Twin Cities college as a freshman, you must submit a nonrefundable \$50 tuition deposit, to be applied to your first quarter's tuition. The tuition deposit deadlines are May 1 for fall quarter and November 1 for winter quarter. You must pay the deposit by the deadline stipulated in your admission notification letter. If you do not submit the deposit by the deadline, your admission may be rescinded or delayed to a later quarter.

Advanced Placement (AP)—High school students may earn college credit in some subject areas by receiving satisfactory scores on the College Entrance and Examination Board Advanced Placement Program examinations offered in May.

International Baccalaureate (IB)—High school students may earn college credit in some subject areas by receiving acceptable scores on higher-level International Baccalaureate examinations.

Admission Before High School Graduation

Qualified high school students sometimes begin college work before high school graduation. The most common types of enrollment are:

Post-Secondary Enrollment Options Act—Allows eligible juniors and seniors in Minnesota public high schools to register in University coursework with tuition and books paid for by the State Department of Education. Earned credits may be used to fulfill high school graduation requirements as well as college credit. Interested students should contact the Advanced High School Students Services Office, University of Minnesota, 201 Westbrook Hall, 77 Pleasant St. S.E., Minneapolis, MN 55455 (612/626-1666).

Early Admission—Outstanding students who have not completed high school may be considered for regular admission after completion of the junior year of high school. Thorough interviews and testing and recommendations from high school principals, counselors, and parents are taken into account.

Summer Session Registration—Students with strong academic records and the recommendation of their high school counselors may apply for registration in the summer between their sophomore and junior, and junior and senior years. The Summer Honors College has special requirements for admission.

Older, Non-High School Graduates—Older students who have not completed high school but wish to complete CLA degrees may be considered on the basis of General Educational Development (GED) test scores.

Planning to Transfer?

Minnesota's public colleges and universities are working to make transfer easier. You can help if you PLAN AHEAD, ASK QUESTIONS, and USE PATHWAYS created by transfer agreements.

Preparing for Transfer

If you are currently enrolled in a college or university:

- Discuss your plans with a transfer specialist in 240 Williamson Hall.
- Call or visit your intended transfer college. You should obtain the following materials and information:

—college catalog

—transfer brochure

—information on admissions criteria and on materials required for admission (e.g., portfolio, transcripts, test scores). Note that some majors have limited enrollments or their own special requirements such as a higher grade point average.

—information on financial aid (how to apply and by what date)

- After you have reviewed these materials, make an appointment to talk with an adviser/counselor in the college or program you want to enter. Be sure to ask about course transfer and admission criteria.
- If you are not currently enrolled in a college or university, you might begin by meeting with a transfer specialist or an admission officer at your intended transfer college to plan the steps you need to take.

Understanding How Transfer of Credit Works

- The receiving college or university decides what credits transfer and whether those credits meet its degree requirements. The accreditation of both your sending and your receiving institution can affect the transfer of the credits you earn.
- Institutions accept credits from courses and programs like those they offer. They look for similarity in course goals, content, and level. “Like” transfers to “like.”
- Not everything that transfers will help you graduate. Baccalaureate degree programs usually count credits in three categories: general education, major/minor courses and prerequisites, and electives. The key question is, “Will your credits fulfill requirements of the degree or program you choose?”
- If you change your career goal or major, you might not be able to complete all degree requirements within the usual number of graduation credits.

Applying for Transfer Admission

- Application for admission is always the first step in transferring. Fill out the application as early as you can before the deadline. Enclose the application fee.

- Request that official transcripts be sent from every institution you have attended. You might be required to provide a high school transcript or GED test scores as well.
- Recheck to be certain you supplied the college or university with all the necessary paperwork. Most colleges make no decisions until all required documents are in your file.
- If you have heard nothing from your intended college of transfer after one month, call to check on the status of your application.
- After the college notifies you that you have been accepted for admission, your transcripted credits will be evaluated for transfer. A written evaluation should tell you which courses transfer and which do not. How your courses specifically meet degree requirements may not be decided until you arrive for orientation or have chosen a major.
- If you have questions about your evaluation, call the Office of Admissions and ask to speak with a credit evaluator. Ask why judgments were made about specific courses. Many concerns can be cleared up if you understand why decisions were made. If not satisfied, you can appeal. See “Your Rights as a Transfer Student” below.

Your Rights as a Transfer Student

- A clear, understandable statement of an institution’s transfer policy.
- A fair credit review and an explanation of why credits were or were not accepted.
- A copy of the formal appeals process.
Usual appeals steps are: 1) Student fills out an appeals form. Supplemental information you provide to reviewers—a syllabus, course description, or reading list—can help. 2) Department or committee will review. 3) Student receives, in writing, the outcome of the appeal. 4) Student can appeal decision to the Office of Admissions, 240 Williamson Hall.
- At your request, a review of your eligibility for financial aid or scholarships.

For help with your transfer questions or problems, see your campus transfer specialist.

Transfer/

Advanced Standing Admission

If you have completed a year or more of college work (39 quarter credits or 26 semester credits), you are considered for admission with advanced standing. Applicants with fewer credits are subject to freshman application procedures and admission requirements. All transfer admissions are subject to enrollment limits.

In addition to credit totals and enrollment limits, applicants for transfer with advanced standing are considered for admission on the basis of cumulative and recent grade point average (GPA), completion rate for college work attempted, choice of major, fulfillment of liberal education requirements, and previous college attended. Transfer students are usually admitted if they have a 2.50 cumulative GPA. Some majors and preprofessional programs have higher GPA and course prerequisite requirements. Applicants with a GPA between 2.20 and 2.49 are subject to a special review before an admission decision is made.

Preparation Requirements—All transfer applicants must demonstrate that they have fulfilled the high school preparation requirements in order to graduate from CLA. Please see the section on high school preparation requirements above.

Minnesota Community College-CLA

Transfer Agreement—A special transfer agreement subject to review and renewal exists between CLA and Minnesota community colleges. The agreement provides that community college students who meet CLA freshman admission requirements will be able to enter upper division CLA programs on the same basis as those who completed lower division studies in CLA. In certain circumstances, certified students may register concurrently at a community college and in University Extension classes. For more information, contact the transfer specialist at your community college.

A.A. Transfer Agreement—Students who completed an associate in arts degree at a Minnesota community college will thereby satisfy the following Twin Cities campus Liberal Education requirements: Diversified Core and Freshman Writing Practice.

Transfer of Credit—CLA normally accepts for degree work all liberal arts courses completed at regionally accredited colleges with grades of A, B, C, or equivalent. No more than 12 credits from courses completed with grades of D will count toward the total required for graduation, though beyond this limit some of these courses may meet other graduation requirements (see Use of D Grades in this section). Credits earned through standardized testing programs (such as CLEP; see Examination-for-Credit Programs in this section) are accepted if the scores meet CLA standards. You may apply a limited number of credits from liberal arts courses from University colleges other than CLA; you may apply a limited number of credits from college-level courses in technical and professional disciplines (see General Credit Requirements in this section) toward your CLA degree. No credits, however, are awarded for vocational-technical courses.

Evaluations of transfer credits are initially made in the Office of Admissions, 240 Williamson Hall. Address questions about transferability or record errors to this office. Questions about how transfer courses will count toward CLA degree requirements should be directed to the CLA transfer specialist (612/625-2008).

National Student Exchange Program—The University of Minnesota is a member of the National Student Exchange (NSE) program, which sponsors student exchanges between participating institutions of higher learning. Exchange students usually have highly specific educational goals. For information on the program, please contact NSE Coordinator, Office for Special Learning Opportunities, 220 Johnston Hall, 101 Pleasant Street S.E., Minneapolis, MN 55455 (612/624-7577).

Honors Program Admission

For admission to the Honors Program, you also must be admitted to CLA through the regular application procedure described for new freshmen or new transfer students. You may be admitted to the Honors Program when you first enroll in the college, or you may transfer to the program at any time up to the first quarter of your senior year. The criteria for admission

depend on the number of degree credits you have earned. New freshmen are admitted on the basis of high school rank and standardized test scores. Entering freshmen should apply as early as possible. Students who have completed fewer than 90 degree credits are admitted if they have earned A grades in at least 50 percent of their accumulated course credits. Students with 90 or more completed degree credits are admitted if they have earned A grades in at least 50 percent of their accumulated course credits and been endorsed by the honors faculty representative in their major department. Transfer students may be admitted when they enter CLA if they have earned A grades in at least 50 percent of their transferred credits. Applications from CLA and transfer students are accepted throughout the year.

The special opportunities offered by the program are described under the heading Honors Program in the Enrichment Opportunities listing in this section. For information about application procedures, consult the Director of Honors, University of Minnesota, 115 Johnston Hall, 101 Pleasant Street S.E., Minneapolis, MN 55455 (612/624-5522).

Martin Luther King Program Admission

For admission to the Martin Luther King (MLK) Program, you must be admitted to CLA through the regular application procedures described for new freshmen or new transfer students. You should indicate interest in the MLK Program on your application form. If you are currently enrolled or a returning student, information regarding the MLK Program may be obtained in 19 Johnston Hall (612/625-2300).

Adult Special/ Postbaccalaureate Admission

If you are interested in enrolling in CLA courses but not in earning a CLA degree, you may qualify for adult special status in the college. Usually adult special students already have bachelor's degrees and want to prepare for graduate school or take courses for personal enrichment.

If you have not completed a bachelor's degree, it is usually more appropriate to apply for regular transfer admission rather than adult special status. If you wish to enroll in CLA for a period of a year or less and your college is a

member of the National Student Exchange (NSE), you should apply for admission through the NSE program. If you wish to enroll temporarily in CLA and your college is not a member of NSE, you should consult with the Admissions office to determine if you should apply as a transfer or as an adult special.

Adult special applicants must satisfy regular transfer admission standards to be admitted. Students who do not meet this standard may wish to consider enrollment opportunities available through Continuing Education and Extension, 101 Westbrook Hall, 77 Pleasant Street S.E., Minneapolis, MN 55455 (612/625-3333).

Adult special students are not eligible for most forms of financial aid and they register after all degree-seeking students.

Advising services for CLA adult special students are available in 114 Johnston Hall (612/624-4545). Advisers aid in planning programs to suit students' outside demands and in selecting coursework to take fullest advantage of the college's resources.

Many adult special students register for part-time study, though full-time enrollment is not prohibited. Credits earned as an adult special student may later, upon admission to a degree program, be applied toward the bachelor's degree. Some colleges, including the Graduate School, limit the number of credits taken as an adult special that can be transferred to a degree program. Check with your program director.

Although 8xxx courses normally are restricted to graduate students, adult special students occasionally may obtain permission to enroll in them; approval of the instructor and the departmental director of graduate studies are required.

CLA graduates who have not registered in another University of Minnesota college, excluding Extension, should go to the Office of Admissions, 240 Williamson Hall, and complete a readmission form.

CLA graduates who have registered in another University of Minnesota college, excluding Extension, must complete an Application for Change of College or Status. Applications should be submitted by the following deadlines: fall quarter—June 1; winter quarter—October 15; and spring quarter—January 15. Applications should be submitted to the Office of the Registrar, 150 Williamson Hall.

Student Information

Students who have questions about college procedures between the time they are admitted and when they enroll should contact the CLA Student Information Office, 49 Johnston Hall (612/625-2020).

Orientation

New students are required to participate in a CLA orientation program before their first quarter of enrollment. College faculty and staff, together with staff from the University’s New Student Programs Office, introduce you to the resources and services of the University and college. College advisers meet with you in groups and individually to explain degree requirements, answer questions, and work out your initial registration for courses. You also will receive help in using electronic self-registration. Orientations are usually scheduled during the month before the start of the quarter for which you are admitted.

As a new student, you will receive your scheduled orientation date by mail, along with a variety of planning resources. Before you come to campus, use this information to prepare. Identify various majors that interest you, clarify your goals for the first quarter, and consider which on-campus activities you may want to be involved in. When you come to campus you will receive a *CLA Orientation Handbook* or, if you are a transfer student with a declared major, you will receive a *CLA Graduation Handbook*. Both handbooks contain details about registration, course selection, transfer of credits, and college services; these handbooks are to be used in conjunction with the *CLA Bulletin*.

Registration

Registration is the process of signing up for the courses to be taken during the coming quarter. For fall classes, registration periods ordinarily begin in late May (for continuing students) and in mid-August (for new students), for winter classes in mid-November (mid-December for new students), for spring classes in mid-February (late March for new students), and for the two summer terms in mid-May.

Full CLA registration instructions appear in the *Class Schedule*, which is issued each quarter and is accessible on Gopher and the World Wide Web.

Your Responsibility for Registration

You are responsible for your own course registration. Take care not to enroll in courses for which you are not prepared or that repeat work already completed. The course descriptions list prerequisites; instructors will also discuss requisite preparation with you. Students transferring credits from outside the University or taking non-liberal arts courses should be especially careful not to take courses that may repeat previous coursework. Course listings in the Major Requirements and Course Descriptions section of this bulletin show most equivalent CLA courses but may not indicate other University of Minnesota college courses that may duplicate CLA courses. An instructor may require you to cancel a course if you are inadequately prepared or inappropriately registered.

If you determine that your enrollment in a course is inappropriate, you should cancel the course through the Registration Center or by electronic self-registration as quickly as possible. Course cancellations are allowed through the Friday of the sixth week of classes. After the sixth week, course cancellations are seldom allowed. (See Changes of Registration—Cancel-Add Procedure later in this section.)

Registration—Where to Start

Students new to the University, both first-year and transfer students from other institutions, receive orientation/registration information by mail. You will be given other materials and instructions when you come to campus for the required orientation/registration program. Students admitted to CLA lacking one or more of the University’s high school preparation requirements must take courses to satisfy that deficiency in their first year in the college.

Students from other University of Minnesota colleges apply for authorization to change colleges at the Student Relations Office, 150 Williamson Hall, or at corresponding offices on other University campuses. Instructions for your initial registration in the college will be mailed with a letter notifying you of admission

to CLA. All students transferring from other University of Minnesota colleges must attend a college meeting before registering in CLA.

Continuing students may find registration information at <http://www.umn.edu/registrar/> on the World Wide Web or may call the CLA Student Information Office at (612) 625-2020 or their college advising office to find out where to obtain materials. Distribution begins four days before registration periods begin.

Students returning to CLA after an absence should contact the Student Information Office, 49 Johnston Hall, at least 12 weeks before the term they wish to return. Students suspended by the college must receive permission to return from the Committee on Student Scholastic Standing. Students who have not received an approved Leave of Absence from the college may be required to reapply for admission. Students who have taken courses elsewhere since their last registration in CLA must submit to the Office of Admissions, 240 Williamson Hall, official transcripts from those colleges.

Senior citizens who are Minnesota residents 62 or older may register for CLA classes, tuition-free, when space is available after all tuition-paying students have been accommodated. You must apply to instructors after classes have had their first meetings and register in 202 Fraser Hall if permission is granted. You usually must meet course prerequisites. If you are taking a course as an auditor (without credit), you pay no fees unless materials or other special charges are involved. If you are seeking credit, you pay a \$6 fee per credit as well as any special costs. Further information is available in 150 Williamson Hall (612/625-5333).

Limits on Registration

Planning Credit Load—To graduate in four years without going to summer school, you must average 15 credits per quarter. Dropping below that average on a consistent basis can add an extra year to the time you must spend in school. Financial aid for full-time students requires that you take at least 12 credits per quarter. The Minnesota State Grant Program requires 15 credits per quarter for full-time status. University policy states that you should expect to spend at least three hours per week

per credit to do satisfactory work. This means you must plan at least 45 hours per week for 15 credits. Enrollment for more than 20 credits per quarter requires Student Scholastic Standing Committee approval. Exceptions may be granted if you have a superior academic record. Studies show that students who are able to put the most time into their college education do the best and get the most from it. If that is not possible, make realistic choices enabling you to succeed in courses and make steady progress.

Non-CLA and Non-Liberal Arts Credits—Courses offered by departments listed in the second section of this bulletin and courses approved for the Twin Cities campus liberal education curriculum are considered “CLA credits” and apply toward the 45-credit CLA residency requirement. You may enroll in some courses offered by other University colleges. Additional liberal arts courses from other University colleges (“non-CLA liberal arts courses”) may not be applied toward the CLA residency requirement or toward major requirements (see General Credit Requirements in this section). Approved college-level courses in technical or professional fields (“non-liberal arts courses”) up to a maximum of 28 credits may be applied as electives toward your degree, but may not be applied toward liberal education, major, or residency requirements. Note that not all non-liberal arts courses are approved for credit. To find out if a non-liberal arts course is approved for CLA credit, consult with your college advising office before registering. See Advising in this section for a list of CLA advising offices.

Repeating Courses—Credit will not be awarded twice for the same course or for two substantially equivalent courses. You may repeat courses in which you have received a grade of D, F, N, or I. Both grades earned for each course will appear on your official transcript and will affect the GPA (if a D or F), though graduation credit will be awarded only once. You may also repeat, for credit, any course from which you have officially withdrawn. You do not earn credit if you repeat a course that you have already completed satisfactorily. You may not receive credit for a course you have audited.

Credit for Prerequisite Courses—Credit normally will not be granted for a course that is a prerequisite to one for which credit has been received.

Students with previous second language learning should begin college study at the highest level their ability permits. Those who successfully complete a CLA second language skills course with a grade of C or better will be awarded credit for lower level prerequisite courses upon request.

Repetition of High School Work—In CLA, you normally enroll for mathematics and second language courses for which high school work and the language proficiency test make you eligible. If you think you are not prepared to continue at such a level, consult your college office adviser about appropriate placement and course selection.

Second language credit may be earned by completing a higher level skills course with a grade of at least C and requesting that credit be posted from previous courses. Consult your college office about testing for credit.

Audited Courses—With instructor permission, enrollment without credit is open to those who register as auditors or visitors. You may participate in classroom and other activities and take examinations with the instructor’s consent. No credit is awarded and no grade assigned. The course credits count in your quarterly tuition credit total and the regular course fee is assessed. Audited courses may not be taken later for credit. The courses appear on your grade record with the symbol V.

Limits on Informal Attendance—Under college rules, instructors are asked to exclude from classes anyone who is not registered. Limited unregistered attendance is permitted, however, during the first several meetings of a class if you are seeking information about the nature of the course. Occasional, but not regular, visiting may be permitted by an instructor later in a quarter. Unregistered students who submit coursework will be charged tuition for their attendance, and audit registration status will be assigned to reflect instruction received.

Continuing Education and Extension—If you are considering enrollment in evening courses or Extension Independent Study courses, you

should take into account the demands on your time from both your day school course load and any outside employment. You also should check to see if Extension credits count toward the minimum credit requirements for financial aid.

Extension registrations, including independent study, are automatically entered on your day school transcript no matter when the last Extension registration occurred.

Credits in Graduate School—If you lack no more than 9 credits of the 180 required for a bachelor’s degree, you may apply for admission to the Graduate School. During your first quarter in the Graduate School, you would normally complete the credits necessary for your bachelor’s degree. Graduate-level work applied to your graduate degree may not also be applied toward your bachelor’s degree. For limits on adult special registration in graduate courses, see Nondegree and Part-Time Status—Adult Special Admission in this section.

Changes of Registration—Cancel-Add Procedure

After registering, you may add courses, change course sections, or change your grade option or course level through the Friday of the second week of the quarter. Course cancellations may be made through the Friday of the sixth week of the quarter.

You are responsible for completing courses for which you have registered unless you officially cancel them electronically or at the Registration Center, 202 Fraser Hall.

Procedures for changes in registration and information on refunds are detailed in the *Class Schedule*.

Limits on Cancel-Adding—*All changes in registration must be processed through the Registration Center, 202 Fraser Hall, either in person or through electronic self-registration.* Course entry after the Friday of the first week of the term requires electronic permission from the instructor or department and all registrations, grade-base changes, section changes, and course additions must be completed by the Friday of the second week of the term. After the Friday of the second week, students must petition the Student Scholastic Standing Committee for permission to add a class or change grade base. Permission to add a class after the deadline is not routinely

approved. Therefore, if you cancel a course after the end of the second week of the quarter, you will probably not be able to replace it to maintain a full schedule for the term.

You may cancel one or more courses at your discretion through Friday of the sixth week of the term. It is your responsibility to use this period to evaluate the appropriateness of your registration, course placement, and workload, and to make final decisions about whether to cancel or complete your course by this deadline. By remaining registered for a class after the end of the sixth week, you have committed yourself to complete the course, except under the circumstances noted under “Late Cancellation Policy” below. *All cancellations must be processed through the Registration Center, 202 Fraser Hall, either in person or through electronic self-registration. If you do not attend a class or stop attending without officially canceling, you will receive a grade of F or N in the course and will remain responsible for course tuition.*

Limits on Changing Grade Base—Instructors may assign grades only for the system under which the student is registered, A-B-C-D-F or S-N (see Credit and Grade Standards). Changes between the grading systems can be made only by canceling the original registration and adding the registration under the new grade base. Changes of grade base are permitted only through the Friday of the second week of each quarter. Because choice of a grading system is a contract with the instructor and the college, the Student Scholastic Standing Committee strictly enforces this deadline.

Limits on Changing Course Level—Changes between course levels (e.g., from 1xxx to 3xxx or 5xxx to 3xxx) can be made only by canceling the original course registration and adding the course at the desired level. Course level changes are permitted only through the Friday of the second week of the quarter.

Late Cancellation Policy—CLA students may receive one discretionary course cancellation after the sixth-week deadline but before study day. This discretionary cancellation may be used only once during a student’s enrollment in CLA. Other late cancellations will be approved by the Student Scholastic Standing Committee

only when verified extenuating circumstances that prevent a student from completing a course arise after the sixth week. Any cancellation, discretionary or otherwise, after the sixth week must be requested by written petition in the student’s college advising office.

Financial Aid and Course Cancellation—If you cancel a course or courses during the first two weeks of a quarter causing your registration to fall below the number of credits for which you are receiving financial aid (12 credits for full-time student status, 15 credits for Minnesota State Grant), you will be required to repay the Office of Student Financial Aid. If you cancel a course or courses after the second week of a quarter, a W will appear next to the course. The credits for the canceled course will still apply to your quarterly credit total. Veterans receiving GI benefits must repay the Veterans Administration. Repayment is calculated according to the date on which your cancellation is effective. Consult the Office of Scholarships and Financial Aid, 210 Fraser Hall (612/624-1665), to discuss your situation.

Leaving College—To leave the University during a quarter, you must cancel all courses for which you are registered. Complete (“exit”) cancellation can be processed through the last day of classes (or through study day, if it is a weekday). A CLA student who plans to withdraw from all courses for a quarter or not register for a subsequent quarter, whether to leave the college permanently or to take a temporary leave of absence, must submit to their college office a Leave of Absence and Noncontinuation form. A student who withdraws without receiving an approved leave of absence may be required to reapply for admission. Information about these procedures is available in college advising offices and the CLA Student Information Office, 49 Johnston Hall (612/625-2020).

Reentry After an Absence—Students who wish to return after an absence should contact the CLA Student Information Office, 49 Johnston Hall, at least 12 weeks before the term they wish to return for information. Students in good academic standing may return freely within the terms of an approved leave of absence. Students without an approved leave of absence may be required to reapply for admission to the college.

Advising

College advisers in academic departments and “college offices” offer you individual help in planning your studies and meeting other concerns you might have about college life. Students are assigned to an advising office (see the directory below) for assistance with course selection, registration, vocational and personal decisions, financial problems, and involvement in campus activities. First-year students are required to meet with their adviser each quarter. After choosing a major and attaining sophomore standing, you are assigned two advisers: one in your major department (whom you usually retain until graduation); and one in your college office who has access to your college records, which move with you from your premajor college office to the appropriate upper division college office.

Wise use of the advising system can make your college experience more satisfying and productive. Take pertinent records and materials to adviser appointments, and prepare for program planning sessions by giving careful thought to possible course selections, program schedules, and your short- and long-term education and career goals. Review your transcript or computerized degree audit.

Enrichment Opportunities

Foreign Languages

Across the Curriculum (FLAC)

This program allows students to apply their knowledge of a second language to the study of a particular discipline. Courses include one-credit sections offered in conjunction with courses in geography, history, political science, and sociology; two-credit international news coverage seminars in international relations; and four-credit courses in area studies, French, German, history, international relations, political science, and Spanish. Additional courses are being developed. To date, one-credit sections have been offered in conjunction with courses in Chinese, French, German, Italian, Japanese, Russian, Spanish, and Scandinavian languages. Two- and four-credit courses are offered in French, German, and Spanish. Students may take as many as four courses in French, German, or Spanish during spring quarter; this immersion in FLAC courses is referred to as the Foreign Language Immersion Program (FLIP). For more information, see page 128.

CLA Advising Offices

Your college records are kept in your assigned college office; this office provides advising services and procedural information. The offices are:

Premajor Advising (for first-year students, preprofessional students, and continuing students who have not yet declared majors)

105 Johnston Hall (612/624-9077)—premajor advising coordinator

30 Johnston Hall (612/624-9006)—mathematics and biological and physical science premajors; preprofessional students interested in health sciences and engineering; students exploring health sciences, applied sciences, and technology

B-18 Johnston Hall (612/624-9585)—social sciences, humanities, and fine arts premajors; preprofessional students interested in management and education; students exploring social science, humanities, and fine arts majors

Upper Division College Offices (for sophomores, juniors, and seniors who have chosen majors, and designated special programs)

East Bank Majors—114 Johnston Hall (612/624-4545)

West Bank Majors—122 Social Sciences Building (612/624-5848)

Advising for Special Programs

Adult Special: Nondegree Students—114 Johnston Hall (612/624-4545)

Honors Program—115 Johnston Hall (612/624-5522)

Martin Luther King Program—19 Johnston Hall (612/625-2300)

The college’s administrative offices are located on the first and second floors of Johnston Hall. The Student Board, a CLA student organization, is located in 320 Walter Library (612/626-0348).

Honors Opportunities (115 Johnston Hall, 612/624-5522)

The CLA Honors Program offers special educational opportunities to intellectually promising and highly motivated students. Its purpose is to broaden the scope of student learning, encourage full use of student potential, and recognize student accomplishments. Among its offerings are honors courses, small discussion groups for freshmen and sophomores, seminars for juniors and seniors, special advisers, departmental honors plans, and opportunities for advanced research and individual study. Most honors opportunities are available to you if you qualify, whether or not you are enrolled in the Honors Program.

Graduation with Honors—Enrollment in the Honors Program is required for graduation with the traditional honors designations *cum laude*, *magna cum laude*, and *summa cum laude*. Other graduation criteria include University of Minnesota residence, quality of the grade record, participation in honors opportunities, in some instances fulfillment of requirements designated for the major field, and, for *summa cum laude*, an honors thesis. Some departments also require honors theses for *cum laude* and *magna cum laude* degrees. Students must complete the honors requirements for their degree within two years of the quarter in which they apply for graduation.

Honors Courses—Honors courses or special honors sections of regular courses are often small in size and taught by selected teachers. Although grading standards are comparable to those of other courses, topics and materials are approached in greater depth than in regular classes. These courses are designated in the bulletin by the term “Honors Course” or by the letter “H” following the course number.

Honors Colloquia—These seminar-size discussion groups are led by faculty members or advanced graduate students. They are open to all honors freshmen and sophomores in all the freshmen-admitting colleges. Topics change each quarter and vigorous student participation is the norm. Field trips and other special learning methods often characterize the colloquia. They carry credit, but because new topics and hours are selected each quarter, they are not listed in this bulletin. A list of topics is available in the Honors Program Office.

Honors Seminars—Honors seminars are open to students in the Honors Program who have completed 90 credits (other applicants are sometimes admitted when class space permits). In contrast to departmental honors course offerings, which emphasize depth of learning within fields, honors seminars serve the interests of students of high ability but with little background in the subject field. The seminars cover a wide range of topics, often of an interdisciplinary character, and deal with problems and ideas not treated in the regular curricular offerings of the college. Topics are specified in the *Class Schedule* and descriptions are available in the Honors Program Office.

Freshman-Sophomore Honors Program—Honors students who have earned fewer than 90 credits participate in a program that provides certain educational opportunities: special faculty advisers, special library loan privileges, and assistance by the Honors Program staff in making a variety of premajor decisions. There are honors opportunities both for students who will seek a CLA degree and for preprofessional students who will complete their degrees outside of CLA. Completion of at least two honors courses per year is strongly recommended for freshmen and sophomores. Students who complete four honors opportunities and earn A grades in at least 50 percent of their credits in their freshman and sophomore years receive a certificate and a notation on their transcript. Admission requirements are described under Honors Program Admission in this section.

Junior-Senior Honors Program—If you have completed 90 credits and have declared your major concentration, you may participate in the honors curriculum in your major field as well as in a variety of academic opportunities, including honors seminars. You are assisted in scholarship and fellowship matters, especially in preparation for graduate work, and have access to experienced counsel about graduate and professional study. When you undertake a research project, you are given special library privileges. Grants are available to help you meet project costs.

For admission to the honors program in your major field, you usually must have earned grades of A in at least half of your credits, and you must

be accepted for admission at least two quarters before graduation (ordinarily before 150 credits are completed) to graduate with honors.

Continuation in Honors—The academic progress of honors students is reviewed annually. Students whose grades fall below the level necessary to graduate with honors may be denied continuation in the program.

Departmental Honors Curricula—Most CLA departments provide special honors opportunities for which students must meet special requirements. Information about these offerings as well as about graduation with honors may be obtained from department or program offices or from the honors office.

Honors Program Office—College records for honors students are kept in 115 Johnston Hall. The office also provides academic advising, procedural information, and other college office services to honors students.

Martin Luther King Program (19 Johnston Hall, 612/625-2300)

The Martin Luther King Program is an academic advising office for CLA students. Its mission is to provide high-quality advising, support services, and instruction. This is achieved through sponsoring tutorials, sections of introductory courses, support groups, computerized instruction, study skills workshops, and career seminars. Students enrolled in the program are encouraged to maximize their potential through educationally enriching learning experiences.

Individually Designed Interdepartmental Major (I.D.I.M.) You may want to consider the I.D.I.M. program if you wish to earn a B.A. by specializing in an interdisciplinary area rather than a department major. Because you must carefully plan your own 80-credit major, the I.D.I.M. program may require more initiative, thought, and effort from you than many traditional majors, but it offers an individualized education and close contact with faculty and staff advisers. Further information about the I.D.I.M. program is in the Major Requirements and Course Descriptions section of this bulletin or can be obtained in 220 Johnston Hall (612/624-8006).

Bachelor of Individualized Studies (B.I.S.)

If you seek an even broader program of study than the I.D.I.M. (described above), you may wish to consider the B.I.S. degree. Although this program has much in common with the I.D.I.M.—student initiative in proposing courses, close contact with faculty advisers, highly individualized programs—it differs in permitting multiple educational objectives rather than a single theme or concentration, and in allowing more coursework outside the college, provided it is relevant to your objectives and approved by your advisers. Further information about the B.I.S. is in the Major Requirements and Course Descriptions section of this bulletin or can be obtained in 220 Johnston Hall (612/624-8006).

Foreign Study

CLA credit for study abroad may be earned through independent study or through a wide variety of formal programs. For details, see Foreign Study, p. 129.

Undergraduate Research Opportunity Program Grants

The University of Minnesota's Undergraduate Research Opportunities Program (UROP) offers financial awards to undergraduates for research, scholarly, or creative projects undertaken in partnership with a faculty member. UROP affords undergraduates the unique educational experience of collaborating with a faculty member on the design and implementation of a project. At the same time, faculty have the opportunity to work closely with students and receive valuable assistance with their own research or professional activity. UROP adds a new dimension to the undergraduate experience. It encourages students to conduct research and pursue academic interests outside of their regular courses by employing them to work on special projects.

UROP applications are judged on the basis of the quality of the proposed project and educational benefit to the student. Since funding is limited, awards are granted to the strongest proposals. There are two opportunities to apply for research funds each year: October and April. Information about UROP is available in 220 Johnston Hall.

Office for Special Learning Opportunities (OSLO)
The Office for Special Learning Opportunities (220 Johnston Hall, 612/624-7577) coordinates career services, internship, and community service learning opportunities for CLA students. OSLO advisers assist students concerning independent study options (directed study, directed instruction, X and Y registration). OSLO administers various other programs such as the National Student Exchange, two programs of the Higher Education Consortium for Urban Affairs (HECUA), and student participation in other domestic study programs.

Career Services—The skills and experience for developing and later managing a career need to be learned while you are in school. We provide assistance to current students and alumni in relating academic interests to career options, identifying career goals, and learning effective job-hunting skills. We emphasize getting you involved in the kinds of experience you will need to be competitive in the work world of the 21st century.

The following services and materials are provided: workshops and individual assistance on résumé writing, interviewing, job-hunting, and networking; courses on career exploration and strategic career planning; career resource center offering computer access and reference materials for occupation and company research, graduate school information, and World Wide Web and other on-line career resources; and an annual career and internship fair. You are encouraged to use the services and resources throughout your college career and afterward.

Internships—Internships are an important vehicle for exploring questions and issues raised in the classroom. They allow you to gain experience in a particular field and learn more about possible career alternatives. Internships are available in all fields of study. Some are paid but many are volunteer opportunities. Placements can be made in areas such as government, business, human services, science and technology, health care, ecology, education, the arts, broadcasting, and publishing.

Academic credit for learning acquired through internship experiences is available through several CLA departments, including some of the courses available under the

Interdepartmental Study (ID) designator. Some financial support is available from the CLA Internship Grant Program, which funds students doing otherwise unpaid internships in the community. See an OSLO adviser for information on both credit and the grant program.

Community Service Learning—Many students participate in community service learning programs that are involved with youth tutoring, English-as-a-second-language tutoring, housing issues, and a variety of other community concerns. These programs offer students the opportunity to gain valuable experience, with the option of earning college credit, while helping to make a difference in the community. For example, Project ADAPT (Appreciating Differences Among People and Things) allows students to earn credit while sharing their intercultural experiences with children in public schools.

National Student Exchange (NSE)—This exchange program allows University students to attend up to one full year at any of the more than 130 public colleges and universities that form the NSE. This includes campuses in 46 states, Puerto Rico, the Virgin Islands, and Guam. The program allows you to experience life in a different part of the country, learn firsthand about cultural and regional differences in the United States, and complement your education with special programs available at other schools. Costs for the program approximate University resident tuition and fees. Federal and state financial aid is available to eligible students. Early planning is essential to ensure smooth credit transfer so your graduation is not delayed.

Graduate and Professional School Assistance—Many CLA graduates choose to attend graduate or professional schools. OSLO provides an annual graduate and professional school fair, workshops on how to apply for graduate study and other topics, pre-law advising, and graduate and professional school credential files for students in the application process.

Alternative Credit Registration Options

Most departments offer opportunities for independent study of regular courses or subjects not covered in the curriculum. For general information and forms, contact the OSLO office. These opportunities for independent study, carried out under the direction of a faculty member, require instructor, department, and college approval on a special permission form. They include:

Y Registration—Enrollment in established courses in which you study on your own without attending class. You must meet course conditions for examinations and other work on which you and the instructor agree. Regular fees, deadlines, and grading policies apply.

X Registration—A way of earning up to three extra credits in a course you are taking or have previously taken, by exploring more deeply a topic related to the course's content.

Directed Studies (3970 or 5970)—An individual learning experience arranged by you and one or more University faculty members to explore subjects not covered by regular courses. You work independently in developing and carrying out a special study project. Credit assignments vary; normally, each credit earned requires 30 hours of academic work a quarter. Regular evaluation and grading procedures apply.

Directed Research (usually 3990 or 5990)—Guided research under conditions and procedures similar to those that govern directed studies.

Directed Instruction (3980)—An opportunity to learn more about a subject you have studied by assisting in teaching it to others. One to five credits per quarter may be earned through directed instruction; a maximum of eight credits may be applied toward a CLA degree.

Interdepartmental Study (ID 3970)—Similar to directed studies except the subject crosses department lines. Usually you work with more than one instructor and need approval from each instructor and the OSLO office.

Examination-for-Credit Programs
Several opportunities to gain credit, exemption, or advanced placement are available: special

examinations for credit, foreign language placement, advanced placement, and credit for competency based or armed services educational experiences. Information about examinations or credit for work validated through non-University standardized tests (e.g., College Level Examination Program examinations) is available in college or department offices.

Credits earned through examination may not be applied toward the 45 CLA credits required for a degree.

Special Examinations for Credit—If you believe your knowledge of a subject is equal to that required to complete a particular course (other than a first or second year language course), you may request to take an examination for credit. If Student Scholastic Standing Committee and department review of your application and background lead to approval, arrangements can be made with an appropriate instructor to take an examination. Usually no grade is assigned. A \$30 fee is assessed for each examination. To be eligible, students must have been admitted to a degree program and must have registered for at least one quarter in CLA. Consult an adviser in your college office about other limitations.

Special Examinations for Proficiency—To meet a prerequisite or satisfy a requirement, you may ask the Student Scholastic Standing Committee for permission to take an examination to demonstrate proficiency. No credit is granted and no fee is charged. See your college adviser for information about examinations to demonstrate proficiency in languages other than English.

College Level Examination Program (CLEP)—By passing one or more of the standardized general examinations prepared by the College Entrance Examination Board, you may, after initial registration, earn up to 32 credits without grades. Credits for college coursework or for other examinations previously completed in the subject matter will be subtracted from credit awards for CLEP examinations. CLEP also offers a number of subject examinations for credit. Information about CLEP tests can be obtained from college offices.

Credits, Grades, and Records

Credit and Grade Standards

Credit Value—A credit, by University Senate definition, is earned through “about three hours of academic work a week”—30 hours in a 10-week quarter. A 4-credit course typically represents 120 hours of acceptable work. The time may be spent in combinations of classroom, laboratory, library, off-campus, and home work.

Grades—University academic achievement is graded under two systems: A-F and S-N. Choice of grading system and course level (1xxx/3xxx/5xxx) is indicated on registration forms; changes may not be made after the Friday of the second week of the quarter. Some courses may be taken under only one system; limitations are identified in the *Class Schedule*. Most departments require A-F registration in required major courses (consult your major department). University regulations prescribe the grades that will be reported on your transcript:

- A—Achievement that is *outstanding* relative to the level necessary to meet course requirements (4 grade points).
- B—Achievement *significantly* above the level necessary to meet course requirements (3 grade points).
- C—Achievement that *meets the basic course requirements in every respect* (2 grade points).
- D—Achievement *worthy of credit* even though it does not fully meet the basic course requirements in every respect (1 grade point).
- F—Performance that *fails to meet the basic course requirements* (0 grade points).
- S—Achievement *satisfactory* to the instructor for the program in which you are registered. This definition implies that the standards for S may vary from one program to another. The S is not figured into the GPA.
- N—*No credit*. Before fall 1986, this symbol was assigned to students not earning an S or at least a D on the A, B, C, D, N grade base. Its use is now restricted to students not earning an S on the S-N grade base.

Acceptance of S Grades by CLA—You must earn A-B-C grades for at least half of the CLA credits applied toward your degree (never fewer than 45). The other half may include S grades.

Acceptance of S Grades by Other Colleges—Academic units other than CLA do not always accept courses in which S grades have been earned. The University of Minnesota Graduate School asks for written evaluations or letter grades for courses carrying S grades that bear on your proposed field of specialization, and may request additional information such as results of the Graduate Record Examination. It often is difficult to obtain redefinition of S grades in A-B-C-D terms. If you are contemplating professional or graduate work, you should consult college bulletins or an adviser about use of S-N grading.

Use of D Grades—A maximum of 12 credits of D may be applied toward the 180-credit degree requirement. Courses with D grades may be used to fulfill liberal education requirements, prerequisites, or (with department approval) specific course requirements for the major. D credits in General College composition courses may not be used to satisfy the CLA Freshman Writing Practice requirement. (A grade of C+ [C-7] must be earned in GC 1422 to satisfy this requirement.)

Additional Grading and Record Symbols—The University system uses several additional symbols:

I—*Incomplete*, a symbol temporarily assigned when the instructor 1) has a “reasonable expectation” that you can successfully complete unfinished work in a course no later than the end of the next quarter, and 2) believes legitimate reasons exist to justify extending the deadline for course completion. You and your instructor should arrive at a clear understanding, in advance, about whether you will receive an I and what the makeup work conditions will be. The instructor may set dates and conditions for makeup work. Forms for recording this information are available in college advising offices.

If a course is not completed as prescribed or not made up as agreed within the next quarter of registration, the I will lapse to an F

if registered on the A-F grade base or an N if registered on the S-N grade base.

W—*Official withdrawal* from a course after the end of the second week of the quarter. You must file a course cancellation request before the end of the sixth week of the quarter to ensure that the W, rather than the F, will be formally entered on your record. (When cancellations are completed by the second week of the quarter, no course or grade information is recorded. A transcript memo records the date of a complete cancellation, or “exit.”)

V—Registration as a *visitor* or auditor that permits attendance and, with instructor permission, participation in course activities. No credit or grade is earned and a course in which a V has been posted may not subsequently be taken for credit. Regular attendance without registration is not authorized.

T—A grade *transferred* from another college or institution. Appears on the transcript immediately preceding the transferred grade.

X—*Continuation* in another course or courses is necessary because grades cannot be determined until the full sequence is completed. Instructors submit letter grades for each X upon completion of the sequence.

K—The course is still *in progress* and a grade cannot be assigned at this time. The instructor will submit a grade for the K when the course is completed.

Grade Point Average—The grade point average (GPA) is computed by (1) multiplying the number of credits in each course by the corresponding grade points; (2) totaling the grade points earned; and (3) dividing the sum by the number of credits undertaken, excluding courses in which grades of S or N or symbols of I, K, V, W, or X were awarded. Grades of F are included in credits attempted and are used in computing the GPA. Transfer coursework is not included in the GPA on your University transcript.

Satisfactory Progress—You are expected to make satisfactory progress toward your degree. This usually means earning grades of A, B, C, or S in most courses and completing courses undertaken (see Scholastic Probation). If you are dissatisfied with your progress, early consultation with instructors and your adviser is recommended.

The Office of Scholarships and Financial Aid (OSFA) now makes its own determination of satisfactory progress. Consult OSFA (210 Fraser Hall) about your eligibility.

Quarterly Achievement—Each quarter, the college publicly recognizes superior academic performance through transcript memoranda, notices posted outside the Dean’s Office in Johnston Hall, and announcements to academic departments.

To appear on the *Dean’s List*, you must complete at least 12 credits and earn a quarterly GPA of at least 3.66 with no N grades.

To be recognized as a *CLA Scholar*, you must complete at least 15 credits and earn a quarterly GPA of at least 3.75 with no N grades. CLA Scholars receive a certificate recognizing their accomplishment.

Extension registrations are included in assigning these honors. The GPA calculation used for the Dean’s List and CLA Scholars differs from that which produces the transcript GPA. If you believe you qualify for either list but are not included, please consult the staff in 106 Johnston Hall.

Student Grade Reports and Transcripts

Student academic records are maintained by the Office of the Registrar through a computerized system. These records show all coursework for which you were registered as of the end of the second week of each quarter and the grades and symbols awarded for that work. A transcript of your record will be mailed to you in July after the end of each academic year, but you may obtain a certified transcript for \$4 or an unofficial copy at no charge at the transcript service in the Office of the Registrar, 150 Williamson Hall. Also, official certified transcripts will be sent upon your written request, at a charge of \$4 per copy (\$8 for rush service), to whomever you designate. Telephone requests are not accepted. Grades for fall and winter quarters are available electronically on the Student Access System of the University’s Public Access Information Service, using your University E-mail account. Grades for spring quarter appear on the transcript mailed in July; summer session grades are mailed separately.

You may leave self-addressed postcards with your instructors to learn your grades sooner.

Retention of Student Records—Official transcripts are maintained permanently by the Office of the Registrar. The college retains for ten years the college files of upper division students who left CLA after earning 100 college credits; college files of students who applied for graduation but did not graduate and of students who had filed a degree program plan (senior summary or balance sheet) are kept indefinitely. Student records of graduates are kept for two years following graduation.

Students may insert materials in permanent credential files, which are kept in the Office for Special Learning Opportunities.

Class Attendance, Grading, and Examination Procedures

Class Attendance—As a CLA student, you are responsible for attending class and ascertaining the particular attendance requirements for each class or department. You should also learn each instructor's policies concerning makeup of work for absences. Instructors and students may consult the *CLA Classroom, Grading, and Examination Procedures Handbook* (available in 106 Johnston Hall) for more information on these policies.

Course Performance and Grading—Instructors establish ground rules for their courses in conformity with their department policies and are expected to explain them at the first course meeting. This includes announcement of office hours and location, the kind of help to be expected from the instructor and teaching assistants, and tutorial services, if available. The instructor also describes the general nature of the course, the work expected, dates for examinations and paper submissions, and expectations for classroom participation and attendance. Instructors determine the standards for grading in their classes and will describe expectations, methods of evaluation, and factors that enter into grade determination. The special conditions under which an Incomplete (I) might be awarded also should be established.

The college does not permit you to submit extra work to raise your grade unless all students in the class are afforded the same opportunity.

Classroom Behavior—You are entitled to a good learning environment in the classroom. Students whose behavior is disruptive either to the instructor or to other students will be asked to leave.

Final Examinations—You are required to take final examinations at the scheduled times (see the *Class Schedule*). Under certain circumstances, however, you may request final examination schedule adjustment in your college office. Instructors are obligated to schedule makeup examinations within the final examination period for students who have three final examinations within a 16-hour period. Instructors also are encouraged to reschedule examinations for students with religious objections to taking an examination on a given day. You must submit your request for an adjustment in your schedule at least two weeks before the examination period begins. For assistance in resolving conflicts, call the CLA Student Information Office at (612) 625-2020.

If you miss a final, an F or N is recorded. You must obtain the instructor's permission to make up the examination.

Final examinations may be rescheduled by the instructor only through the official procedure for that purpose (see the *Class Schedule*). Final examinations may not be scheduled for the last day of class or earlier or for study day. If an examination is rescheduled at the instructor's request, and you have an examination conflict because of it, you are entitled to be given the final examination at an alternative time within the regularly scheduled examination period for that quarter.

Probation, Suspension, Readmission

Scholastic Probation—The college determines your scholastic standing by evaluating whether you are making satisfactory progress toward your degree, rather than by your GPA. You are expected to complete 75 percent of the credits you attempt each academic year (first summer session through spring quarter) with grades of A, B, C, or S. The formula for determining this is:

$$\frac{\text{Credits graded A, B, C, S}}{\text{Credits graded A, B, C, S, D, F, N, I}} = \text{percentage of successful completion (min. 75\%)}$$

(Marks of W, V, K, and X are not included in this calculation. Extension credits are.)

If your percentage of successful completion is less than 75 percent but at least 50 percent, you will be put on scholastic probation—the signal your academic progress has not been satisfactory—and required to see an adviser in your college office each quarter before registration. The college attempts to notify students who fall below its minimum scholastic standards, but it is your responsibility to monitor your academic progress and to inquire at your college office if you have questions regarding your academic status.

If a heavy load of outside work, campus activity, or other distraction interferes with your academic achievement, you are expected to make immediate adjustments and seek whatever assistance is necessary.

You will be taken off probation when your academic work has improved enough to promise continuous progress toward the degree.

Suspension from CLA—Accumulation of substandard work will usually jeopardize your likelihood of graduating from CLA or of transferring to another institution. Because continuing in the college in this circumstance serves no useful purpose, you will be suspended from CLA in the following situations:

1. If you fail to earn successful grades in at least 50 percent of your credits for an academic year, you will be suspended from the college immediately.
2. If you are placed on scholastic probation and do not meet the terms of your probation, you will be suspended from the college.

The Student Scholastic Standing Committee decides in each case, on the basis of all the evidence, whether to suspend a student. Written appeals may be submitted by students who think additional information presented to the committee may modify the decision. Suspensions are usually rescinded only when the committee is convinced that changes in the student's academic performance are probable.

Readmission to the College—If you are suspended from the college, you may return only upon approval of the Student Scholastic Standing Committee. Dependable assurance that the factors leading to the suspension have been corrected, together with convincing prospects that improved work will follow, must

be advanced to obtain approval. Readmitted students are usually placed on probation and may be subject to immediate suspension if work becomes unsatisfactory.

Petitions for readmission are normally considered only after an absence of at least one year.

Student Board (320 Walter Library, 612/626-0348)

The College of Liberal Arts Student Board (CLA-SB) is the CLA student governance body. The board is the official channel through which recommendations from the CLA student body are brought to the college.

CLA-SB also represents students with seats on many committees and deals with nomination or election of students to seats on many others. These governing councils and committees collectively deal with virtually all aspects of CLA policy.

One primary responsibility of CLA-SB is to maintain contact with department student organizations.

All students are encouraged to participate in the operations of the board and to contribute to decisions affecting the college. The board is composed of elected and appointed members. The board recognizes and practices affirmative action.

Student Services

Scholastic Standing

The Student Scholastic Standing Committee, comprised of administrators and college office staff, is charged with interpreting and enforcing college and University regulations relating to academic affairs. It handles requests for exceptions to registration policies and procedures, transfer of credit policies, and degree requirements. The committee administers the college's probation system, monitoring students' performance and dealing with questions of probation, suspension, and readmission.

The committee seeks to maintain the spirit of the college's regulations as flexibly as possible and is empowered to make exceptions in cases in which regulations work to your educational disadvantage.

You are urged to consult a committee representative in your college office concerning

almost any kind of problem, but especially those that you think interfere with your ability to attain your academic objectives. Well-established petition and appeal procedures assure full review of your requests.

Scholastic Conduct

The college has broadly defined scholastic dishonesty as any act violating the rights of another student in academic work or involving misrepresentation of your own work. Scholastic dishonesty includes, but is not necessarily limited to, cheating on assignments or examinations; plagiarizing, misrepresenting as your own work any part of work done by another; submitting the same work, or substantially similar works, to meet the requirements of more than one course without the approval and consent of all instructors concerned; depriving another student of necessary course materials; or interfering with another student's work.

The Student Scholastic Conduct Committee, composed of students and faculty, investigates charges of academic dishonesty referred to it. When charges are upheld, the student may, for example, be placed on disciplinary probation, failed in a course, or suspended from the college.

CLA faculty may act on cases involving CLA students in their classes; such action may not exceed modification of a course grade. Instructors must report any action to the conduct committee, and the student will be informed of the right to ask for a committee hearing. Specific information on report and appeal procedures may be obtained by calling Student Academic Support Services (612/625-3846).

Disciplinary or conduct cases that are nonacademic in nature or that involve two or more colleges are referred to the Campus Committee on Student Behavior.

Grievance Procedures and Appeals

If you have complaints or criticism about the content of a course or the way the course is being conducted, you have recourse through grievance procedures. You are expected to confer first with the course instructor. If no satisfactory solution is reached, the complaint should be presented to the department, school, or program head. If these processes fail to reach

a satisfactory resolution, further appeals go to college- and University-level committees.

Staff advisers in the college offices are competent sources for interpretation of college procedures or regulations and often can suggest suitable alternative strategies.

Other sources of assistance include the Dispute Resolution Center (310 Walter Library), a student-fee supported service that helps students resolve problems, and the CLA Student Board, the college's official student organization (320 Walter Library).

Financial Aid

(Office of Scholarships and Financial Aid, 210 Fraser Hall and 197 Coffey Hall, toll-free 1-800-400-UOFM or 612/624-1665)

Student financial aid is provided in the form of scholarships, grants, employment, and loans. Major sources of aid include Federal Pell Grants; Minnesota State Grants; Federal Perkins Loans; Supplemental Educational Opportunity Grants; University scholarships, grants, and loans; College Work-Study and non-CWS employment; health professions funds; Federal Stafford Student Loans; Federal Parent Loans for Students; Student Educational Loan Fund (SELF); and the Alternative Loan Program (ALP).

Apply as soon as possible after January 1, the winter before the fall term for which you need aid, to be considered for most types of financial assistance. Most aid is awarded on the basis of financial need and the availability of funds. You may apply for financial aid before being admitted to the University. Complete the Free Application for Federal Student Aid (FAFSA) to apply for all types of aid, including Federal Stafford Student Loans. Application materials and information are available from the Office of Student Financial Aid.

With the exception of College Work-Study, you do not need to be eligible for financial aid to secure student employment. Part-time work, either on or off campus, is available through the Student Employment Center, 120 Fraser Hall (612/624-8070). To be eligible for these services, you must be a registered student and have paid tuition and fees for at least six credits, except during summer. Temporary employment also is available through the center's Student Temporary Service (612/624-5554).

Services for Disabled Students

The University's mission is to provide optimal educational opportunities for all students, including those with disabilities. The University recognizes that reasonable accommodations may be necessary for disabled students to have access to campus programs and facilities. In general, University policy calls for accommodations to be made on an individualized and flexible basis. Students are responsible for seeking assistance at the University and making their needs known.

One of the first places to seek assistance is Disability Services (DS). This office is provided by the University of Minnesota to promote program and physical access, which means ensuring the rights of disabled students and assisting the University in meeting its obligations under federal and state statutes. DS provides direct assistance such as information, referral, advocacy, support, and academic accommodations (e.g., interpreters, readers) for enrolled and prospective students, as well as consultation with faculty and staff to ensure access to their programs and facilities. The office will also assist disabled students in obtaining services from other University or community resources. For more information, contact Disability Services, 30 Nicholson Hall, (612) 626-1333 (voice or TDD).

University Services

A wide range of personal and community services are open to all University students. A Directory of Services in the opening pages of the *Student-Staff Directory* lists many of them, including personal and emotional counseling, as well as health, employment, housing, financial aid, and emergency services. Frequently consulted sources of aid and information include (area code 612):

African American Learning Resource Center—
323 Walter Library (625-1363)

American Indian Learning Resource Center—
125 Fraser Hall (624-2555)

Asian/Pacific American Learning Resource Center—
306 Walter Library (624-2317)

Chicano/Latino Learning Resource Center—
328 Walter Library (625-6013)

Correspondence Study—
University College, 45 Wesbrook Hall (624-0000)

Disabled Student Assistance—
Disability Services, 30 Nicholson Hall (626-1333, voice or TDD)

Evening Classes—
University College, 101 Wesbrook Hall (625-3333)

Financial Aid—Office of Scholarships and Financial Aid,
210 Fraser Hall (624-1665)

Foreign Student Assistance—
Institute of International Studies and Programs,
149 Nicholson Hall (624-5580)

Health Service—
Boynton Health Service, 410 Church Street S.E. (625-8400)

Housing—
Comstock Hall-East, 210 Delaware Street S.E. (624-2994)

Minnesota Women's Center—212 Nicholson Hall (625-9837)

Parking—Parking Services, 300 Transportation and Safety
Building, 511 Washington Avenue S.E. (626-7275)

Personal and Vocational Counseling—
University Counseling and Consulting Services,
109 Eddy Hall (624-3323)

Religious Activities—Campus Involvement Center,
220 Coffman Memorial Union (624-5101)

Student Activities—Minneapolis Student Union Information Desk,
138 Coffman Memorial Union (625-4177)

Student Dispute Resolution Center — 310 Walter Library
(626-0891)

Student Employment—120 Fraser Hall (624-8070)

Student Legal Service—160 West Bank Union Skyway
(624-1001)

Student Organizations—Campus Involvement Center,
220 Coffman Memorial Union (624-5101)

Study Skills Improvement—Learning and Academic Skills
Center, 104 Eddy Hall (624-7546)

Transit Services—Transit Services, 301 Transportation and
Safety Building, 511 Washington Avenue S.E. (625-9000)

Veterans Services—Office of the Registrar, 150 Williamson
Hall (625-8076); Veterans Administration representative,
Federal Building, Ft. Snelling (726-1454)

This is the Afro-American and African Studies to College of Education and Human Development programs of the Major Requirements and Course Descriptions section from the 1996-1999 University of Minnesota College of Liberal Arts Bulletin.

Course Numbering System

Course numbers in the University system indicate course level:

- 0xxx No credit
- 1xxx Introductory level—primarily for freshmen and sophomores
- 3xxx Intermediate level—primarily for juniors and seniors, but open to sophomores with a C average overall and in prerequisites
- 5xxx Advanced level—open to juniors, seniors, and graduate students, and to third-quarter sophomores by Student Scholastic Standing Committee approval (arranged in college advising offices). May carry graduate credit for graduate students.
- 8xxx Graduate level—open only to students registered in the Graduate School. Not listed in this bulletin.
- xxx0 May be repeated for credit, if a CLA course (course numbers in other University divisions do not always follow this system).
- 3970 or 5970 Directed studies courses
- 3980 or 5980 Directed instruction courses
- 3990 or 5990 Directed research courses

Symbols and Abbreviations

- Prefixes Two-, three-, or four-letter department designator (e.g., Engl for English).
 - f,w,s,su Fall, winter, spring quarter, summer session.
 - Cr Credits per quarter; first number following course title.
 - 1011, 1012, 1013 . Series courses, separated by commas; may be entered any quarter.
 - 1011-1012-1013 .. Sequence courses, separated by hyphens; must be taken in order listed.
 - ! Work for this course will extend past the end of the term. A grade of K will be assigned to indicate that the course is still in progress.
 - † All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence.
 - § Credit will not be granted if credit has been received for the course listed after this symbol.
 - ¶ Concurrent registration is required (or allowed) in the course listed after this symbol.
 - # Approval of the instructor is required for registration.
 - Δ Approval of the department offering the course is required for registration.
 - Approval of the college offering the course is required for registration.
 - H Honors course (follows the course number).
 - , In prerequisite listings, comma means "and."
 - UC University College (formerly CEE)
- A prerequisite course listed by number only (e.g., prereq 1103) is in the same department as the course being described.

Aerospace Studies

See Reserve Officers Training Corps.

Afro-American and African Studies

Staff—*Chair*, Rose Brewer, 883 Social Sciences Building; *Director of Undergraduate Studies*, Victoria Coifman, 825 Social Sciences Building; *Director of Graduate Studies*, Charles Pike, 878 Social Sciences Building; *Director of African Studies Council*, Teirab AshShareef, 872 Social Sciences Building

Professors: Farah, Isaacman, McCurdy, Porter, Scott
Associate Professors: Atkins, Brewer, Nimtz, Taborn, Wright

Assistant Professors: AshShareef, Coifman, Dillard, Pike

Education Specialist: Kadi

The Afro-American and African studies major provides students with comprehensive knowledge and understanding of the Afro-American and African experience from a multidisciplinary perspective including history, political science, sociology, psychology, literature, music, and art. Courses and faculty are drawn from the department as well as from other units of the University. The program of study is based on the belief that the study of Afro-American and African peoples, both within Africa and throughout the Western Hemisphere, constitutes a distinct and interrelated area of study of the African Diaspora. Students may choose one of three curriculum tracks (integrated studies of African peoples, Afro-American studies, and African studies), and within each track will select a concentration such as public policy-developmental studies, literature and the arts, or a more traditional disciplinary focus. Detailed requirements are contained in the *Student Handbook* of the department, which may be obtained from the Department of Afro-American and African Studies, 808 Social Sciences Building, University of Minnesota, 267 19th Avenue, Minneapolis, MN 55455.

General Education—Afro-American and African studies courses are for non-majors as well as majors. Most courses below 5xxx are open to students with little or no previous work in the subject.

Many courses have been approved for CLA's world studies or U.S. cultural pluralism requirement or for the liberal education curriculum (see page 8).

Internship Opportunities—The department offers credit toward the major for internships with the Minnesota Studies in International Development in Africa, the Caribbean, and Latin America, as well as approved internships with local or other international organizations. Internships may be individually arranged by students, but in all cases arrangements for credit toward the major must be approved in advance by the faculty undergraduate adviser. In some instances acceptance for internships is limited. Information about internships may be obtained from the Global Campus and OSLO, as well as from the faculty adviser.

Study Abroad—The department strongly encourages students to incorporate foreign study into their programs. Relevant opportunities include grassroots development internships in Kenya and Senegal; student exchange programs in Ghana, Ivory Coast, Kenya, Tanzania, and Togo; and year-long scholarships to Tanzania and Tunisia. In addition, an African country is sometimes included among the four independent research sites offered through the SPAN program. For information on options and procedures, see Foreign Study.

B.A. Major Sequence

Required Preparatory Courses—All students must complete 1011 or 1021.

Major Requirements—Completion of 50-54 3xxx or 5xxx credits, to include a 3xxx or 5xxx statistics or methods course approved by the undergraduate adviser; sequences in Afro-American history and/or African history, 28 credits in group concentration and breadth requirements; at least 4 credits from a course that examines gender issues; one 5xxx seminar or proseminar; and a senior paper. Students may receive a maximum of 8 credits toward the major for approved internships. Specific requirements vary depending on selected track. Consult the *Student Handbook* of the Department of Afro-American and African Studies for details. Students selecting to major in Afro-American and African studies must consult with the department's undergraduate adviser to establish an approved program.

Minor Requirements—24 3xxx or 5xxx credits from one of the major tracks. No more than 4 credits may be from directed study, and no more than 4 credits may be taken S-N. The minor program must be approved by the faculty undergraduate adviser.

Afro-American Studies (Afro)

Afro 1011. Introduction to Afro-American Studies. (4 cr)
Materials and methods of Afro-American studies; topics such as the African background, the evolution of black society and popular culture, comparative race relations, black feminism and societal change, and economic development theories.

Afro 3025. Black Americans: Socialization, Personality, and Behavior. (4 cr) Taborn
Development of the black psyche and of the black person and black culture.

Afro 3061. The Black Family. (4 cr) Brewer
Sociological view of the black family up to the present.

Afro 3072. Racism: Social-Psychological Consequences for Black Americans. (4 cr, §5072) Taborn
Racism and its effects on black Americans; definitions, determinants, and dynamics. Examined in an experiential context to reflect individual and institutional racism in milieu of student interest.

Afro 3108. Black Music: A History of Jazz. (4 cr) McCurdy
Origins, growth, and development of jazz; economic and sociological factors that influenced its development.

Afro 3301. Music of Black Americans. (4 cr) McCurdy
Historical development of music of black Americans, including spiritual, gospel, blues, soul, jazz, and classical; formal music education processes influential in creating black musical styles. Live performances by local black musicians.

Afro 3334. Black Women. (4 cr) Brewer
Interdisciplinary study of the experience of black women in the United States, including economic, political, and social factors, psycho-sexual development, and familial roles.

Afro 3543. Psychology and the Black American Experience. (4 cr; prereq 1025, Psy 1001 or #) Taborn
Historical and contemporary perspective of the relationship between the area of psychology and black Americans in research and practice.

Afro 3591. Introduction to Afro-American Literature. (4 cr, §Engl 3591) Wright
Afro-American autobiography, fiction, essay, poetry, and drama from the late-18th to the mid-20th century.

Afro 3592. Introduction to Black Women Writers. (4 cr, §Engl 3592) Reyes
Literary tradition of Afro-American women writers explored in novels, short stories, poetry, essay, autobiography, and drama from the 18th to the 20th century.

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Afro 3864, 3865. Afro-American History. (4 cr per qtr, §Hist 3864, §Hist 3865) Dillard
3864: African background to reconstruction. 3865: Reconstruction to present.

Afro 3910. Topics in Afro-American/African Studies. (4 cr)
Topics specified in *Class Schedule*.

Afro 3954. Sociological Perspectives on Race, Class, and Gender. (4 cr) Brewer
Focuses on a societal-level analysis of race, class, and gender inequality. Examines how the three forms of inequality operate independently and in conjunction with one another in American institutions and society.

Afro 3970. Directed Studies. (1-15 cr)
Guided individual reading or study.

Afro 3991-3992-3993. Senior Project in Afro-American and African Studies. (2 cr per qtr; prereq completed CLA composition requirement, permission of undergrad adviser)
Continuous (X) registration three-quarter course for writing of senior paper under the guidance of a faculty supervisor.

Afro 5072. Racism: Social-Psychological Consequences for Black Americans. (4 cr, §3072) Taborn
For description, see Afro 3072.

Afro 5181. Contemporary Black Theatre: 1960-Present. (4 cr, §Th 5181) Bellamy
Essays, plays, playwrights, and theaters that have contributed significantly to contemporary black theater. From the beginning of the Black Arts Movement to the present.

Afro 5182. Blacks in American Theatre: 1820-1960. (4 cr, §Th 5182) Bellamy
Historical survey of significant events in the development of an American black theatrical tradition. Chronological presentation of essays, plays, playwrights, and theaters from early colonial references to the Black Arts Movement.

Afro 5200. Black Americans and Mental Health. (4 cr) Taborn
Analysis of factors and issues affecting mental health of black Americans and current trends in public policies.

Afro 5352. Black Families in Comparative Perspective. (4 cr) Brewer
Cross-cultural perspectives of family formation, social structure, and gender patterns of families of African descent.

Afro 5401. Field Study in Afro-American and African Studies. (1-8 cr; prereq major or minor or affiliated)
Supervised field study and experience with relevant aspects specifically focused on Afro-American and/or African culture(s), language(s), and development.

Afro 5593. The Afro-American Novel. (4 cr, §Engl 5593) Wright
Contextual readings of 19th- and 20th-century black novelists such as Charles Chesnutt, James Weldon Johnson, Zora Neale Hurston, Richard Wright, Chester Himes, Ann Petry, James Baldwin, John Williams, Toni Morrison, and Ishmael Reed.

Afro 5597. Harlem Renaissance: Afro-American Art and Culture in the 1920s. (4 cr, §Engl 5597) Wright
A multidisciplinary review of the Jazz Age's Harlem Renaissance: literature, popular culture, visual arts, political journalism, and black and white figures such as Jean Toomer, Claude McKay, Langston Hughes, Bessie Smith, DuBose Heyward, Carl Van Vechten, Eugene O'Neill, and Marcus Garvey.

Afro 5598. Seminar: The Black Arts Renaissance, 1960s and 1970s. (4 cr; prereq major or minor or #) Wright
Black Arts Renaissance—multidisciplinary perspectives on the 1960s and 1970s post-Civil Rights and Black Power Era "renaissance" of African-American art and politics (literature, popular culture, visual arts, political journalism). Students develop research projects and papers. A complementary course to 5597.

Afro 5701-5702. Proseminar: Afro-American Studies. (4 cr, §3701-3702)
Exploration of classic works in Afro-American studies. Comparatist framework for Afro-American studies; cultural criticism and related issues in multidisciplinary study.

Afro 5900s. Afro-American Seminar. (2-4 cr per qtr; prereq jr or sr or grad)
Scholars in Afro-American studies help students develop research projects.

Afro 5910. Topics in Afro-American/African Studies. (4 cr)
Topics specified in *Class Schedule*.

Afro 5970. Directed Studies. (1-6 cr per qtr; prereq #: qualified sr and grad students may register with # for work on tutorial basis)
Guided individual reading or study.

African Studies (Afro)

See history, geography, and political science for additional African studies courses.

Afro 1021. An Introduction to Africa. (4 cr) Coifman
Diverse elements of African studies curriculum, content, and methodology. Historical perspective and present trends.

Afro 3001, 3002. Introduction to West African History. (4 cr) Coifman
3001: Until 1800. 3002: 1800 to present.

Afro 3011. Islam in Africa. (4 cr) AshShareef
Ideological, doctrinal, and ritual aspects of Islam in continental Africa. Various religious brotherhoods and Sufi orders from different African countries in the 20th century: the *Ansar*, the *Khatmiyya*, the Muslim Brothers, the *Qadiriyya*, the Republican Brothers, the *Sanusiyya*, the *Tijaniyya*. All readings in English.

Afro 3013. Cities in Africa: African, Islamic, European Traditions. (4 cr) Coifman
African urban development through time. Links between towns and countryside. Regal-ritual cities; trading cities and city-states; administrative cities; colonial cities and company towns; contemporary cities and illegal urban settlements.

Afro 3110. Study of an African Language. (4 cr)
Introduction to a selected African language. Emphasis on oral communication skills and cultural context. Section 1: Moroccan Arabic; Section 2: Swahili; Section 3: Wolof.

Afro 3431. History of Africa to 1800. (4 cr; \$Hist 1431, \$Hist 3431)
Socioeconomic, political, and cultural development in precolonial Africa; emphasis on the slave trade, Islamic revolution, and European commercial penetration.

Afro 3432. History of Africa: 1800 to Present. (4 cr; \$Hist 1432, \$Hist 3432)
Colonial rule, the forced restructuring and underdevelopment of African economies, African resistance, nationalism, and the problems of independence.

Afro 3514. African-Arabic Literature in Translation. (4 cr) AshShareef
African literature in Arabic from different countries. Genres represented: novel, short story, poetry, and drama. Emphasis on 20th century. Texts discussed in cultural and historical context. Theoretical and critical essays. Major writers. All readings in English.

Afro 3601. Introduction to African Literature. (4 cr) Pike
Oral and written African literature of the 19th and 20th centuries. All readings in English.

Afro 3654. African Cinema. (4 cr) Pike
Films by African filmmakers. Aesthetic, theoretical, and sociopolitical issues explored through class screenings and critical readings. Emphasis on films from sub-Saharan Africa.

Afro 3910. Topics in Afro-American/African Studies. (4 cr)
Topics specified in *Class Schedule*.

Afro 3970. Directed Studies. (1-15 cr)
Guided individual reading or study.

Afro 3991-3992-3993. Senior Project in Afro-American and African Studies. (2 cr per qtr; prereq completed CLA composition requirement, permission of undergrad adviser)
Continuous (X) registration three-quarter course for writing of senior paper under the guidance of a faculty supervisor.

Afro 5142. Geography of East Africa. (4 cr, \$Geog 5142)
Physical and human geography of Kenya, Tanzania, and Uganda. Environment as resource; historical geography of colonial and post-colonial eras; geographical organization of human activity; regional contrasts.

Afro 5145. Development in Africa. (4 cr, \$Geog 5145, \$IntR 5145; prereq #) Scott
Economic, political, and social development in Africa from independence to the present, emphasizing the reordering of colonial landscape, bases for North-South relations, big power interventions, and participation in the world economy.

Afro 5301. African Literature: The Novel. (4 cr) Pike
Novels of continental Africa in English, French, and African languages. Non-English materials in translation.

Afro 5341. Seminar in Contemporary Kenyan Literature. (4 cr) Pike
Emphasis on novels of Ngugi, Mwangi, Njau, and Ruheni. Prose works and critical essays. All readings in English.

Afro 5551. Use of Oral Traditions as Resources for History: Methods. (4 cr) Coifman
Use of spoken information through time, mainly in nonliterate societies, as sources for writing history. Use of canons of history to analyze and critique oral traditions and integrate them into written history.

Afro 5678. African-Arabic Fiction in Translation. (4 cr) AshShareef
Continental African fiction in Arabic from different African countries. Novels and short stories. Major fiction writers. Emphasis on 20th century. Texts discussed in cultural and historical context. Theoretical and critical essays. No knowledge of Arabic required. All readings in English.

Afro 5800. African Studies Interdisciplinary Seminar. (4 cr)
Seminar staffed by cooperating faculty from social sciences and humanities. Selected themes that benefit from interdisciplinary analysis.

Afro 5876s. Approaches to African Development. (4 cr, \$IntR 5930; prereq 1021) Coifman
Study and comparison of core documents relevant to development in Africa from the World Bank, Organization of African Unity, U.N. Economic Commission on Africa, and John Paul II. Includes critical analysis of documents and consideration of ethics.

Afro 5910. Topics in Afro-American/African Studies. (4 cr)
Topics specified in *Class Schedule*.

Afro 5970. Directed Studies. (1-6 cr per qtr; prereq #; qualified sr and grad students may register with # for work on tutorial basis)
Guided individual reading or study.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / **1011, 1012, 1013**—Series courses, separated by commas; may be entered any quarter / **1011-1012-1013**—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ‡—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means “and” / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Arabic (Arab)

Arab 1101-1102-1103. Beginning Arabic. (5 cr per qtr) Kadi

Fundamentals of Arabic based on an audio-lingual method; aural comprehension, pronunciation, practical reading knowledge. Basic grammar.

Arab 1201-1202-1203. Colloquial Arabic. (5 cr per qtr)

Introductory course primarily for business persons and travelers. Fundamentals of vocabulary and sentence structure, introduction to Arabic script.

Arab 1536. The Religion of Islam. (4 cr, \$MELC 1536, ReIS 3036, 5036, SALC 3036, 5036) Farah
The rise of Islam in historical context; the role of Muhammad, Koran, traditions; fundamentals and observances of the faith; sectarian movements; the spread of Islam into Asia and Africa; Baha'i and Black Muslim components; reformist movements and change.

Arab 3036. The Religion of Islam. (4 cr; \$MELC 5035, ReIS 3036, 5036, Arab 3036, 5036) Farah
The evolution of Islam in historical context; institutions that made for diversity and continuity; traditions, law and observances of the faith; sectarian movements; philosophical and theological trends; modern developments: reformist, revolutionary, and militant.

Arab 3101-3102-3103. Intermediate Arabic. (5 cr per qtr; prereq 1103 or #) Kadi
Review of grammar; analysis of cultural and literary texts; contemporary short stories (third quarter).

Arab 3213. The Qur'an as Literature. (4 cr, \$MidE 3213) AshShareef
Texts and commentaries in translation. Knowledge of Arabic not required.

Arab 3301. Modern Arabic Poetry in Translation. (4 cr, \$5501, \$MidE 3301, \$MidE 5501) AshShareef
The free verse movement and its major trends: post-romantic, social-realist, symbolist, resistance, and prose poem. Emphasis on leading poets: al-Mala'ika, al-Sayyab, al-Bayati, Adunis, Hawi, al-Khal, al-Fayturi, Abd-al-Sabur, Darwish, Sayigh, Jabra, and al-Maghut. Poems discussed in cultural and historical context. Theoretical and critical essays. All readings in English.

Arab 3302. The Arabic Novel in Translation. (4 cr, \$5502, \$MidE 3302, \$MidE 5502) AshShareef
The novel as a new genre in Arabic literature. Trends: realist, psychological, existentialist, feminist, post-modernist/fantastic/experimentalist. Emphasis on major novelists: Mahfouz, Ghanem, Salih, Jabra, Kanafani, El Sa'dawi, al-Shaykh, Munif, Habibi, al-Qa'id, al-Ghitany, and Khouri. Novels discussed in cultural and historical context. Theoretical and critical essays. All readings in English.

Arab 3303. Arabic Drama in Translation. (4 cr, \$5503, \$MidE 3303, \$MidE 5503) AshShareef
Development of drama as a new genre in Arabic literature under influence of European drama. Different trends: "theater of the mind," social-realist, existentialist, absurdist, experimentalist, epic, and verse drama. Major playwrights: al-Hakim, Abd-al-Sabur, Diyab, Salem, Faraj, Idris, al-Maghut, al-'Ani, Wannus, and al-Madani. Plays discussed in cultural and historical context. Theoretical and critical essays. All readings in English.

Arab 3491. Classical Heritage of Arab Islam. (4 cr, \$Hist 3491) Farah
Arab contributions to institutions, literature, arts, sciences, thought, mathematics, and architecture; Islam's development and spread to Europe. Role of the Arab Islam in shaping Islamic civilization, 650-1350 A.D.

Arab 3505. Survey: The Middle East. (4 cr, \$5505, \$Hist 3505, \$MELC 5505) Farah
Lands and peoples of the Middle East, historical evolution of Middle East civilizations and societies, the status of Middle East countries in world affairs.

Arab 3541, 3542, 3543. History of the Arabs. (4 cr per qtr, \$Hist 3541, \$Hist 3542, \$Hist 3543)
3541: Pre-Islamic days to downfall of Umayyads of Damascus. 3542: Abbasids to fall of Baghdad in 1258. 3543: Crusades to present.

Arab 3544. The Arab World in Recent Time. (4 cr, \$Hist 3544) Farah
Central Arab lands (Arabian peninsula, Iraq, Syria, Jordan, Lebanon, Egypt) and North African region (Libya, Tunisia, Morocco, Algeria) from end of World War I to the present. Foreign occupation and struggle for independence, position in regional and international politics.

Arab 3545. Islamic Mysticism. (4 cr, \$Hum 3545, \$Hum 5545) Farah
The rise of Sufism, from asceticism to theosophical mysticism; the leading historical personalities, their beliefs and preaching; relationship to Orthodox Islam and non-Muslim mystical movements; concepts and organizations; the place of Sufism in modern religious trends.

Arab 3547. History of the Ottoman Empire. (4 cr, \$Hist 3547) Farah
History and institutions of the Ottoman Empire from its inception in 1300 until its demise in 1920; includes both Asiatic and European provinces; relations with other powers in Europe and Asia; its role in world affairs.

Arab 5001. Introduction to Research in Arabic Studies. (4 cr) Youssif
Skills and techniques required to deal with medieval and modern works in Arabic literature and Islam. A survey of the most important research bibliographies in Arabic and Islamic studies. Bibliographic references presented in English and in Arabic if sufficient interest.

Arab 5036. The Religion of Islam. (4 cr; \$MELC 3036, 5036, Arab 3036, 5036)
For description, see Arab 3036.

Arab 5501. Modern Arabic Poetry. (4 cr, \$3301, \$MidE 3301, \$MidE 5501) AshShareef

Arab 5502. The Arabic Novel. (4 cr, \$3302, \$MidE 3302, \$MidE 5502) AshShareef

Arab 5503. Arabic Drama. (4 cr, \$3303, \$MidE 3303, \$MidE 5503) AshShareef

Arab 5505. Survey: The Middle East. (4 cr, \$Hist MELC 3505, Hist 3505, Arab 3505, 5505) Farah
For description, see Arab 1505.

Arab 5523. The Middle East in World Affairs: The 19th Century. (4 cr, \$MELC 5523) Farah
Structure of society; cultural and political impact of the West; revivalist and nationalist trends; reformist and separatist movements.

Arab 5545. Islamic Mysticism. (4 cr, \$Hum 3545, \$Hum 5545)
For description, see Arab 3545.

Arab 5546. Theological and Mystical Doctrines of Islam. (4 cr, \$RelS 5546, \$MELC 5546) Farah
Classical works of scholastics and Mystics; jurists and philosophers; landmarks of Islamic religious beliefs and institutions. Content analysis, commencing with the Qur'an and the traditions.

Arab 5730. Proseminar in Middle East History: 16th to 19th Century. (4 cr, \$Hist 5730) Farah
Topics, which vary quarterly, on Mamluk, Safavid-Qajar, and Ottoman era concerning relations with each other and outside world. Political, diplomatic, and ideological orientations and conflicts; cultural and social trends; commerce; transformations due to Western impact, secularization, and modernization and colonial encroachments, which shaped new ideological trends and gave rise to nationalism and Islamic activism.

Arab 5900. Topics in Arabic Literature. (4 cr per qtr [12 cr max]; prereq 5103 or #) AshShareef
Readings and discussion of selected works in Arabic. Topics specified in *Class Schedule*.

Arab 5970. Directed Readings. (Cr ar; prereq 5103 or #)
Special problems for advanced students. Reading and periodic consultations.

Arab 5990. Honors Course: Research. (Cr ar; prereq 5970 or #)
Individual studies for honors work at an advanced level.

College of Agricultural, Food, and Environmental Sciences (COAFES)

CLA students will find courses to satisfy liberal education requirements in the College of Agricultural,

Food, and Environmental Sciences. The college also offers a broad range of majors and courses, including plant and animal sciences, scientific and technical communication, natural resources and environmental studies, food science and nutrition, education, economics and business, pre-veterinary medicine, and international trade and development. Pre-agriculture advisers are available in the CLA advising offices. Course descriptions and programs can be found in the *College of Agricultural, Food, and Environmental Sciences Bulletin*. For more information, contact the college in 277 Coffey Hall, St. Paul (612/624-3009).

Akkadian

See Classical and Near Eastern studies.

American Indian Studies (AmIn)

Staff—Chair, David O. Born

Adjunct Faculty—Professor: Born (American Studies, Health Ecology)

Associate Professor: Miller (American Studies)

Assistant Professor: O'Brien (History)

Teaching Specialist: Buckanaga, Buffalohead, Firesteel, Jones

Lecturer: Danforth, Libertus

American Indian studies is concerned with traditional and contemporary Indian nations, tribes, bands, and groups located in what is now the United States and Canada.

B.A. Major Sequence

Required Preparatory Course—1771

Major Requirements—

*Language focus—*43-45 cr AmIn, all levels.
Six-course sequence in Ojibwe or Dakota language. 14 or more cr AmIn 3xxx, 5xxx.
Senior project.

*Non-language focus—*43-45 cr AmIn, all levels.
39 or more cr AmIn 3xxx, 5xxx. Senior project.

Minor Requirements—16 credits in American Indian studies 3xxx or 5xxx courses selected

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

with approval of adviser. Only one course may be taken S-N. Grades of C or better must be earned in A-F courses. Only one course may be taken as directed study.

Language

Amln 1021-1022-1023. Beginning Ojibwe. (5 cr per qtr) Jones
Acquisition of speaking skills, fundamentals of grammar, and writing systems.

Amln 1031-1032-1033. Beginning Dakota. (5 cr per qtr) Firesteel
Acquisition of speaking skills, fundamentals of grammar, and writing systems.

Amln 3024-3025-3028. Intermediate Ojibwe. (5 cr per qtr; prereq 1023) Jones
Improving speaking skills; grammatical structures; storytelling, oral history, and translation projects.

Amln 3034-3035-3038. Intermediate Dakota. (5 cr per qtr; prereq 1033) Firesteel
Improving speaking skills; grammatical structures; storytelling, oral history, and translation projects.

General Courses

Amln 1771. Introduction to American Indian Studies. (4 cr)
Content, methods, and objectives of American Indian studies. Images of the American Indian, persistence and change in American Indian communities, linguistics and literature, and tribal ethnohistories.

Amln 3026. Ojibwe Culture and History. (4 cr) Jones
Ojibwe perspectives on the processes of change and maintenance in Ojibwe society; role of cultural traditions in the lives of the Anishinabe.

Amln 3036. Dakota Culture and History. (4 cr) Firesteel
Dakota perspectives on the processes of change and maintenance in Dakota society; role of cultural traditions in the lives of the Dakota.

Amln 3111. American Indian History: Mid-15th Century to 1850. (4 cr, §Hist 3871) O'Brien
Colonization and survival of North American Indians from rise of ancient American Indian civilizations to beginnings of reservation era.

Amln 3112. American Indian History: 1850 to Present. (4 cr, §Hist 3872) O'Brien
American Indian communities from reservation era to present, emphasizing impact of federal Indian policy.

Amln 3116. American Indian Literature. (4 cr) Miller
Comparative studies of oral tradition and modern literature from a variety of tribal cultures.

Amln 3121. History of American Indian Education. (4 cr; prereq 3111, 3112 or #)
American Indian education in the United States; emphasis on educational systems established by the Indian peoples.

Amln 3211. American Indian Philosophies. (4 cr)
Common themes in worldviews and philosophies of Indian peoples. Emphasis on the Dakota or Ojibwe.

Amln 3221. Contemporary American Indian Art. (4 cr)
Works of selected contemporary American Indian artists and the media in which they work. Project.

Amln 3242. Survey of American Indian Arts. (4 cr) Libertus
Visual arts and crafts of a variety of American Indian cultures; tribal values and worldviews as they shape the creative process and product.

Amln 3810. Field Practice in Indian Studies. (3-9 cr; prereq soph or jr or sr, #, Δ)
Primarily for upper division majors and American Indian students. Opportunities for experiential learning in a variety of American Indian community settings. Consult with department faculty at least one term before enrolling.

Amln 3960. Topics in American Indian Studies. (Cr ar)
Topics, which vary quarterly, not covered in the regular curriculum. Check with the department office for upcoming offerings.

Amln 3970. Directed Studies. (1-15 cr; prereq #, Δ)
Individually arranged study, instruction, or research with faculty to meet student needs and interests.

Amln 3980. Directed Instruction. (5 cr; prereq #)
For description, see Amln 3970.

Amln 5251. American Indians and the Cinema. (4 cr, §AmSt 5251)
Role of Hollywood in shaping images of Indians and the teaching of their "history and culture." Films created by Indian filmmakers and their treatment of Indian themes and issues.

Amln 5341. Contemporary Indian Movements. (4 cr)
American Indian Movement; National Congress of American Indians; "pan-Indian" movements, as well as those focused on more localized actions, such as fishing and treaty rights, environmental racism, and the appropriation of tribal names and symbols for sports teams.

Amln 5411. Urban Indian Communities. (4 cr) Libertus
Factors contributing to the movement of Indian people into urban areas following WWII. Contemporary urban Indian issues (e.g., health, social services, housing, employment).

Amln 5920. Senior Seminar. (2 cr; prereq Amln major)
Topics vary.

Amln 5960. Topics in American Indian Studies. (Cr ar)
For description, see Amln 3960; graduate credit is arranged.

AmIn 5990. Directed Research. (1-15 cr per qtr; prereq #, Δ)
Individually arranged study, instruction, or research with faculty to meet student needs and interests.

American Studies (AmSt)

Staff—*Chair*, David Roediger, 104 Scott Hall;
Director of Graduate Studies, Riv-Ellen Prell;
Director of Undergraduate Studies, Carol Miller

Professors: Delattre, E. May (on leave 1996-97), D. Noble, Yates

Associate Professors: L. May (on leave 1996-97), C. Miller, Prell

Assistant Professors: Child, Johnson

Adjunct Faculty—*Professors*: Aminzade (Sociology), Bagley (Social, Psychological, and Philosophic Foundations of Education), Bales (English), Ball (Political Science), Berman (History), Born (Health Ecology, American Indian Studies), Brauer (History), Clemence (Architecture and Landscape Architecture), Dicken-Garcia (Journalism and Mass Communication), Dobbert (Social, Psychological, and Philosophical Foundations of Education), Evans (History and Center for Advanced Feminist Studies), Furia (English), Gersmehl (Geography), Griffin (English), Hoyle (Children's Literature Research Collection), Kohlstedt (History of Science and Technology), Laslett (Sociology), Leppert (Cultural Studies and Comparative Literature), Marling (Art History), McNaron (English), Menard (History), Murphy (History), Rabinowitz (English), Roth (English), Ruggles (History), Sarles (Anthropology), Stekert (English), Steuwer (Physics and History of Science and Technology), Sykes (Speech-Communication), Vecoli (History), Zipes (German)

Associate Professors: Archer (Cultural Studies and Comparative Literature), Brewer (Afro-American Studies), Damon (English), Dietz (Political Science), Dolan (Philosophy), Geffen (English), Green (History), Kane (Kinesiology and Leisure Studies), Krotee (Kinesiology and

Leisure Studies), Martin (Geography and Urban Studies), O'Connell (Spanish and Portuguese), R. Miller (Geography), G. Noble (General College), Roberts (Journalism and Mass Communication), Rojas (Chicano Studies), Scanlan (Rhetoric), Silberman (Art History), Spear (History), Valdés (History and Chicano Studies), J. Wright (English and Afro-American and African Studies), Zita (Women's Studies)

Assistant Professors: Norling (History), O'Brien-Kehoe (History and American Indian Studies), Pierce (Sociology)

Fellows: Beyer (Student Academic Support Services), Boston (Student Development and Athletics), Boyte (Humphrey Institute of Public Affairs), Sheehy (Weisman Museum)

The program in American studies enables students to explore the major issues and problems of American society through a multidisciplinary examination of the arts, history, politics, and literature of the diverse peoples of the United States.

Study Abroad—Knowledge of at least one other culture in some depth is indispensable to understanding our own, and students are strongly encouraged to incorporate an overseas study experience into their degree program. Appropriate credits from such study easily can be applied toward an American studies major or minor. Among the many study abroad opportunities is a reciprocal exchange program in American studies with England's University of Essex. For information on options and procedures, see Foreign Study.

B.A. Major Sequence

Required Preparatory Courses—12 cr from 1001, 1002, 1003, 3111, 3112, 3113

Major Requirements—44 cr from 3xxx or 5xxx courses approved by major adviser, 8 to 12 in each of four fields: American history, American literature, American art and philosophy, social sciences in the United States. All courses must be taken A-F. A list of approved courses and a

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

brochure describing the program are available in the program office, 104 Scott Hall.

3299, 3301-3302-3303 (Proseminars: American Studies)

12 cr in courses dealing with foreign civilizations chosen in consultation with major adviser

B. A. Minor Sequence

Minor Requirements—20 cr from 3xxx or 5xxx courses with A-F grading.

AmSt 1001, 1002, 1003. American Cultures. (4 cr per qtr)

Interdisciplinary study examining class, gender, public policy, and social issues by comparing the cultures and artistic expression of at least three of the following groups: European American, African American, American Indian, Asian American, and Chicano and Latino. *1001*: to mid-19th century. *1002*: Mid-19th century to the 1920s. *1003*: 1920s to the present.

AmSt 3111. Creative Americans and Their Worlds. (4 cr)

The cultural life of Americans through study of works and lives of selected artists in several media, including painting, literature, architecture, music, and drama.

AmSt 3112. American Everyday Life. (4 cr)
Cultural formation and expression of experience among Americans through study of common population and consumer patterns, family life, work, and leisure activities.

AmSt 3113. American Cultural Diversity. (4 cr)
The cultural expression, values, and lifestyles of America's many peoples, including minority and majority cultures.

AmSt 3114. America in International Perspective. (4 cr)

In three interrelated segments, the course explores foreign perspectives on institutions and values of the United States; examines the interaction among European settlers, later immigrants, and minorities in distinct regions; surveys the impact of America on foreign countries.

AmSt 3251, 3252, 3253. American Popular Culture. (4 cr per qtr)
3251: 1800-1900. *3252*: 1900-1945. *3253*: 1945 to present.

AmSt 3299. Proseminar: American Studies. (4 cr)
Exploration of the classic works in American studies.

AmSt 3301-3302-3303. Proseminar: American Studies. (4 cr per qtr; prereq AmSt sr)
Each quarter covers a problem related to a representative theme, figure, or period. Students research and write senior theses.

AmSt 3920. Topics in American Studies. (4 cr per qtr [12 cr max]; prereq jr or sr)
Topics specified in *Class Schedule*.

AmSt 3970. Directed Studies. (1-15 cr per qtr)
Guided individual reading or study.

AmSt 5101, 5102. Religion and American Culture. (4 cr per qtr) Delattre
Representative profile of past and present religion in America organized around a theme or problem.

AmSt 5920. Topics in American Studies. (2-6 cr per qtr [12 cr max]; prereq #)
Topics specified in *Class Schedule*.

Ancient Near Eastern Studies

See Classical and Near Eastern studies.

Anthropology (Anth)

Staff—*Chair*, Gloria Goodwin Raheja, 200 Ford Hall; *Director of Undergraduate Studies*, Kathleen Barlow

Professors Emeriti: Murrill, Ogan, Rowe

Professors: Gerlach, Gibbon, Gudeman, Ingham, Miller, Wells

Associate Professors: Dunnigan, Lipset, Penn, Raheja, Spector

Assistant Professors: Barlow, Josephides, McCorrison

Lecturer: Arnold

Anthropology is the study of human beings and their ways of life, past and present. An understanding of the social practices, expressive forms, languages, and prehistoric pasts of many societies encourages appreciation of our common humanity and cultural differences, as well as critical perspectives on our own attitudes and values.

General Education—1101 and 1102, dealing with human culture in all times and places, are especially appropriate for general and liberal education. 3131, 5131, 5141, 5151, 5161, and all ethnography and archaeology courses in cross-cultural studies are appropriate for the nonmajor.

Study Abroad—Majors and minors are urged to begin acquiring functional skills in a second language early so that they can complement their anthropological studies by participating in an overseas field study program or some other study abroad program that offers an intensive exposure to other cultures. For information on options and procedures, see Foreign Study.

B.A. Major Sequence

Required Preparatory Courses—1101, 1102

Major Requirements—37 credits

3111 and 3201 (3366 may be substituted for either), 5201 or 5301

Major project: 5960 or 5961

Five electives from 3xxx and 5xxx courses, at least two of which must be 5xxx (One from each of the groups: Approaches to Anthropology, Ethnographic and Regional Studies, Institutions and Issues. Directed studies may count up to 8 cr max.)

All required courses must be passed with a grade of C or better. No S-N courses may count toward fulfilling the major or minor requirements.

Minor Sequence

Required Preparatory Courses—1101 or 1102 (both are strongly recommended)

Minor Requirements—Four 4-cr courses that have a common focus. Course selections must be approved by the director of undergraduate studies or the undergraduate adviser.

Introductory

Anth 1101f,w,s,su. Human Origins. (5 cr)
World prehistory as investigated by anthropologists. Methods and concepts used by anthropologists to study prehistoric human biological and cultural development.

Anth 1101Hf,w,s. Honors Course: Human Origins. (5 cr; prereq B avg or #)
For description, see Anth 1101.

Anth 1102f,w,s,su. Understanding Cultures. (5 cr, \$1115, \$5102)
Introduction to social and cultural anthropology. Comparative study of societies and cultures around the world. Topics include adaptive strategies; economic processes in society; kinship, marriage and gender; social stratification; politics and conflicts; religion and ritual; personality and culture.

Anth 1102Hf,w,s. Honors Course: Understanding Cultures. (5 cr; prereq B avg or #)
Theories and concepts of social and cultural anthropology as described for 1102 above, based on in-depth analyses of ethnographic accounts.

Anth 3003. The Rise of Civilization. (4 cr)
Beginnings of agriculture and emergence of world civilizations. Development of state societies from an archaeological perspective.

Anth 3005. Interaction and Civilization in Early Eurasia. (5 cr)
Archaeology of the Near East and temperate Europe, linked by the Mediterranean Basin. Development of societies and technologies and interactions on local, regional, and interregional levels. Lab sessions present material culture from both regions and introduce analytical methodologies.

Anth 3111. Introduction to Archaeology. (5 cr)
Fundamentals of archaeological field and lab analysis.

Anth 5102. Principles of Cultural Anthropology. (4 cr, \$1102; prereq jr or #)
Elements of cultural anthropology. Range and variability of human behavior. Principles of cultural dynamics.

Special Topics

Anth 3960. Anthropology Proseminar. (4 cr; prereq #)
Topics vary according to staff interests and student suggestions. Focus on significant theoretical problems.

Anth 3970. Directed Studies. (Cr ar; prereq #)
Guided individual reading or study.

Anth 3980. Directed Instruction. (1-5 cr; prereq #)
Teaching seminar for undergraduates assisting in instruction of introductory anthropology courses.

Anth 3992H. Honors Tutorial. (1 cr; cannot be applied toward any CLA degree)
Program and project planning. Evaluation of work to date; planning future coursework and, particularly, developing a prospectus for senior research project. Normally completed at least three quarters before graduation.

Anth 5910, 5920. Topics in Anthropology. (Cr ar)
Special courses in all branches of anthropology. Topics specified in *Class Schedule*.

Anth 5960. Senior Seminar. (4 cr; prereq sr Anth major)
Research seminar. Topics vary according to staff and student interests.

Anth 5961. Senior Research Project. (4 cr; prereq sr Anth major, #)
Independent research project fulfilling the senior option; directed by a faculty member.

Anth 5970. Directed Readings. (2-4 cr; prereq #)
Qualified students may register for work on tutorial basis.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Approaches to Anthropology

Anth 3201. Approaches in Cultural Anthropology. (4 cr; prereq 1102 or #)
Contemporary perspectives on culture and ethnography.

Anth 3303. Women: Anthropological Perspectives. (4 cr)
Cross-cultural, comparative study of women and gender. Theoretical and methodological approaches in anthropology to the study of gender.

Anth 3366. Language and Social Analysis. (5 cr; prereq 1102 or 5102 or #)
Social structure and process through language; field observation emphasized. Some knowledge of descriptive linguistics useful but not required.

Anth 3376. Field Research in Archaeology. (2-10 cr; prereq 1101 or #)
Archaeological field excavation, survey, and research in prehistoric sites in Minnesota. Excavation techniques, recording analysis, and interpretation of archaeological materials.

Anth 3377. Laboratory Techniques in Archaeology. (4 cr; prereq 3376 or #)
Artifact analysis, preservation, cartography, photography, faunal and floral analysis, writing of site reports.

Anth 5104. History of Anthropology. (4 cr; prereq 1102, 15 cr in 3xxx and 5xxx courses)
Principal themes in 19th- and 20th-century anthropological thought—diffusionism, the autonomy of culture, evolutionism, and emerging methodological viewpoints (i.e., functionalism, structuralism, cultural materialism, and interpretivism). Is there a logic of anthropological inquiry?

Anth 5191. Folklore, Power, and Cultural Description. (4 cr; prereq 1102 or 5102 or #)
Song, oral poetry, story, and other performed speech genres as sites of cultural contestation in the areas of gender, class, and colonial relations. The politics of expressive forms in contemporary and colonial societies, and implications for the practice of ethnography.

Anth 5201. Contemporary Perspectives in Anthropology. (4 cr)
Contemporary theoretical perspectives in cultural anthropology and their historical background. Modernism, reconceptualizations resulting from postmodern and feminist critiques of fieldwork and ethnographic writing, with applications to contemporary U.S. cultural diversity.

Anth 5301. Advanced Method and Theory in Archaeology. (4 cr; prereq 3111 or #)
Advanced survey and in-depth discussion of past and contemporary archaeological, theoretical, and methodological issues and approaches. Series of projects incorporating theories and methods, including simple computer analysis. Recommended for anthropology majors specializing in archaeology.

Anth 5305. Studies in Ethnographic Classics. (5 cr)
Notable theoretical and ethnographic works in the history of anthropology. Topics and works vary yearly.

Anth 5331. Culture Theory: An Introduction. (4 cr; prereq jr or sr or grad or #)
Selected issues in the development of culture theory, e.g., do cultural phenomena have an independent reality or are they derived from social systems?

Anth 5392. Philosophical Anthropology. (4 cr; prereq 1102 or 5102)
Survey of a cluster of traditional problems associated with major views on human nature and culture. Variations on these views and specific arguments of relativists, phenomenologists, behaviorists. Recent ethnographic theory.

Anth 5394. Phenomenology and Ethnography. (4 cr, \$Hum 5398)
Phenomenological/existentialist thought conceived as “the end of ideology”; its politicization during World War II; its use in reflexive anthropology conscious of its own colonial foundations; its use in attempts to understand “The Other” and concepts of the person.

Anth 5520. Current Issues in Archaeology. (4 cr; prereq 3111 or #)
Discussion/review/analysis of specific current theoretical and/or methodological issues in archaeology.

Anth 5524. Archaeological Research Design. (4 cr; prereq jr or sr Anth major, 12 cr upper div archaeology coursework or #)
Recommended for anthropology majors specializing in archaeology who select senior project option. Background research, techniques, methods, and concepts for senior research project. Development of annotated bibliography and detailed research proposal.

Anth 5592. History of Archaeology. (4 cr; prereq 12 cr in 3xxx or 5xxx Anth courses)
Survey of the history of archaeology with emphasis on the development of major concepts and research goals.

Ethnographic/Regional Studies

Anth 3211. Native Peoples of North America. (4 cr)
Aboriginal cultures of native North America. Effects of culture contact.

Anth 3212. Indians of the Greater Southwest. (4 cr)
Cultures and histories of Indian peoples in the southwestern United States and northwestern Mexico.

Anth 3222. Peoples and Cultures of Middle America. (4 cr, \$LAS 3222)
Indigenous and mestizo cultures of Mexico, Guatemala, Belize, and Honduras. The traditional rural community and modernization, urbanization, and religious conversion.

Anth 3224. Hispanic Cultures of Latin America. (4 cr; prereq 1102 or #)
Examine data from Mexico to South America. Topics such as the economy, family, gender, religion, and ideology. Several conceptual frameworks used including structural, symbolic and cultural interpretations, history, and impact of colonialism.

Anth 3241. Peoples and Cultures of Africa. (4 cr, §Afro 3501)

Key aspects of society, culture, and ecological adaptation of African people south of the Sahara. Aesthetic expression, social, economic, political, and religious systems. Theoretical problems in African anthropology.

Anth 3261. Indian Culture and Society. (4 cr)
Survey of broad South Asian civilization patterns and ethnographic contexts; theoretical issues in forming South Asian anthropology. Caste, sovereignty, and polity; person and society; kinship, marriage, and gender; ritual; colonial discourse and transformations.

Anth 3293. Peoples and Cultures of the Pacific Islands. (4 cr)
Geography, prehistory, and Western exploration of Pacific island peoples, from Hawaii to Papua New Guinea. Topics in regional ethnography. Relationship of Pacific cultures to major problems in anthropological thought.

Anth 3294. The Contemporary Pacific. (4 cr; prereq 3293 or #)
Life in 20th-century Pacific Island societies. Effects on and perceptions of colonialism and the world system by islanders: political and economic development, the post colonial state, ethnicity and emigration. Changes in the status of women, expressive culture, psychosocial adjustment, and religion.

Anth 3371. Archaeology of Prehistoric Europe. (4 cr, §5120, §AnSt 5120)
Early development of non-Mediterranean European society from Old Stone Age through Iron Age to the Roman Period, based on archaeological evidence. Principal transformations of European culture with introduction of agriculture, development of metallurgy and trade, and emergence of towns and cities.

Anth 3511. Archaeology of Native Americans. (4 cr; prereq 1101 or #)
Prehistoric and early archaeology of American Indians north of Mexico.

Anth 5120. Origins of European Civilization. (4 cr, §3371, §AnSt 5120)
Early development of European society, from Old Stone Age to Roman Period. Special attention to principal transformations of European culture with introduction of agriculture, development of metallurgy and trade, and emergence of towns and cities.

Anth 5178. Archaeology of Northern Europe. (4 cr, §AnSt 5178; prereq 1101, 3003 or 3371 or #; UC only)
Archaeology of Scandinavia, northern Germany, and neighboring regions in the Bronze and Iron Ages and the Roman and Migration Periods. Trade, growth of towns, and changing art, ritual, and religion.

Anth 5325. Gender and Power in South Asia. (4 cr; prereq 1102, 3261 or 5102 or #)
Multiple perspectives on gender, power, kinship, and sexuality in South Asian society and the theoretical issues this poses for ethnographic writing. Focus on textual traditions, folklore, ritual and exchange, and the politics of everyday life, colonialism, and post-colonialism.

Anth 5258. Anthropological Analysis of American Culture. (4 cr; prereq 1102 or 5102 or #)
Anthropological perspectives on contemporary American culture and society; values, family organization, socialization and kinship, education, and community integration.

Anth 5461. North American Indian Architecture. (4 cr, §Arch 5461)
Historic and contemporary principles and theories. Study of culture, technology, environment, and art and craft of North American Indians in their settlements and architecture.

Human Institutions

Anth 3131. Religion and Culture. (4 cr; prereq 1102 or #)
Anthropological perspectives on religion. Religion in relation to social order and individual life cycle. Religion and cultural change.

Anth 5112. Gender and Kinship. (4 cr; prereq 1102 or 5102, 3201, or #)
Gender, sexuality, marriage, and kinship in cross-cultural perspective. Role of kinship studies in anthropological theory, including contemporary feminist critiques.

Anth 5114. Structural and Semiotic Anthropology. (4 cr; prereq 1102 or 5102, 3201 or #)
Assumptions, methods, and problems of structural and semiotic anthropology; theory and analysis of kinship, myth, and social organization.

Anth 5115. Economic Anthropology. (4 cr; prereq 1102 or 5102, 3201 or #)
Systems of production and distribution, especially in nonindustrial societies. Comparison, history, and critique of major theories in the field; development of an anthropological approach to facts and processes of the economy in other societies and our own.

Anth 5118. Political Anthropology. (4 cr; prereq 1102 or 5102 or #)
Anthropological approaches to politics: the structural-functionalists, Manchester school, others. Key political concepts: authority, legitimacy, power, ideology, order, and conflict. How symbols and ritual shape political processes. Symbolic dimensions of ethnic and class consciousness.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Anth 5121. Anthropology of Law. (4 cr; prereq 1102 or 5102 [waived for majors in political science and law]) Theory and method of various legal systems. Cultural background of law and relation of law to society. Functions and evolution of law in cultures ranging from small-scale to complex.

Anth 5131. Anthropology of Religion. (4 cr; prereq 1102 or 5102 or #) Comparative study of beliefs, myths, and rituals in folk and indigenous religions. Integration of religion and social relations.

Anth 5132. Symbolic Anthropology. (4 cr; prereq 1102 or 5102 or #) Introduction to semiotic or symbolic interpretation of cultures in anthropology. Problems in theory and method; structure and motivation of cultural symbolism in particular societies.

Anth 5145. Anthropology and Education. (4 cr; SSPFE 5171; prereq 1102 or 5102 or #) Cross-cultural perspectives on educational patterns; implicit and explicit cultural assumptions. Methods and approaches to cross-cultural studies in education.

Anth 5151. Cultural Change and Development. (4 cr; prereq 1102 or 5102 or #) Processes of cultural change: invention, innovation, diffusion, and acculturation. Theories of modernization, dependency, and world-systems. Roles of anthropologists in development programs.

Anth 5152. Anthropology of Social Movements. (4 cr) Cross-cultural study of the nature, process, and function of social, political, and religious movements of change. Theories and case studies, including Christianity and Islam, Asia, Africa, and United States.

Anth 5153. Urban Anthropology. (4 cr; prereq 1102 or 5102 #) Structure and process in non-Western urban centers; the role of rural migrants, relationship of urbanism to political and economic development, role of voluntary associations, adjustment of kinship groups to urban life.

Anth 5154. Anthropology of Colonialism. (4 cr; prereq 1102 or 5102 or #) Social, structural, symbolic, and psychological aspects of societies of colonizers and the colonized; emphasis on South Asia, Oceania, and Puerto Rico.

Anth 5156. Culture and Comparative Politics. (4 cr; prereq 1102 or #) Theoretical analyses and comparative case studies illustrating how aspects of culture influence political behavior in society.

Anth 5157. The Political Discourse of Social Change. (4 cr) Tension between tradition and innovation of ideas, techniques, and material development in contexts of rapid social change, especially when local cultures come into contact with outside, politically more forceful ones. Tradition as an already politicized discourse.

Anth 5161. Cultural Semantics. (4 cr; prereq #) Language-based approaches to the study of cultures.

Anth 5141. Psychological Anthropology. (4 cr; prereq 1102 or 5102 or # [waived for majors in public health, nursing, psychology, sociology, and social work]) Self, emotion, cognitive processes, and child development in cross-cultural perspective.

Human Environments: Natural and Cultural

Anth 3116. Ecological Anthropology. (4 cr, §5116; prereq 1102)

How humans interact with biophysical environment through nature. Cross-cultural comparative study of ways of making a living: foraging, herding, farming, industrial, etc.; correlating environment with technology, economy, social and political organization, religion. Resource controversies and global environmental change.

Anth 5116. Ecological Anthropology. (4 cr, §3116; prereq 1102)

How humans interact with biophysical environment through nature. Cross-cultural comparative study of ways of making a living (e.g., foraging, herding, farming, industry); correlating environment with technology, economy, social and political organization, religion. Resource controversies and global environmental change.

Anth 5117. Natural Resources Anthropology. (4 cr)

Employment of a cultural ecological and systems approach to examine ways in which social institutions and cultural concepts are applied and change across world societies to develop, use and manage key environmental resources. Comparative studies from contemporary and historical United States, western Europe, Africa, Asia, and the Caribbean.

Anth 5176. Environmental Archaeology. (4 cr; prereq 1101, 3111 or #)

Archaeological and natural-scientific approaches to the study of past human society with emphasis on use of the environment and reconstruction of past environmental conditions. Field and lab techniques in association with archaeological research problems.

Arabic

See Afro-American and African studies.

Aramaic

See Classical and Near Eastern studies.

Architecture (Arch)

College of Architecture and Landscape Architecture

Staff—Head, Garth Rockcastle, 110 Architecture;
Director of Undergraduate Studies, Lance LaVine;
Director of Graduate Studies, Julia Robinson

Professors: Clemence, Grebner, LaVine, Robinson, Rockcastle, Satkowski, Stageberg, Morrish

Associate Professors: Anderson, Dittmar, Weeks

Assistant Professors: Guzowski, Jara, Piotrowski, Solomonson

Adjunct Professors: Mulfinger, Rauma, Thompson, Thorbeck

Adjunct Associate Professors: Meyer, Tollefson

Adjunct Assistant Professors: Abbott, Franck, Ladner, Nelson, Parker, Peterssen, Quigley, Rhoades, Scherer, Smith, Snow, Wilkins

Lecturers: Blanski, Dimond, Dozier, Fuller, Herzog, James, LaDouceur, Lammers, Lew, Potts, Searls, Weiner, Wentzel

The Department of Architecture provides in-depth instruction in history, representation, design, theory and design practice emphasizing the development of architecture as a language of form, space and order. The study of architecture examines the methods, values, precedents and material reality characteristic of the process of shaping the natural and built environments. The major combines core prerequisites with a broad introduction to the field of architecture including required courses in representation, history, theory and design processes and an individualized program planned by the student with the assistance of an adviser.

The B.A. provides a general education as well as preparation for a professional graduate degree in architecture. It may also be used as preprofessional preparation to continue graduate study in related fields or employment in fields of environmental/community design, fine arts, government, private development, or construction. The aim of the undergraduate major is to establish a strong design foundation that serves a diversity of careers, and to provide flexibility as individual opportunities change. This degree is not a sufficient credential to practice architecture.

General Education—The following courses are recommended for general audiences and are required for the major: Arch 1401, 1601, 3411,

3412, and upper division 54xx history courses. These courses do not require major designation as long as the prerequisites have been met.

Grades—All courses, whether required or elective, to be applied toward the major must be taken A-F and grades of C or better earned. The requirements in math, physics, composition and speech must also be taken A-F.

Study Abroad—The department encourages majors to incorporate a study abroad experience into their undergraduate program. Appropriate credits from such study can be applied toward elective requirements in the major. Information on study abroad options and procedures is available from the Department of Architecture director of undergraduate studies, 110 Architecture Building, and the Foreign Study section of this bulletin.

B.A. Major Sequence

The B.A. degree consists of two years of pre-architecture study followed by two years of coursework after acceptance to the major. Application to the major is made after completion of the 90 credits of prerequisite coursework by filing a Major Program Form with the Department of Architecture. There are three application dates in each academic year—November 1, February 1, and April 1. Students are admitted based on space availability and an academic record that has maintained a GPA of 2.50 overall as well as in any architecture courses taken. Students are required to maintain a portfolio of originals or duplications of all freehand drawings, projects and architecture studio designs during their studies, since a portfolio is required for submission to the graduate professional degree. All majors complete their senior project in Arch 5283.

Required Preparatory Courses in Architecture—1301, 1401, 1601

Other Required Preparatory—The following courses outside the major must be completed or in progress at the time of application to the major: Comp 1011, one speech/creative writing course, Math 1142 (or equivalent calculus

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course), one art course, Phys 1041, 1042 (or equivalent sequence), and half of the two-year requirement for the second language.

Students should complete as many of the Twin Cities campus liberal education requirements as possible before applying to the major. Consult the CALA Student Services Office, 110 Architecture Building, concerning recommended liberal education courses and additional preprofessional requirements.

Major Requirements—At least 46 credits in 3xxx-5xxx architecture courses, including required and elective courses, plus an elective concentration outside the major. Eight required architecture courses (38 credits): 3311, 3411, 3412, 3501, 5281, 5282, 5283, and one upper division history course, 54xx.

Two 3xxx/5xxx electives in either architecture or landscape architecture (8 credits): choose from Arch 53xx, Arch 54xx, Arch 544x, Arch 55xx (excludes 5351, 5352, 5411, 5413), or LA 3413, LA 55xx.

Elective concentration outside the major (20-28 credits): Candidates for the bachelor's degree develop either an elective concentration outside the major (20-28 credits at 3xxx/5xxx level) or a minor as a means to broaden the social, cultural and international aspects of design. These courses may also provide preparation for careers or graduate study in fields other than architecture as well as graduate study in the professional master's in architecture program (M.Arch.). Selection of courses, which ideally begins at the sophomore level, may take the form of a declared minor such as art history, ecology, anthropology, comparative literature and cultural studies, political science, or selected courses in various disciplines that impact design decisions, such as geography, women's studies, natural resources, economics, housing, management, or political science.

The development of an academic program and selection of specific courses are the responsibility of the individual student but consultation with a CLA adviser and an architecture adviser is strongly encouraged. The concentration or minor must be developed and presented clearly by the candidate at the time of the application to the major because it becomes an integral part of the student's major program form. As individual goals change, the approved concentration can be revised by departmental consultation and amendments can be made to the major program form.

Accelerated Professional Degree Program—Accelerated status in architecture is a competitive opportunity for qualified undergraduates to complete the B.A. and the M.Arch in six years rather than seven. Applicants for accelerated status must complete all B.A. degree requirements before their senior year, with the exception of no more than two courses in either the elective concentration or minor and any liberal education requirements. With accelerated status, students complete the first year of the professional degree program in their senior year; courses carry CLA upper division credit. Accelerated status is limited to 10 students per year and does not admit students to the graduate school professional degree program. Separate requirements, such as the Graduate Record Examination (GRE), must be submitted in January of the desired year of admission. Students may inquire about accelerated status with the Department of Architecture's director of undergraduate studies, 110 Architecture Building.

To be considered for accelerated status, students must be enrolled at the University of Minnesota as a B.A. in architecture major; have completed one year of Arch 5281, 5282, 5283; completed 135 credits; have an overall GPA of 3.20 or higher; and complete an interview with the director of undergraduate studies by June 1 of their junior year.

Nonmajors, students with B.A. or B.S. degrees in disciplines other than architecture who are preparing for admission to the graduate professional degree program, and first-quarter transfer students are not eligible for accelerated status.

Accelerated program (42 credits in architecture)—5291, 5292, 5293, 5309, 5401, 5511, 5531, 5541, 5711

General

Arch 1301. Introduction to Architectural Drawing. (4 cr, SLA 1301)
Beginning drawing course that emphasizes visualization and drawing of form and space in the physical environment. Basic elements of form using design drawing systems and conventions. Developing skills in visual literacy and expression through drawing.

Arch 1401. The Designed Environment. (4 cr, SLA 1401)
Principles and traditions within the design disciplines of architecture, landscape architecture and urban design, along with references in the arts, sciences, and literature, will be explored in this review of the formal constructs of the designed environment.

Arch 1601. Design Professions and Society. (4 cr)
Issues and roles citizens, civic structures, entrepreneurs, clients, and design professions address in the process of shaping, constructing, and managing the physical environment. Planning procedures, policy creation and decision-making strategies used in formulating projects intended to maintain an aesthetic, ecologically functional, and equitable physical environment.

Design

Arch 5281. Architecture Studio I: Fundamentals of Space and Form. (6 cr; prereq 3311, 3412; Arch major or #)
Elements of architecture, qualities of space, principles of design and systems of order found in everyday objects, experiences and forms of nature. Application of visual tools, such as models, drawings and graphics, and design principles to three-dimensional form and composition. Lecture, critique, and small problems.

Arch 5282. Architecture Studio II: Structure and Order. (6 cr; prereq 3311, 3412, 5281, Arch major or #)
Design methods in the conception of architectural form and space within the context of cultural and technological conditions of our time. Application of design processes in developing understandings of the relationship between architecture and meaning. Lecture, design projects and critiques.

Arch 5283. Architecture Studio III: Site, Context, and Form. (6 cr; prereq 5282, Arch major or #)
Development of architectural form and space within the context of a specific site and building program. Exploration of materials and structure systems within the context of increasingly complex design projects. Lecture, design projects, and critiques.

Arch 5250. Topics in Architecture Design. (Cr ar [1-6]; prereq 5283 or Arch grad)
Special topics in the design of architecture.

Representation and Communication

Arch 3311. Drawing for Design. (4 cr, \$LA 3311; prereq 1301, pre-Arch or Arch or BED or LA major or #)
Drawing processes as modes of perception, cognition and reflection. Representational aspects of drawing systems and conventions. Development of understanding of space, light, and order.

Arch 5309. Representation in Architecture. (4 cr, \$LArch 5309; prereq 3311, Arch/LA grad or #)
Historical and theoretical study of representation and its depiction in architecture and landscape architecture. Exploration of media, conventions and techniques used to visualize or reproduce architecture and how they affect the "production" of ideas.

Arch 5313. Visual Communication Techniques in Architecture. (4 cr, \$3033; prereq 3311, Arch/BED major or #)
Delineation, presentation, and design techniques. Various visual media and methods of investigation.

Arch 5321. Architecture in Watercolor. (4 cr, \$3110; prereq 3311, Arch/BED major or #)
Watercolor as representation and communication in the design process. Foundation principles, techniques, medium, tools and materials. Exploration of color relationships, mixing, composition and applications to design.

Arch 5350. Topics in Architectural Representation. (Cr ar; prereq Arch major or Arch grad or #)
Special topics in theory and practice of visual representation in architecture.

Arch 5381. Introduction to Computer Aids for Architectural Design. (4 cr; Arch or BED or LA major; A-F only)
Electronic design media, including document design, 2D drawing, 3D modeling and animation, printing, and plotting. Electronic networking and communications.

Arch 5382. Computer Aids for Architectural Design. (4 cr; Arch or BED or LA major; A-F only)
Understanding computer-aided tools used in design and practice, including database management, spreadsheet analysis, land use analysis, 2D/3D CAD, image manipulation, and project management.

Arch 5383. Advanced CAD Visualization for Architecture. (4 cr; Arch or BED or LA major; A-F only)
Advanced multimedia visualization techniques for architecture design and presentation, including solid modeling, photo-realistic imaging, animation, and video recording and editing.

History

Arch 3411. History of Architecture to 1750. (4 cr, \$Arth 3411, \$LArch 3411)
History of architecture and city planning from antiquity to 1750, as illustrated by major monuments from Western and non-Western cultures.

Arch 3412. History of Architecture Since 1750. (4 cr, \$Arth 3412, \$LArch 3412)
History of the major monuments, concepts, and theories of urbanism and architecture since 1750.

Arch 5410. Topics in Architectural History. (Cr ar; prereq #)
Advanced study in architectural history. Readings, research, seminar reports.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Arch 5417. Asian Architecture. (4 cr, §5057, §ArH 5417; prereq Arch major or #)
Selected topics from the history of architecture and urban design in West, South and East Asia.

Arch 5418. Indigenous Architecture. (4 cr, §5058, §ArH 5418; prereq Arch major or #)
Case studies of indigenous environments in selected cultures.

Arch 5421. Ancient Architecture. (4 cr, §5051, §ArH 5421; prereq 3411, Arch major or #)
History of development of architecture and urban design in Egypt, Mesopotamia, Crete, Mycenae, and classical Greece and Rome until the advent of Christianity.

Arch 5422. Early Medieval Architecture. (4 cr, §5052, §ArH 5422; prereq 3411 or Arch major or #)
History of the development of architecture and urban design during early Christian, Byzantine, Islamic, Carolingian, and Romanesque periods in the Near East and Western Europe until 1150 A.D.

Arch 5423. Gothic Architecture. (4 cr, §5053, §ArH 5423; prereq 3411 or Arch major or #)
History of the development of architecture and urban design in Western Europe from 1150 until 1400 A.D.

Arch 5424. Renaissance Architecture in Italy. (4 cr, §5054, §ArH 5424; prereq 3411, Arch major or #)
History of architecture and urban design in Italy, 1400-1600. Emphasis on major figures (Brunelleschi, Alberti, Bramante, Palladio) and the evolution of major cities (Rome, Florence, Venice).

Arch 5425. Baroque Architecture in Italy. (4 cr, §5064, §ArH 5425; prereq Arch major or #)
Architecture and urban design in Italy, 1600-1750. Emphasis on major figures (Bernini, Borromini, Cortona, Guarini) and the evolution of major cities (Rome, Turin).

Arch 5426. Architecture and Nature: 1500-1750. (4 cr; prereq 3411, 3412 or #)
History of the interaction of architecture and nature in Italy, England, and France in the 16th and 17th centuries. Major monuments, their relationship to theories of architecture and gardening, urban and rural life.

Arch 5431. 18th-Century Architecture and the Enlightenment. (4 cr, §5055, §ArH 5431; prereq 3412 or Arch major or #)
Architecture, urban planning, and garden design in Europe, 1700-1850.

Arch 5432. Modern Architecture. (4 cr, §5056, §ArH 5432; prereq 3412 or Arch major or #)
Architecture and urban design from early nineteenth century sources in Europe and America to World War II.

Arch 5434. Contemporary Architecture. (4 cr, §5061; prereq Arch major or #)
Developments, theories, movements, and trends in architecture and urban design from World War II to the present.

Arch 5439. History of Architectural Theory. (4 cr, §5067, §ArH 5439; prereq 3412 or #)
History of architectural theory from antiquity to the 20th century.

Historic Preservation

Arch 5411. Historic Preservation Process. (4 cr, §5141; prereq Arch major or #)
Philosophy and theory of historic preservation, historic origins, descriptive analysis of buildings, building documentation, technology of building conservation, historical archaeology, economic considerations, preservation law, guidelines for preservation, neighborhood conservation, international preservation, and case studies of representative preservation projects.

Arch 5413. Historic Building Research and Documentation. (4 cr, §5143; prereq Arch major or #)
Philosophy, theory, and methods of historic building research, descriptive analysis of buildings, building documentation, historical archaeology, and architectural taxonomy.

Theory and Criticism

Arch 5401. Principles of Design Theory. (4 cr; prereq Arch grad or #)
Principles of design and their instrumentation. How and why architecture theory is generated. Types and significance of formal analysis. Theoretical positions and modes of criticism.

Arch 5450. Topics in Architecture Theory. (Cr ar; prereq Arch major or Arch grad or #)
Special topics in theory and criticism in architecture.

Arch 5454. Semiotics and Deconstruction in Architecture. (3 cr, §5854; prereq 5401, Arch grad or #)
Expressive and cultural dimensions of architecture, especially as they relate to linguistic analogies, knowledge production and contemporary philosophy, including a broad critical perspective of architectural discussion and argumentation which will address the current aspects of the debates.

Arch 5455. Typology and Architecture: Theories of Analysis and Synthesis. (3 cr, §5855; prereq 5401, Arch grad or #)
Theoretical traditions and development of the use of typology in architecture. Works of Laugier, Quatremere De Quincy, Viollet-Le-Duc, Ledoux, Durand, Camillo Sitte, and Le Corbusier. Recent developments and theoretical positions of the "neorationalist" and "contextual" arguments for contemporary applications of the idea of type.

Arch 5458. Architecture and Culture. (3 cr, §5951; prereq 3412, Arch major or #)
Architecture as a cultural medium; relation among architecture, people, and culture; physiological and symbolic messages; relation between research findings and design; relation between vernacular and high style architecture; reception theory in architecture; cultural critique and cultural change; implications for architectural practice.

Technology

Arch 3501. People, Ecology, and Design. (4 cr; prereq 3311, 3412, Arch major or #)
Issues, design procedures, and short- and long-term impacts of development decisions made by architects and landscape architects in terms of local and global ecological systems.

Arch 5511. Construction Materials in Architecture. (4 cr, §3061; prereq Arch grad or #) Building materials, assemblies and operations affecting construction of building designs. Materials performance, durability, workmanship and compatibility in the detailing of masonry, wood, and metal framing designs. Building partner relationships and their implications on materials, elements, components and assembly selections.

Arch 5512. Historic Building Conservation. (4 cr, §5142; prereq Arch major or #) Historic building systems, materials, and methods for their conservation; use of contemporary systems in historic buildings.

Arch 5541. Thermal Design in Architecture. (4 cr, §3064; prereq Arch major or Arch grad or #) Thermal and climatic issues in the design of small and midsize buildings. Investigations in built and mechanical means to modify the climate. Evaluation of design techniques in terms of potential impacts on energy use, the environment, and architectural meaning.

Arch 5543. Climate and Architecture. (4 cr, §5957; prereq 5541, grad Arch or #) Role of climate in architectural design and theory. Environmental and energy implications at the site, building, and component scales. Design projects explore graphic analysis, physical modeling, and quantitative assessment.

Arch 5550. Topics in Architecture Technology. (Cr ar; prereq Arch major or Arch grad or #) Selected topics in architecture technology; construction, environmental management, energy performance, lighting, or materials.

Urban Design

Arch 5711. Design Principles of the Urban Landscape. (4 cr, §5137; prereq 1601, Arch or BED major or #) Art and design of making city, neighborhood, and development plans. Public policies, planning tools and process, and physical models for design professionals and private and civic institutions to shape the physical environment.

Arch 5724. The Meaning of Place. (4 cr, §5956, §Geog 5856; prereq #; A-F only) Direct experience analyzing messages and meanings of surroundings. Explores what present-day environment reveals about the past and examines links between sense of places and feelings of well-being. Twin Cities central districts and selected neighborhoods as well as other settings inside and outside Minnesota.

Arch 5725. Housing and Values. (4 cr, §5953; prereq upper div or grad) Meanings and values attached to housing in different cultures at various stages in the life cycle and in different climatic situations. Impact of housing heritage on housing choice, potential impact of emerging constraints (e.g., energy ability) on current and future housing decisions.

Arch 5750. Topics in Urban Design. (Cr ar; prereq 5711, Arch grad or #) Special topics in theory and practice of urban design.

Area Studies Programs

Staff—*Advising*, 214 Social Sciences Building (612/624-8543)

Faculty—The Area Studies Programs faculty is drawn from humanities and social science disciplines in CLA, as well as from several of the professional schools and colleges. All are active in teaching and/or research in their area. For a complete list of area studies faculty, see the *Area Studies Programs Handbook*.

Area Studies Programs (ASP) oversee degree programs in East Asian studies, European area studies, Latin American studies, Russian area studies, and South Asian and Middle Eastern studies. A major in these degree programs is for students with an interest in studying a variety of issues related to a specific geographical area. In area studies, the student is not restricted to a single disciplinary perspective; rather, she or he can choose from a wide variety of classes and approaches to obtain a well-rounded view of a specific culture or a geographical area. ASP advises students and helps to match students with faculty, resources, and programs appropriate to their individual academic interests.

The curricular options and requirements for each of the degree programs are described in the *Area Studies Programs Handbook*, available in 214 Social Sciences Building.

All degree programs have the following requirements: successful completion of all premajor requirements; Area 3144—Scope and Methods of Area Studies and two other methods of

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inquiry courses; a core set of breadth requirements; advanced proficiency in one modern foreign language; an area of concentration; and completion of Area 5504—Senior Project. In some cases, language competency in two foreign languages may be required. Students are encouraged to incorporate topical courses taught as part of the Foreign Language Immersion Program (FLIP) or Foreign Languages Across the Curriculum (FLAC) into their majors. These programs enable students to strengthen their language skills while studying subjects relevant to their degree program.

The structure of the South Asian and Middle Eastern studies major differs from the above and is described under the major later in this section.

An early start in planning a degree program in one of the area studies majors is strongly recommended. Students are encouraged to begin their premajor courses as soon as possible because of the substantial foreign language requirements and to ensure continuity in courses offered sequentially. For assistance in planning an area studies major, consult the program adviser in 214 Social Sciences Building.

Study Abroad—Students are encouraged to include a study abroad experience as part of their undergraduate career. Various study abroad opportunities are available and appropriate courses taken under such programs can be applied toward area studies major requirements. For general information on study abroad programs, contact the International Study and Travel Center in 102 Nicholson Hall. An approved list of area studies language substitution programs is available in 214 Social Sciences Building. See also the Foreign Study section of this bulletin.

Foreign Languages Across the Curriculum (FLAC)—Students are encouraged to include courses conducted in a language other than English as part of their undergraduate career, whether they are offered on campus or abroad. A variety of FLAC courses are offered for two or four credits, while others are offered for one credit in conjunction with four-credit courses taught in English. To date, FLAC courses have been taught in area studies, geography, history, international relations, political science, and sociology in Chinese, French, German, Italian, Japanese, Russian, Spanish, and the Scandinavian languages.

Each spring, several FLAC courses are offered in French, German, and Spanish,

providing students the opportunity to take all their coursework in a number of disciplines in one of those languages for one quarter. This concentrated form of FLAC is called the Foreign Language Immersion Program (FLIP); participating in FLIP is especially beneficial for students preparing to study abroad or returning from a study abroad experience. For more information, consult the Area Studies Programs advisers in 214 Social Sciences Building.

Honors Program—Students who wish to consider participating in the honors program should contact the Area Studies Programs honors adviser in 214 Social Sciences Building.

Area Studies Courses—Most Area Studies Programs courses are drawn from CLA. Some courses are also offered through several of the professional colleges on the Twin Cities campus, such as the College of Natural Resources, the College of Human Ecology, and the Hubert H. Humphrey Institute of Public Affairs. *Note:* Most courses that fulfill major requirements are described under individual department listings in this bulletin. For a detailed list of courses that count toward area studies majors, consult the *Area Studies Programs Handbook*. Specific courses offered by Area Studies Programs include the following.

Area 3144. Scope and Methods of Area Studies. (4 cr; prereq soph, major or premajor or #) Scholarly traditions, research techniques, and theoretical frameworks characterizing interdisciplinary scholarship as it relates to regions of the world defined by geographic, political, cultural, linguistic, and ethnic areas.

Area 3910/5910. Topics in East Asian Studies. (2-4 cr)
Description varies with topic title.

Area 3920/5920. Topics in European Studies. (2-4 cr)
Description varies with topic title.

Area 3930/5930. Topics in Latin American Studies. (2-4 cr)
Description varies with topic title.

Area 3940/5940. Topics in Middle Eastern Studies. (2-4 cr)
Description varies with topic title.

Area 3950/5950. Topics in Russian Area Studies. (2-4 cr)
Description varies with topic title.

Area 3960/5960. Topics in South Asian Studies. (2-4 cr)
Description varies with topic title.

Area 3970/5970. Directed Studies. (1-15 cr; prereq #, Δ, □)
 Guided individual reading or study. Open to qualified students for one or more quarters.

Area 3990/5990. Directed Research. (1-15 cr; prereq #, Δ, □)
 Qualified students, with consent of instructor, work on a tutorial basis.

Area 5504/5504H. Senior Project. (4 cr; prereq sr in dept or #)
 Research methods, writing skills, and bibliography related to field of study.

East Asian Studies (EAS)

East Asian studies is concerned with the in-depth study of China, Japan, Korea, Taiwan, and Vietnam. As interaction between the United States and East Asia flourishes, knowledge and understanding of these societies is essential. Study of the history and language of the region provides students with a foundation for coursework in the concentration of their choice. Undergraduate major and minor programs are available in East Asian studies.

B.A. Major Sequence—East Asian studies

Students are admitted to the East Asian studies major program upon successful completion of premajor requirements and formal enrollment in the major at the Area Studies Programs advising office (214 Social Sciences Building). All premajor and major courses must be taken A-F and completed with a grade of C or better.

Required Preparatory Courses

To be accepted into the major, students must meet the following requirements: minimum of 48 general credits and good standing in CLA; at least three quarters of East Asian language study (or equivalent, as determined by the relevant language department); and at least 12 credits (minimum 3 courses) of 1xxx or 3xxx coursework related to East Asia, of which one of the three courses must be EAS 1461, 1462, or 1463, while the remaining courses may be

chosen from approved humanities or social sciences offerings.

Major Requirements

Language—The minimum foreign language requirements for the East Asian studies major may be fulfilled by successful completion of one of the following: (1) three years (total of 9 quarters) of a Chinese or Japanese language sequence; (2) at least six quarters of Chinese or Japanese language study *and* at least six quarters of language study in a second East Asian language; or (3) at least six quarters of Chinese or Japanese language study *and* an approved study abroad experience in East Asia. For a concentration with a Korean focus it is possible to have a comparable level of Korean in lieu of Chinese or Japanese requirements. (*Note:* Proficiency examinations and evaluations are provided by relevant language departments.)

Methods—A minimum of three courses (4 or 5 credits each) dealing specifically with approaches to and/or methods of scholarly inquiry must be completed. These courses include Area 3144—Scope and Methods of Area Studies, and two other approved courses in the social sciences, history, literature, or the humanities, depending upon the nature of the student’s major program.

Breadth—All majors must complete the following core set of courses (4 courses or a minimum of 16 credits): Geog 3211—Geography of East Asia; one 3xxx or 5xxx social science course; one course from the Hist 3461-3462-3463 East Asian survey sequence; and one 3xxx or 5xxx literature, humanities, cultural studies, music, or art history course focusing on East Asia (or on one East Asian society).

Concentration—All students in the program are required to develop a concentration area within the major consisting of 8 courses (32 credits) to include: three or four courses (12-16 credits) in upper division humanities, literature, and culture courses; three or four courses (12-16 credits) in upper division social science and history courses; and completion of Area 5504—Senior Project. No more than three courses may be taken in any one department.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Minor Sequence— East Asian studies

The minor requires successful completion of five courses (20 credits) at the 3xxx or 5xxx level related to East Asia. Courses must be drawn from three of the following four areas: history, social science, literature, and humanities. All courses must be taken A-F, with a grade of C or better. Students should design the minor in consultation with the Area Studies Programs adviser, from whom program approval is required.

Area courses are listed on pages 52-53 of this bulletin. For a complete list of East Asian studies courses, see the *Area Studies Programs Handbook*.

EAS 1032. Religions of East Asia. (4 cr, \$ReIA 3032)

Religious aspects of Confucianism, Taoism, Buddhism, and Shintoism as practiced in East Asia; Christian missions in East Asia.

EAS 1461. Introduction to East Asia: Early Civilization. (4 cr, \$Hist 3461) Farmer
Rise and fall of the first great Chinese empire (Han) and early history of Vietnam, Korea, and Japan. Origins and development of Chinese society, government, and thought, and the introduction of Buddhism from India.

EAS 1462. Introduction to East Asia: The Imperial Age. (4 cr, \$Hist 3462) Waltner
Historical survey of early Japan and medieval Vietnam, Korea, and China from the T'ang empire until end of the 18th century. Diffusion of Chinese and Buddhist cultural forms and maturation of distinct societies in China, Japan, Vietnam, and Korea.

EAS 1463. Introduction to East Asia in Modern Times. (4 cr, \$Hist 3463) Marshall
Decline of Asian empires, rise of European and American imperialism; Asian responses: nationalism, social revolution, reintegration, modernization in China, Japan, Vietnam, Korea; retreat of European and American empires.

EAS 3013. Introduction to East Asian Art. (4 cr, \$ArtH 3013) Poor
Major themes of the arts of China and Japan (not all-inclusive).

EAS 3211. Geography of East Asia. (4 cr, \$Geog 3211, \$Geog 5211) Hsu
Physical and human geography of China, Korea, Japan; population pressure, economic development, and international relations.

EAS 3464. Early Modern China: 1350-1750. (4 cr, \$Hist 3464, \$Hist 5464) Farmer, Waltner
The Ming and Ch'ing empires; expulsion of Mongols and centralization of imperial power; high point of Confucian bureaucratic rule, commercial development, philosophical innovation, popular fiction, Manchu conquest, and early Western contacts.

EAS 3465. China's Response to the West: 1750-1911. (4 cr, \$Hist 3465, \$Hist 5465) Farmer, Waltner
Eighteenth-century demographic crisis; growth of Western trade, opium wars, and peasant rebellion; early reform efforts, cultural conflict with West, imperialism in China, and first phase of Chinese revolution.

EAS 3467. The Nationalist Revolution in China: 1900 to Present. (4 cr, \$Hist 3467, \$Hist 5467) Farmer
Failure of early republic, warlordism, new culture movement, and development of Chinese nationalism. Rise of Nationalist Party and intervention of Soviet Union, Japan, and United States. Taiwan and Republic of China.

EAS 3468. People's Republic of China: The Communist Revolution, 1900 to Present. (4 cr, \$Hist 3468, \$Hist 5468) Farmer
Introduction of Marxism in China, rise of Communist Party, and development of rural guerrilla movement. Career of Mao Tse-tung and developments in People's Republic: the Great Leap, Cultural Revolution, Gang of Four.

EAS 3471. 20th-Century Japan. (4 cr, \$Hist 3471) Marshall
World War I and Japan's emergence as an industrial society and world power in the 1920s; the rise of militarism, World War II in the Pacific; political reform, economic resurgence, and cultural change in the postwar era.

EAS 3474. Rise of Modern Japan: 1853-1914. (4 cr, \$Hist 3474) Marshall
Meiji revolution from Commodore Perry to eve of WWI: origins of constitutional monarchy, and industrial economy. Western influence and modern cultural change.

EAS 3481. Modern Japanese Society. (4 cr, \$Soc 3481; prereq intro soc course or #) Broadbent
Japanese social institutions, including family, education, business, and labor relations, government, and the status of women. How they differ from the West and have contributed to Japanese economic success.

EAS 3808. Music in East Asia. (4 cr, \$Mus 3808) Kagan
Religious, courtly, operatic, chamber, and folk music of China, Japan, Korea, and Tibet. Historical developments and cultural determinants of style, repertoire, and usage.

EAS 5481. Comparative Asian Development. (4 cr; prereq soc dev development course, Asian-related courses or #) Broadbent
Comparison of the politicoeconomic and sociocultural institutions creating high-speed growth and other social and political effects in the East Asian area, focusing on Japan and the "four little tigers:" Taiwan, South Korea, Hong Kong, and Singapore.

European Area Studies (EUR)

Dramatic changes in post-Cold War Europe present an exciting challenge to students interested in this region. Based on a broad interdisciplinary introduction, students may choose to concentrate

on one country or culture, a subregion of Europe, or issues of regional impact. Undergraduate major and minor programs are available in European area studies. Students are especially encouraged to include courses conducted in a language other than English as part of their undergraduate career, whether they are offered on campus or abroad. The Foreign Languages Across the Curriculum (FLAC) program offers students a number of opportunities to take two- or four-credit courses in French, German, and Spanish, while one-credit FLAC sections are offered in conjunction with some four-credit courses taught in English. These one-credit sections have been offered in French, German, Italian, Russian, Scandinavian languages, and Spanish. In spring quarter, FLAC courses offered in French, German, and Spanish provide students the opportunity to do all their coursework in one of these languages as participants in the Foreign Language Immersion Program (FLIP). To date, FLAC courses have been taught in area studies, geography, history, international relations, political science, and sociology.

B.A. Major Sequence—European Area studies

Students are admitted to the European Area studies major program upon successful completion of a set of premajor requirements and formal enrollment in the major at the Area Studies Programs advising office (214 Social Sciences Building). All premajor and major courses must be taken A-F and completed with a grade of C or better.

Required Preparatory Courses

To be accepted into the major, students must complete the following requirements: a minimum of 48 credits and good standing in CLA; at least three quarters of a European language (or equivalent, as determined by the relevant department); and at least 12 credits (minimum 3 courses) of lower division coursework related to European or Western civilization. At least one of the three courses must be from the humanities and at least one must be from the social sciences or history.

Major Requirements

Language—The minimum foreign language requirements for the European area studies major may be fulfilled by successful completion of one of the following: (1) three years (total of 9 quarters) of a European language sequence; (2) at least six quarters of European language study *and* at least six quarters of language study in a second European language; or (3) at least six quarters of foreign language study *and* an approved study abroad experience in Europe. (*Note:* Proficiency examinations and evaluations are provided by relevant language departments.)

Methods—A minimum of three courses (4 or 5 credits each) dealing specifically with approaches to and/or methods of scholarly inquiry to include the following: Area 3144—Scope and Methods of Area Studies, and two other approved courses in the social sciences, literature, or humanities, depending upon the nature of the student’s major program.

Breadth—All majors must complete the following core set of courses (four courses or a minimum of 16 credits): Geog 3161—Geography of Europe, Hist 3707—Social and Economic History of Modern Europe or Hist 3223—European Social History through Literature, Soc 3456—European Societies, and one 3xxx or 5xxx literature, humanities, cultural studies, music, or art history course focusing on Europe.

Concentration—All students in the program are required to develop a concentration area within the major consisting of 8 courses (32 credits), to include: three or four courses (12-16 credits) in upper division humanities, literature and culture courses; three or four courses (12-16 credits) in upper division social sciences and history courses; and completion of Area 5504—Senior Project. No more than three courses may be taken in any one department.

Area and FLIP Offerings—Students are encouraged to include topics or thematic courses offered under Area 3920/5920 and/or

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the Foreign Language Immersion Program (FLIP) as part of their major program. Consult an adviser about these courses.

Minor Sequence— European Area studies

The minor requires completion of the CLA second language requirement in a European language plus 24 credits of 3xxx and 5xxx coursework chosen around a particular topic in European area studies (excluding language courses). A maximum of 4 credits may be in directed studies or directed research and courses must be drawn from a minimum of three different departments. All courses must be taken A-F, with a grade of C or better. Students should design the minor in consultation with the area studies adviser, from whom program approval is required.

Area Studies Programs courses are listed on pages 52-53 of this bulletin. For a complete list of European area studies courses, see the *Area Studies Programs Handbook* available in 214 Social Sciences Building.

Latin American Studies (LAS)

The proximity of Latin America to the United States and the long history of interaction with the region provides a strong incentive for the study of Latin America. The program offers a wide range of interdisciplinary courses in several Twin Cities campus colleges and through foreign study programs. It is possible to have a special thematic or regional concentration (e.g., human rights, women in Latin America, economic development, Brazil, Mexico, the Caribbean). Undergraduate major and minor programs are available in Latin American studies. Students are especially encouraged to include courses conducted in Spanish or Portuguese as part of their undergraduate career, whether they are offered abroad or on campus. The Foreign Languages Across the Curriculum (FLAC) program offers students a number of opportunities to take two- or four-credit courses in Spanish, while one-credit FLAC sections conducted in Spanish are offered in conjunction with some four-credit courses taught in English. In spring quarter, FLAC courses offered in Spanish and dealing with Latin American studies provide students the opportunity to do all their coursework in Spanish as participants in the Foreign Language Immersion Program (FLIP). To

date, FLAC courses have been offered in Spanish in area studies, geography, history, international relations, political science, and sociology.

B.A. Major Sequence— Latin American studies

Students are admitted to the Latin American studies major program upon completion of premajor requirements and formal enrollment in the major at the Area Studies Programs advising office (214 Social Sciences Building). All premajor and major courses must be taken A-F and completed with a grade of C or better.

Required Preparatory Courses

To be accepted into the major, students must complete the following requirements: minimum of 48 general credits and good standing in CLA; at least three quarters of Spanish or Portuguese (or equivalent, as determined by the relevant language department); and the Latin American survey sequence Hist/LAS 3401, 3402, 3403 *or* at least 12 credits (minimum 3 courses) of 1xxx or 3xxx coursework related to Latin America of which at least one course must be in the humanities and at least one in history or social science.

Major Requirements

Language—The minimum foreign language requirement for the Latin American studies major may be fulfilled by successful completion of one of the following: (1) three years (total of 9 quarters) of Spanish or Portuguese language sequence which includes completion of either Span 1106, 3015, 3016 or Port 1006, 3003 and two other Port 3xxx courses. Topical courses taught as part of the Foreign Language Immersion Program (FLIP)/Spanish may qualify as alternatives to a 3xxx course; (2) at least six quarters of a Spanish or Portuguese language sequence *and* at least six quarters of language study in a second appropriate language; (3) at least six quarters of Spanish or Portuguese *and* an approved study abroad experience in Latin America. If a student selects a concentration with a Caribbean focus, it is possible to petition to have a comparable level of French or Dutch in lieu of Spanish or Portuguese requirements. (*Note:* Proficiency examinations and evaluations are provided by relevant language departments.)

Methods—A minimum of three courses (4 or 5 credits each) dealing specifically with approaches to and/or methods of scholarly inquiry to include the following: Area 3144—Scope and Methods of Area Studies, and two other approved courses in the social sciences, literature, or humanities, depending upon the nature of the student’s major program.

Breadth—All majors must complete the following core set of 3xxx or 5xxx courses (four courses or a minimum of 16 credits) in each of the following areas: social sciences, humanities, geography, and an elective relevant to the student’s course of study.

Concentration—All students in the program are required to develop a concentration area within the major consisting of 8 courses (32 credits), to include: three or four courses (12-16 credits) in upper division humanities, literature and culture courses; three or four courses (12-16 credits) in upper division social science or history courses; and completion of Area 5504—Senior Project. No more than three courses may be taken in any one department.

Area and FLIP Offerings—Students are encouraged to include topics or thematic courses offered under Area 3930/5930 and/or the Foreign Language Immersion Program (FLIP) as part of their major program. Consult an adviser about these courses.

Minor Sequence— Latin American studies

The minor requires successful completion of Span 1106 or Port 1006 (or equivalent), plus five 3xxx or 5xxx courses (20 credits) related to Latin America. Courses must be distributed as follows: 4 credits of history, 4 credits of humanities, 8 credits of social sciences, and 4 additional credits. All courses must be taken A-F, with a grade of C or better. Students design the minor in consultation with the Area Studies Programs adviser, from whom program approval is required.

Area courses are listed on page 52-53 of this bulletin. For a complete list of Latin American

studies courses, see the *Area Studies Programs Handbook* available in 214 Social Sciences Building.

LAS 3121. Latin America. (4 cr, §Geog 3121) Weil
Physical and human geography of Latin America.

LAS 3134. Middle America. (4 cr, §Geog 3131)
Barrett
Physical and human geography of Mexico, Central America, and the Antilles. Internal and external area relationships.

LAS 3222. Peoples and Cultures of Middle America. (4 cr, §Anth 3222)
Indigenous and mestizo cultures of Mexico, Guatemala, Belize, and Honduras. Traditional rural community and modernization, urbanization, and religious conversion.

LAS 3224. Hispanic Cultures of Latin America. (4 cr, §Anth 3224)
Data from Mexico to South America and topics such as the economy, family, gender, religion, and ideology. Several conceptual frameworks used, including structural, symbolic, and cultural interpretations, history, and the impact of colonialism.

LAS 3250. Role of Renewable Natural Resources in Developing Countries. (2 cr, §FR 3250) Gregersen, Rose
International perspective on important resource issues, including integration of natural resources, social and economic considerations; issues and case studies.

LAS 3378. Third World Underdevelopment and Modernization. (4 cr, §Geog 3378) Porter, Scott, Sheppard, Weil
Processes underlying socioeconomic change in the Third World. Evolving global economy and internal spatial and socioeconomic conditions. Theories of modernization, development, and underdevelopment.

LAS 3401. Survey of Latin American History: Colonial Period to 1800. (4 cr, §Hist 3401) McCaa
Pre-Hispanic and colonial period to 1800, with emphasis on social, cultural, and economic aspects.

LAS 3402. Survey of Latin American History: 1800-1929. (4 cr, §Hist 3402) McCaa
Development of new nations from independence to the emergence of dependent economies.

LAS 3403. Survey of Latin American History: 1929 to Present. (4 cr, §Hist 3403) McCaa, Valdes
Contradictions of modern societies; economic expansion, dependency, population growth and the social crisis, democratic and authoritarian politics.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

LAS 3405. Latin American Women's Lives. (4 cr, §WoSt 3405)
Interdisciplinary study of women in a variety of Latin American countries with a focus on race, sexuality, education, class and ethnicity.

LAS 3602. Introduction to Brazil. (4 cr, §Port 3602)
Brazilian contemporary culture and society. Possible topics are related to history, culture (music, art, cinema, literature, architecture, theatre, popular culture, television), and social problems (ethnicity, the rain forest).

LAS 5131. Colonial Mexico and the Caribbean. (4 cr, §Geog 5131) Barrett
Exploration, discovery, settlement, livelihood, and circulation to about 1800.

LAS 5132. South America. (4 cr, §Geog 5132) Weil
Physical resources, population, agriculture, manufacturing, and transportation in South American countries.

LAS 5479. Latin American Government and Politics. (5 cr, §Pol 5479; prereq Pol 3051 or nonpolitical science grad or #) Sikkink
Latin American political heritage, political processes, contemporary public policy issues, problems of social, economic, and political change in selected countries.

LAS 5820. The Multinational Corporation. (3 cr, §PA 5820) Schuh
Economic, political, social, and legal significance of the multinational corporation; major policy options open to both individual bodies and international bodies.

LAS 5865. Housing in World Perspective I. (4 cr, §DHA 5865; prereq DHA 3863 or equiv)
Indigenous housing forms from around the world, with emphasis on village and rural housing; cultural differences; nature and quality of forms; application and implications for housing locally and nationally.

Russian Area Studies (RAS)

Russian area studies provides students with the knowledge to better understand the Russian world, its history, culture, and restructuring in the post-Soviet era. As Russia redefines its place in the world, and as trade and cultural links between Russia and the United States grow, Russian area specialists are increasingly needed. Undergraduate major and minor programs are available in Russian area studies.

B.A. Major Sequence— Russian area studies

Students are admitted to the Russian area studies major program after completing premajor requirements and enrolling in the major at the Area Studies Programs advising office (214 Social Sciences Building). All

premajor and major courses must be taken A-F and completed with a grade of C or better.

Required Preparatory Courses

To be accepted into the major, students must complete the following requirements: minimum of 48 general credits and good standing in CLA; at least three quarters of Russian language study (or equivalent, as determined by the relevant language department); and at least 12 credits (minimum 3 courses) of 1xxx or 3xxx coursework related to Russia or Eastern Europe. At least one course must be in the humanities, and at least one in history or social sciences.

Major Requirements

Language—The minimum foreign language requirement for the Russian area studies major may be fulfilled by successful completion of one of the following: (1) three years (total of 9 quarters) of Russian language; (2) at least six quarters of Russian language *and* at least six quarters of language study in a second language relevant to the student's academic program; and (3) at least six quarters of Russian language study *and* an approved study abroad experience in Russia or Eastern Europe. (*Note:* Proficiency examinations and evaluations are provided by relevant language departments.)

Methods—A minimum of three courses (4 or 5 credits each) dealing specifically with approaches to and/or methods of scholarly inquiry to include the following: Area 3144—Scope and Methods of Area Studies, and two other approved courses in the social sciences, history, literature, or humanities, depending upon the nature of the student's major program.

Breadth—All majors must complete the following core set of courses (4 courses or a minimum of 16 credits): Geog 3181—Russia and Environs; Hist 3636—Russian History from the Origins to Peter the Great or Hist 3637—Russian History from Peter the Great to the Present; Russ 3421—Literature: Middle Ages to Dostoevsky in Translation or Russ 3422—Literature: Tolstoy to the Present in Translation; and one 3xxx or 5xxx course relevant to the student's course of study.

Concentration—All students in the program are required to develop a concentration area

within the major consisting of 8 courses (32 credits) to include: three or four courses (12-16 credits) in upper division humanities, literature and culture courses; three or four courses (12-16 credits) in upper division social science and history courses; and completion of Area 5504—Senior Project. No more than three courses may be taken in any one department.

Minor Sequence— Russian area studies

The minor requires successful completion of Russ 1103 (or equivalent) plus five courses (20 credits) related to Russia, distributed as follows: Russ 3421 or 3422, Hist 3636 or 3637, Geog 3181 or Pol 5471, and 8 credits of 3xxx or 5xxx courses. All courses must be taken A-F with a grade of C or better. Students design the minor in consultation with the Area Studies Programs adviser, from whom program approval is required.

Area courses are listed on page 52-53 of this bulletin. For a complete list of Russian area studies courses, see the *Area Studies Programs Handbook* available in 214 Social Sciences Building.

South Asian and Middle Eastern Studies

The South Asian and Middle Eastern studies program focuses on the cultural traditions and contemporary problems of Afghanistan, Bangladesh, India, Iran, Nepal, Pakistan, Sri Lanka, Turkey, Iran, and the Arab world. Flexible major and minor programs in South Asian and Middle Eastern studies meet the needs and interests of individual students. For more information about this program, consult the Area Studies Programs office.

Study Abroad—The study abroad experience can provide an important comparative perspective within various cultural paradigms. Study abroad opportunities are available and appropriate courses taken abroad can be applied toward a major. See also Foreign Study.

B.A. Major Sequence— South Asian and Middle Eastern studies

Major Requirements

Area 3144—Scope and Methods

Two years (6 quarters) of a South Asian or a Middle Eastern Language

Three 3xxx-5xxx literature courses

Two 3xxx-5xxx religion and philosophy courses

Four 3xxx-5xxx social science and history courses

Area 5504—Senior Project

Programs must be designed in consultation with an adviser.

See the Institute of Linguistics and Asian and Slavic Languages and Literatures for South Asian and Middle Eastern Languages and Cultures course offerings.

Minor Sequence—South Asian and Middle Eastern studies

Minor Requirements—Five 3xxx-5xxx courses with a minimum of one course from literature and one from the social sciences or history

If you are pursuing a minor in South Asian and Middle Eastern studies, you are urged to fulfill the CLA language requirement with a South Asian or Middle Eastern language.

Army ROTC

See Reserve Officers Training Corps.

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Art (Arts)

Staff—*Chair*, Wayne Potratz, 210 Art Building; *Director of Undergraduate Studies*, Joyce Lyon, 202 Art Building (612/626-7844); *Coordinator of Advising*, Cindy Cribbs, 212 Art Building (612/625-1848); *Director of Graduate Studies*, Curtis Hoard, 212 Art Building (612/626-7699)

Professors Emeriti: MacKenzie, Myers, Rowan

Professors: Bethke, Hoard, Katsiaficas, Morgan, Pharis, Potratz, Rose

Associate Professors: Baldwin, Cowette, Feinberg, Gray, Hallman, Henkel, Krepps, Lane, Lucey, Lyon, Roode

The Department of Art provides instruction in drawing and painting, sculpture, printmaking, photography, ceramics, and electronic art, emphasizing the development of visual awareness through involvement in the creative process.

Students must pay a fee for some studio arts courses to cover part of the cost of expendable materials.

General Education—1401 introduces the concerns, media, and environment of the practicing artist, and concepts of creating visual art in contemporary and historical contexts. It should be taken before or concurrently with other 1xxx courses. It is a prerequisite for 3xxx courses.

Grades—All courses for the major and minor, whether required or elective, must be completed with C or higher grades. All courses for the major must be taken A-F, except seminars and the senior project.

Study Abroad—The department strongly encourages students to incorporate a foreign study experience into their undergraduate programs. Appropriate credits from such study can be applied toward a studio arts major or minor. Information on the department's summer program in China and other study abroad options and procedures is available in the Department of Art adviser's office and the Foreign Study section of this bulletin.

B.A. Major Sequence

Required Preparatory Courses—

1401—Introduction to Studio Arts

1101, 1301 or 1302, 1404

12 cr from 1102, 1301 or 1302, 1510, 1520, 1530, 1540, 1602, 1701, 1811, 1812

Major Requirements—

At least 28 3xxx-5xxx studio arts cr

12 art history cr (8 cr must be 3xxx-5xxx)

3444—Senior Project

B.F.A. Major Sequence

This program, leading to a four-year professional degree, offers an intensive concentration in visual arts work. It is designed for students planning to enter professional work or an M.F.A. program. Part of the liberal arts background includes the second language requirement.

Admission—Entrance is usually limited to students with B averages in studio arts courses. You should apply for admission no later than your final junior quarter. Application forms are available at the department office. Admission is based on scholastic record, slides of work, and faculty evaluations.

Accepted students are subject to review, and candidacy may be terminated if performance is unsatisfactory. In case of termination, you may transfer to the B.A. program.

A detailed statement of admission and program requirements is available in the department office.

Required Preparatory Courses—

1401: Introduction to Studio Arts

1101, 1301 or 1302, 1404, 1510 or 1520 or 1530 or 1540, 1701, 1811 or 1812

8 additional 1xxx studio arts cr

Major Requirements—

24 3xxx-5xxx cr in one studio arts specialization

16 additional 3xxx-5xxx studio arts cr

16 art history cr (8 cr must be 3xxx-5xxx)

5400—Concepts in Contemporary Art

8 cr related artistic expression

Exhibition during final quarter

Minor Sequence

Required Preparatory Courses—

1401, 8 1xxx studio arts cr

4 art history cr

Minor Requirements—16 3xxx-5xxx studio arts cr

Introductory Courses

ArtS 1101. Drawing I. (4 cr) Cowette, Feinberg, Gray, Morgan, Roode

Studio work and elements of drawing; contemporary and traditional methods; various drawing mediums.

ArtS 1102. Drawing II. (4 cr; prereq 1101)
Cowette, Feinberg, Gray, Morgan, Roode
Work from life, nature and imagination; color and pictorial structure.

ArtS 1301. Sculpture. (4 cr) Baldwin, Lucey, Potratz, Rose
Structure; form and space. Direct construction in metal.

ArtS 1302. Sculpture. (4 cr) Baldwin, Lucey, Potratz, Rose
Structure; form and space. Clay, plaster, wood. Moldmaking and casting.

ArtS 1401. Introduction to Studio Arts. (4 cr)
Concepts of visual art-making in contemporary and historical contexts. The concerns, media, and environment of the practicing artist. Aesthetic foundation for beginning courses. The creative process, visual expression, criteria. Open to all students.

ArtS 1403. Papermaking: Pulp to Plastic Expression. (4 cr) Krepps
Handmade paper through historical and contemporary approaches. Exploration of the versatility of handmade paper toward a personal vision and aesthetic.

ArtS 1404. Color. (4 cr; prereq 1101) Feinberg, Lyon, Morgan
Structure and interaction of color and its visual implications in creative context.

ArtS 1510. Printmaking: Intaglio. (4 cr per qtr [8 cr max]) Bethke
Intaglio printing processes. Etching, engraving, and collagraphic techniques in creative context.

ArtS 1520. Printmaking: Lithography. (4 cr per qtr [8 cr max]) Krepps
Lithographic printing processes from stones and metal plates. Creative image making, processing, printing, and presentation using both traditional and extended methods.

ArtS 1530. Printmaking: Relief. (4 cr per qtr [8 cr max]) Bethke, Krepps
Traditional and contemporary relief printing media. Lino, woodcut, cardboard, metal, and letterpress techniques, and their aesthetic applications.

ArtS 1540. Printmaking: Screen. (4 cr per qtr [8 cr max]) Bethke, Krepps
Traditional and contemporary screen printing media. Paper stencil, tusche and glue, cut stencil, and photo stencil techniques, and their aesthetic applications.

ArtS 1602. Electronic Art. (4 cr)
Hands-on introduction to the use of computer technology for creating visual images.

ArtS 1701. Photo Medium. (4 cr) Hallman, Henkel
Contemporary and historical use of photography. Use of camera, film development, enlarging. The creative process.

ArtS 1811. Ceramics: Handbuilding. (4 cr)
Hoard, Lane, Pharis
Introduction to hand-building techniques in clay for individual creative expression.

ArtS 1812. Ceramics: Wheelthrowing. (4 cr)
Hoard, Lane, Pharis
Wheel-throwing techniques for individual creative expression.

Intermediate Courses

ArtS 3105. Painting. (4 cr; prereq 1101, 1102, 1401, 1404) Cowette, Feinberg, Katsiaficas, Lyon, Morgan, Roode
Studio work in painting. Fundamentals of visual art making via the paint media. Emphasis on visual language.

ArtS 3110. Drawing. (4 cr per qtr [12 cr max]; prereq 1101, 1102, 1401) Cowette, Feinberg, Gray, Katsiaficas, Lyon, Morgan, Roode
Various media and skills. Elements of drawing in relation to the human figure, nature, still life.

ArtS 3120. Painting. (4 cr per qtr [12 cr max]; prereq 1101, 1102, 1401, 1404, 3105, 4 cr 3110 or ¶3110) Cowette, Feinberg, Katsiaficas, Lyon, Morgan, Roode
Continued problems in painting. Individual projects. Emphasis on developing personal direction.

ArtS 3123. Dimensional Painting. (4 cr; prereq 1101, 1401, 1404) Feinberg
Two dimensional concepts combine with three dimensional form.

ArtS 3130. Watercolor. (4 cr per qtr [12 cr max]; prereq 1101, 1102, 1401, 1404)
Transparent watercolor, gouache, casein, tempera. Figure, still life, landscape.

ArtS 3160. Drawing and Electronic Media. (4 cr per qtr [12 cr max]; prereq 1401, 1602, 4 cr of 3110) Katsiaficas
Expanding traditional drawing methods and materials with the use of electronic technology.

ArtS 3131. Nature of Abstraction. (4 cr; prereq 1101, 1102, 1401, 1404) Cowette, Morgan, Roode
Two-dimensional projects in varied media in which representational images from nature are transposed toward abstract syntheses through specific attention to visual elements (i.e., space and volume, line, value pattern, scale, color, depth, and mass).

ArtS 3301. Sculpture: Direct Metal. (4 cr; prereq 1301, 1302, 1401) Baldwin
Welding and brazing.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

ArtS 3302. Sculpture: Spatial Projects and Problems. (4 cr; prereq 1301, 1302, 1401) Rose
Methods of organizing space. Physical relationships between objects, elements, or materials, and how they can be manipulated to affect a space.

ArtS 3303. Sculpture: Cast Metal. (4 cr; prereq 1301, 1302, 1401) Potratz
Lost wax and sand casting in bronze, aluminum, and iron.

ArtS 3304. Sculpture: Wood and Stone. (4 cr; prereq 1301, 1302, 1401) Lucey
Wood and stone construction, assemblage, and arrangement.

ArtS 3305. Sculpture: Kinetics. (4 cr; prereq 1301, 1302, 1401) Baldwin
Constructions, kinetics, electronics.

ArtS 3306. Performance Art. (4 cr; prereq 1401) Lucey
Development of individual performance artworks and research of pioneers of this art form.

ArtS 3307. Sculpture: Modeling and Casting. (4 cr; prereq 1301, 1302, 1401) Baldwin, Potratz, Rose
Modeling with clay and other materials from human figure and other subjects; moldmaking with plaster and rubber; casting in plaster and other materials.

ArtS 3331. Primitive and Low-tech Approaches to Metal Casting. (4 cr; prereq 1302, 1401) Potratz
Metal casting of sculpture using techniques and materials from historical Meso-American, African, Indian, Chinese and Japanese sources. Design and construction of primitive molds, tools, furnaces.

ArtS 3430. Paper: Pulp to Plastic Expression. (4 cr per qtr [12 cr max]; prereq 1401, one 1xxx ArtS course) Krepps
Creative and traditional approaches to papermaking.

ArtS 3510. Printmaking: Intaglio. (4 cr per qtr [12 cr max]; prereq 1401, 4 cr of 1510) Bethke
Intaglio techniques on metal and collagraph. Embossing.

ArtS 3520. Printmaking: Lithography. (4 cr per qtr [12 cr max]; prereq 1401, 4 cr of 1520) Krepps
Planographic techniques on stones and plates.

ArtS 3530. Printmaking: Relief. (4 cr per qtr [12 cr max]; prereq 1401, 4 cr of 1530) Bethke
Relief printing techniques; emphasis on color processes.

ArtS 3540. Printmaking: Screen. (4 cr per qtr [12 cr max]; prereq 1401, 4 cr 1540) Bethke
Screen printing techniques, emphasis on color and image development.

ArtS 3550. Expanded Approaches: Monoprints. (4 cr per qtr [12 cr max]; prereq 1401, 4 cr of 15xx or 3430) Krepps
Contemporary printmaking investigating alternative processes and results using monoprints, handmade paper and other print processes.

ArtS 3710. Photography. (4 cr per qtr [12 cr max]; prereq 1401, 1701) Hallman, Henkel
Photographic controls and processes. Related photosensitive media. Creative processes suited to individual interests.

ArtS 3810. Intermediate Ceramics. (4 cr per qtr [12 cr max]; prereq 1401, 1811, 1812) Hoard, Lane, Pharis
Advanced design problems with introduction to glaze and clay experimentation. Emphasis on personal expression.

ArtS 3811. Mold Made Ceramics. (4 cr; prereq 1401, 1811, 1812) Lane
Mold forming ceramics. Plaster mold making techniques. Conceptual and aesthetic issues as they apply to the making of ceramic objects.

ArtS 3830. Glass: Introduction to Neon. (4 cr [12 cr max]; prereq 1401) Lane
Forming of neon tubing for artistic expression.

Advanced Courses

ArtS 5110. Drawing. (4 cr per qtr [16 cr max]; prereq 12 cr of 3110) Caglioti, Cowette, Feinberg, Gray, Katsiaficas, Lyon, Morgan, Roode
Drawing in all mediums from life.

ArtS 5120. Painting. (4 cr per qtr [16 cr max]; prereq 12 cr of 3120) Cowette, Feinberg, Katsiaficas, Lyon, Morgan, Roode
Various media. Individual problems.

ArtS 5123. Dimensional Painting. (4 cr; prereq 3123 or #) Feinberg
Combining two-dimensional concepts with three-dimensional form.

ArtS 5130. Watercolor. (4 cr per qtr [16 cr max]; prereq 12 cr of 3160)
Advanced watercolor techniques, aesthetic direction. Individual concepts and development of sensibilities.

ArtS 5160. Drawing and Electronic Media. (4 cr per qtr [16 cr max]; prereq 12 cr of 3160) Katsiaficas
Expanding traditional drawing methods and materials with the use of electronic technology.

ArtS 5310. Sculpture: Direct Metal. (4 cr per qtr [16 cr max]; prereq 3301) Baldwin
Advanced work in welding and brazing, metal construction.

ArtS 5320. Sculpture: Spatial Projects and Problems. (4 cr per qtr [16 cr max]; prereq 3302) Rose
Physical relationships between sculptural objects, elements, or materials, and how these can be manipulated to affect a space.

ArtS 5330. Sculpture: Cast Metal. (4 cr per qtr [16 cr max]; prereq 3303) Potratz
Lost wax and sand casting in bronze, aluminum, iron.

ArtS 5331. Primitive and Low-Tech Approaches to Metal Casting. (4 cr; prereq 3331 or #) Potratz
Metal casting of sculpture using techniques and materials from historical Meso-American, African, Indian, Chinese, and Japanese sources. Design and construction of primitive molds, tools, and furnaces.

ArtS 5340. Sculpture: Wood and Stone. (4 cr per qtr [16 cr max]; prereq 3304) Lucey
Wood and stone construction, assemblage, and arrangement.

ArtS 5350. Sculpture: Kinetics. (4 cr per qtr [16 cr max]; prereq 3305) Baldwin
Constructions, kinetics, electronics.

ArtS 5360. Performance Art. (4 cr per qtr [16 cr max]; prereq 3306) Lucey
Advanced individual performance artworks.

ArtS 5370. Sculpture: Modeling and Casting. (4 cr per qtr [16 cr max]; prereq 3307) Baldwin, Potratz, Rose
Modeling with clay and other materials. Moldmaking, casting in plaster and other materials.

ArtS 5430. Paper: Pulp to Plastic Expression. (4 cr per qtr [16 cr max]; prereq 12 cr 3430) Krepps
Creative and traditional approaches to papermaking.

ArtS 5510. Printmaking: Intaglio. (4 cr per qtr [16 cr max]; prereq 12 cr of 3510) Bethke, Krepps
Color processes. Intaglio and combined techniques.

ArtS 5520. Printmaking: Lithography. (4 cr per qtr [16 cr max]; prereq 12 cr of 3520) Bethke, Krepps
Color printing and planographic techniques.

ArtS 5530. Printmaking: Relief. (4 cr per qtr [16 cr max]; prereq 12 cr of 3530) Bethke, Krepps
Relief processes. Letterpress and combined techniques.

ArtS 5540. Printmaking: Screen. (4 cr per qtr [16 cr max]; prereq 12 cr of 3540) Bethke, Krepps
Screen processes and combined techniques.

ArtS 5550. Expanded Approaches: Monoprints. (4 cr per qtr [16 cr max]; prereq 12 cr of 3550 or #) Krepps
Advanced, contemporary printmaking using alternative processes, handmade paper, monoprinting, and other print processes.

ArtS 5710. Photography. (4 cr per qtr [16 cr max]; prereq 12 cr of 3710) Hallman, Henkel
Individual work in photographic controls, processes; related photosensitive media.

ArtS 5810. Ceramics. (4 cr per qtr [16 cr max]; prereq 12 cr of 3810) Hoard, Lane, Pharis
Aesthetic awareness and development; techniques and materials.

ArtS 5811. Mold-Made Ceramics. (4 cr; prereq 3811 or #) Lane
Molded ceramics. Plaster mold-making techniques. Conceptual and aesthetic issues as they apply to making ceramic objects.

ArtS 5821. Ceramic Materials Analysis. (4 cr; prereq 8 cr of 3810) Pharis
Glaze analysis and calculation of glaze types, formulation, materials. Procedures for investigating unidentified materials.

ArtS 5830. Glass: Neon. (4 cr per qtr [16 cr max]; prereq 12 cr of 3830) Lane
Advanced emphasis on conceptual and aesthetic applications of neon tube manipulation; applications to other media.

Advanced Entrance Courses

These courses, for advanced students only, provide technical background in specific media outside the student's primary area. The courses are for graduate students in studio arts and other disciplines, junior and senior nonmajors, and transfer students. They are not open to undergraduate majors.

ArtS 5190. Drawing and Painting. (4 cr per qtr [16 cr max]; prereq #, Δ)

ArtS 5390. Sculpture. (4 cr per qtr [16 cr max]; prereq #, Δ)

ArtS 5590. Printmaking. (4 cr per qtr [16 cr max]; prereq #, Δ)

ArtS 5790. Photography. (4 cr per qtr [16 cr max]; prereq #, Δ)

ArtS 5890. Ceramics and Glassworking. (4 cr per qtr [16 cr max]; prereq #, Δ)

Special Courses

ArtS 3444. Senior Project. (2 cr; prereq ArtS major, #, Δ; S-N only)

ArtS 3970. Directed Studies. (1-5 cr per qtr [8 cr max]; prereq 24 ArtS cr, #, Δ, □)
Guided individual work.

ArtS 3980. Directed Instruction. (1-5 cr per qtr [8 cr max]; prereq #, Δ, □)
Students assist in teaching courses they have completed.

ArtS 5400. Concepts in Contemporary Art. (4 cr; prereq sr, ArtS major or #)
Seminar on contemporary art issues. Discussion, research, presentations or papers.

ArtS 5970. Directed Studies. (1-5 cr per qtr [12 cr max]; prereq 24 ArtS cr, #, Δ, □)
Guided individual work.

Workshop Courses

When offered, area designation follows course number and title in *Class Schedule* (e.g., ArtS 3420—Workshop: Kilnbuilding).

ArtS 3420. Workshop. (1-5 cr per qtr)

ArtS 5420. Workshop. (1-5 cr per qtr)

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ¶—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

Honors Courses

ArtS 3411H. Honors Tutorial. (2-4 cr; prereq honors candidate, #, Δ)
Individual consultation with faculty member on visual work, research project, presentations, or papers.

ArtS 3412H. Honors Tutorial. (2-4 cr; prereq honors candidate, #, Δ)
Individual consultation with faculty member on visual work, research project, presentations, or papers.

ArtS 3413H. Honors: Crossmedia Project. (2-4 cr; prereq honors candidate, #, Δ)
Projects that involve two or more instructors or areas in studio arts, or that involve two or more departments or disciplines within the University.

ArtS 3414H. Honors: Crossmedia Project. (2-4 cr; prereq honors candidate, #, Δ)
Projects that involve two or more instructors or areas in studio arts, or that involve two or more departments or disciplines within the University.

ArtS 3415H. Honors: Thesis. (2 cr; prereq honors candidate, #, Δ)
Advanced problems in studio and research. Exhibition.

ArtS 3416H. Honors: Thesis. (2 cr; prereq honors *summa* candidate, ¶|3415H)
Research paper for *summa* candidates; must be taken concurrently with 3415H.

Art History (ArtH)

Staff—*Chair*, Frederick Asher, 108a Jones Hall; *Director of Undergraduate Studies*, John Steyaert, 106B Jones Hall; *Director of Graduate Studies*, Catherine Asher, 209 Jones Hall

Professors: F. Asher, Cooper, Marling, McNally, Poor, Weisberg

Associate Professors: C. Asher, Silberman, Steyaert, Stoughton

Adjunct Professors: Archer, Blade, Jacobsen, Jenkins, King, Mauer, McDonnell, Satkowski, Solomonson

The Department of Art History seeks to help students develop an awareness of the visual environment through historical examination of architecture, sculpture, painting, and other visual art forms.

For advanced work in art history, the department offers professionally oriented courses leading to a B.A. degree. M.A. and Ph.D. degrees in art history are also offered through the Graduate School.

General Courses—All 1xxx courses and most 3xxx courses are for general audiences.

Study Abroad—The department strongly encourages students considering either a major or minor in art history to include study in a foreign country into their program. Such study not only enriches the student through firsthand experience of another culture and language, it offers an invaluable opportunity for direct study of major artistic monuments. Credit for appropriate coursework can be applied toward both the major and minor in art history. For more information, see the Foreign Study section of this bulletin.

B.A. Major Sequence

Required Preparatory Courses—4 cr in art practice (consult the director of undergraduate studies). The CLA second language requirement satisfies the department's language study requirement.

Major Requirements—37 cr, including four of the following: 3005, 3008, 3009, 3011, 3012, 3013, 3014, 3015, 3921; five additional art history courses (minimum 20 cr) of which at least two must be at the 5xxx level. All courses must be taken A-F.

Each student must complete a major project consisting of: a) a preliminary research paper in a designated "project course," which may be either Art History 3930 (the junior-senior seminar) or any 5xxx course (to be selected by agreement with the instructor); b) Art History 3971—Major Project Research Paper. The major project course must be selected in consultation with the director of undergraduate studies.

Directed studies, independent study credits, and S-N credits may not be applied to the major. The major program must be approved by the director of undergraduate studies.

Minor Sequence

Preparatory Course—1002 or equiv

Minor Requirements—At least 20 3xxx-5xxx cr that must include four of the following: 3005, 3008, 3009, 3011, 3012, 3013, 3014, 3015, and one 5xxx art history lecture course.

Directed studies, independent study, and S-N credits may not be applied toward the minor. The minor program must be approved by the director of undergraduate studies.

Arth 1002. Introduction to the History of Art. (4 cr)

History of art, examined through selected monuments from the major periods of art from Paleolithic to modern times, covering Western and other cultures.

Arth 1016. Introduction to Asian Art. (4 cr)

F Asher, Poor

Major themes of Indian and East Asian art.

Arth 1201. The Olympic Games. (4 cr, §3201, §CICv 3201, §CNES 1201, 3201) Cooper

Surveys the Olympic Games (776 B.C. to A.D. 338) and other ancient athletic festivals, including those for women participants. Greek art and literature serve as basic sources. Comparisons with modern athletic events.

Arth 1921. Introduction to Film Study. (4 cr, §CLit 1921) Silberman

Fundamentals of film language and major theories of cinema, presented through detailed analysis of several films.

Arth 3005. American Art. (4 cr) Marling

Major issues in American painting, sculpture, architecture, and decorative arts from colonial era through contemporary period, with emphasis on relationships between visual/plastic arts and American social, political, and cultural history.

Arth 3008. History of Ancient Art. (4 cr, §Clas 3008) F Asher, Cooper, McNally

Architecture, sculpture, and painting of selected early cultures; stress on influences contributing to the development of Western art.

Arth 3009. History of Medieval Art. (4 cr) Steyaert

Medieval architecture, painting, and sculpture from early Christian through Gothic periods.

Arth 3011. History of Renaissance and Baroque Art. (4 cr) Stoughton

Major monuments in architecture, sculpture, and painting from the early 14th century through the baroque period.

Arth 3012. History of 19th- and 20th-Century Art. (4 cr) Weisberg

Major monuments and concepts of the modern period: sculpture, architecture, painting, and prints.

Arth 3013. Introduction to East Asian Art. (4 cr, §EAS 3013) Poor

Major themes of East Asian art. Arts of China and Japan (not all-inclusive).

Arth 3014. Art of India. (4 cr) C Asher, F Asher

Indian sculpture and architecture from the prehistoric Indus Valley civilization through major historical periods to the present. Includes Buddhist, Hindu, and Islamic art.

Arth 3015. Art of Islam. (4 cr) C Asher

Architecture, painting, and minor arts of the Islamic world.

Arth 3017. Islamic Culture. (4 cr) C Asher

Islamic cultures, emphasizing visual arts and literature. Analysis of original sources for understanding the most significant cultural developments in this civilization, extending from Spain to the Indian subcontinent.

Arth 3035. Mythology in Western Art. (4 cr, §Clas 3035) McNally

Selected figures and events from classical mythology as ancient artists first depicted them and as they have reappeared in later Western art.

Arth 3142. Art of Egypt. (4 cr, §Clas 3142) McNally

The arts and architecture of Egypt from prehistoric times to the emergence of modern Egypt, with emphasis on the elements of continuity and of change that have shaped Egyptian culture.

Arth 3152. Greek Art and Archaeology. (5 cr, §Clas 3152: offered alt yrs) Cooper, McNally

Architecture, sculpture, painting, and archaeology from 1050 B.C. to 31 B.C.

Arth 3162. Roman Art and Archaeology. (5 cr, §Clas 3162) Cooper, McNally

Roman art and material culture: origins, change, continuity, "progress" or "decay" in the later empire.

Arth 3201. The Olympic Games. (see Arth 1201 for description)

Arth 3303. Baroque and Rococo Painting in France. (4 cr, §5357) Stoughton

French painting of the 17th and first half of the 18th centuries.

Arth 3411. History of Architecture to 1750. (4 cr; §Arch 3411)

History of architecture and city planning from antiquity to 1750, as illustrated by major monuments from Western and other cultures.

Arth 3412. History of Architecture Since 1750. (4 cr; §Arch 3412)

History of the major monuments, concepts, and theories of urbanism and architecture since 1750.

Arth 3422. History of 19th-Century Graphic Arts. (5 cr, §5422: offered alt yrs) Weisberg

History and theory of the creation and evolution of lithography, social caricature (e.g., Daumier, Gavarni), the revival of etching at mid-century, and the emergence of color lithography at the turn of the century (e.g., Toulouse-Lautrec, Vuillard, Bonnard). Major artistic figures and revolutionary nature of the new media invented. Use of local print collections to strengthen the visual component.

Arth 3484. The Art of Picasso. (4 cr) Weisberg

Works of Picasso in all media. Emphasis on Blue, Rose, Cubist, Classical, and later periods of Picasso's development against innovations in Modern European art of the early 20th century.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

ArTH 3575. Art of Walt Disney. (4 cr, §AmSt 3575) Marling

Disney's cartoons, films, and theme parks in comparison to the "high" art of the period; assessment of his influence on American art and society.

ArTH 3585. Afro-American Art from the 18th century through the present day. (4 cr)

ArTH 3595. American Folk Art in the 20th Century. (4 cr)
Function of folk art in an era of mass communication, mass consumption, and mass transportation. Placing folk objects within the context of their making and use, and evaluating how and why such objects retain their importance for the maker and within the community.

ArTH 3921-3922. Art of the Film. (4 cr per qtr) Silberman

History of the motion picture as an art form; major films, directors, genres, and styles.

ArTH 3930. Junior-Senior Seminar. (4 cr; prereq ArTH major, jr or sr)

A major art-historical topic, figure, period, or genre. For advanced majors in art history.

ArTH 3940. Topics in Art History. (2-5 cr)

3942. Survey of American Indian Arts. (4 cr; §Amln 3242)

Visual arts and crafts of North American Indians.

ArTH 3950, 3960. Topics in Art History. (4-5 cr)

3970. Directed Studies. (1-5 cr per qtr; prereq #)
Guided individual reading or study.

ArTH 3971. Major Project. (1 cr; prereq ArTH major, #; Comp 3013 recommended)

Completion of a research paper begun in a 5xxx "project course."

ArTH 3975. Directed Museum Experience. (1-3 cr; prereq #: S-N only)

Internship or docentship in an approved program in an art institution or museum. Open to both majors and nonmajors. Must consult with director of undergraduate studies.

ArTH 5055. 18th-Century Architecture and the Enlightenment. (4 cr, §Arch 5055; prereq Arch 1021 or #; 2 lectures per wk)
Architecture, urban planning, and garden design in Europe, 1700-1850.

ArTH 5061. Contemporary Architecture. (4 cr, §Arch 5061; 3 lect, 1 sem hrs per wk)
Developments, theories, stylistic movements, and trends in architecture and urban design from World War II to present.

ArTH 5104. Roman Architecture. (5 cr, §Clas 5104; prereq jr or sr or #) Cooper, McNally
Buildings in Rome and the empire from the fifth century B.C. to the fourth century. Major archaeological sites.

ArTH 5105. Roman Painting and Mosaics. (5 cr, §Clas 5105; prereq jr or sr or #) McNally
Roman painting and mosaics, specific problems; sites such as Pompeii and Antioch.

ArTH 5107. Roman Sculpture. (4 cr, §Clas 5107; prereq jr or sr or #) Cooper, McNally
Sculpture of Rome and its provinces from the 1st century B.C. to the 4th century; role of sculpture in Roman politics and religion.

ArTH 5108. Greek Architecture. (4 cr, §Clas 5108; prereq jr or #) Cooper
Archaic and classical examples of religious and secular architecture and their setting in major archaeological sites.

ArTH 5113. Archaic Greek Art. (4 cr, §Clas 5113; prereq jr or #) Cooper

Architecture, sculpture, and painting in Greek lands from 9th through 5th centuries B.C. Examination of material remains of Greek culture; archaeological problems such as identifying and dating buildings; analysis of methods and techniques.

ArTH 5234. Gothic Sculpture of the Cathedral Age. (5 cr; prereq 3009 or 2 ArTH courses or #) Steyaert
Sculpture in France and Germany from 1150 to 1350. Emphasis on stylistic evolution.

ArTH 5324. 15th-Century Painting in Northern Europe. (5 cr; prereq jr or sr or grad or #) Steyaert
Painting in the Netherlands, France, and Germany during the late Gothic period; its influences.

ArTH 5346. Baroque Art in Italy and Spain. (5 cr; prereq 3011 or grad or #; offered alt yrs) Stoughton
Italian sculpture, painting, and architecture, and Spanish painting of the 17th century.

ArTH 5347. Baroque Art in France and the Lowlands. (5 cr; prereq 3011 or grad or #; offered alt yrs) Stoughton
French architecture, painting, and sculpture, Flemish and Dutch painting of the 17th century. Major artists: Rembrandt, Rubens, Poussin.

ArTH 5357. 18th-Century Art in France. (4 cr, §3303; prereq 3011 or grad or #; offered alt yrs) Stoughton
Rococo and neoclassical painting, sculpture, and architecture.

ArTH 5358. Eighteenth-Century Art in Italy, Germany, Austria. (4 cr; prereq 3011 or grad or #) Stoughton
Italian painting, sculpture, and architecture; German and Austrian architecture.

ArTH 5422. History of 19th-Century Graphic Art. (5 cr, §3422; prereq one 3xxx ArTH course or grad or #) Weisberg
For description, see 3422.

ArTH 5423. Gothic Architecture. (4 cr, §Arch 5053, ArTH 5053; prereq Arch major or Arch 3411 or #)

ArTH 5425. Baroque Architecture in Italy. (4 cr, §Arch 5064, ArTH 5064; prereq Arch major or Arch 3411 or #)

ArTH 5426. Architecture and Nature, 1500-1750. (4 cr; prereq 3411, 3412 or #) Solomonson
History of the interaction of architecture and nature in Italy, England, and France in the 16th and 17th centuries. Major monuments, their relationship to theories of architecture and gardening, urban and rural life.

Arth 5431. Age of Revolution: French Painting from 1789 to 1848. (5 cr; prereq one 3xxx Arth course or grad or #) Weisberg
Major styles and movements in France and their leading exponents: neoclassicism—David; romanticism—Corot, Delacroix; early landscape painting—the Barbizon group.

Arth 5432. Realism to Impressionism: French Painting from 1848 to 1886. (5 cr; prereq one 3xxx Arth course or grad or #) Weisberg
Realism of Courbet through end of impressionism. Roots of popular imagery, critical study of realism, radical innovation of impressionism.

Arth 5433. The Advent of Modernism: Later 19th-Century French Painting, 1886-1905. (5 cr; prereq one 3xxx Arth course or grad or #) Weisberg
Major styles and movements: postimpressionism, symbolism, *fin de siècle jugendstil*.

Arth 5434. Contemporary Architecture. (4 cr; no prereq) Solomonson
Developments, theories, movements, and trends in architecture and urban design from World War II to the present.

Arth 5435 (formerly Arth 5056). Modern Architecture. (4 cr, §Arch 5432; prereq Arch 1021 or 3411 or #; 3 lect, 1 sem hrs per wk)
Architecture and urban design from early 19th-century sources in Europe and America to World War II.

Arth 5454. Art Nouveau. (5 cr; prereq one 3xxx Arth course or grad or #) Weisberg
History and evolution of the art nouveau movement in France, England, Belgium, Germany, Austria, Scotland, and the United States. Innovations in architecture, graphics, and the decorative arts; examination of the continental variants of the style (e.g., liberty style, *jugendstil*). Major promoters of the movement (e.g., S. Bing, Liberty & Company, J. Meier-Graefe) and pioneers of modern design (e.g., William Morris).

Arth 5463. Early 20th-Century Painting. (5 cr; prereq one modern art course or #) Weisberg
Fauvism, Cubism, Surrealism, Dadaism, and early abstraction.

Arth 5535. Art in the United States. (5 cr; prereq 4 cr art hist or #; offered alt yrs) Marling
Painting and sculpture in the United States. Selected key works and artists from early settlement to the early 20th century.

Arth 5546. American Architecture From 1860 to 1914. (5 cr; prereq sr or grad or #) Archer, Marling
American architectural developments and European influences from the Civil War to about 1914. New materials and structural methods. Hunt, Richardson, McKim, Mead and White, Sullivan, early Wright, others.

Arth 5725. Ceramics of East Asia. (4 cr; offered alt yrs) Poor
Ceramic art in China, Korea, and Japan from Neolithic times to the present.

Arth 5765. Early Chinese Art. (5 cr; prereq 9 cr art hist or #; offered alt yrs) Poor
Ancient ceramics and ritual bronzes, early Buddhist sculpture, early Chinese painting.

Arth 5766. Chinese Painting. (5 cr; prereq 9 cr art hist or #; offered alt yrs) Poor
Major works from the 4th to the 17th centuries. Development of the landscape tradition and the literary genre of later Chinese painting.

Arth 5767. Japanese Painting. (4 cr; prereq jr or sr or #; offered alt yrs) Poor
Japanese pictorial arts from earliest to modern times; development of indigenous traditions.

Arth 5769. Connoisseurship in Oriental Art. (5 cr; prereq jr or sr or #; offered alt yrs) Poor
Oriental art objects in local collections.

Arth 5775. Early Indian Art. (5 cr; prereq 4 cr art hist or #) F Asher
Sculpture and architecture from the Indus Valley civilization through the Kushana period.

Arth 5776. The Art of India: 300 to 1200. (5 cr; prereq 4 cr art hist or #) F Asher
Issues of sculpture, architecture, and painting from the 4th century through the 12th century. Focus on Buddhist and Hindu monuments in the South Asian subcontinent, including the earliest Islamic monuments of India.

Arth 5777. Painting of India. (5 cr; prereq 4 cr art hist or #) C Asher
Painting, beginning with the early tradition of mural painting; miniature painting from the 12th century onward.

Arth 5781. Age of Empire: The Mughals, Ottomans, Safavids. (4 cr) C Asher
Development of art and architecture in three contemporary Islamic empires, Mughals of India, Safavids of Iran, and Ottomans of Turkey.

Arth 5783. Art of Islamic India. (4 cr) C Asher
Development of art and architecture in the Indian subcontinent from period of Islamic domination to Colonial period.

Arth 5785. Art of Islamic Iran. (4 cr) C Asher
Development of art and architecture in Iranian dominated Eastern Islamic realm: Iran, southern Soviet Union, and Afghanistan from inception of Islam to present.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

ArTH 5787. Art of the Western Islamic World. (4 cr) C Asher

Development of art and architecture in western Islamic world from inception of Islam to present.

ArTH 5925. History of Photography As Art.

(4 cr; prereq 3012 or #) Silberman
Origins and development of photography, with attention to technology and cultural impact. Major aesthetic achievements in photography from its beginning to present.

ArTH 5940. Topics: Art of the Film. (4 cr per qtr; prereq 3921-3922 or #) Silberman
Film and society. Sex and violence, race and ethnicity in the cinema; films of the 1930s, 1950s, or 1960s.

ArTH 5950, 5960. Topics in Art History. (2-5 cr per qtr [10 cr max]; prereq #)
Topics specified in *Class Schedule*.

ArTH 5970. Directed Studies. (1-5 cr per qtr; prereq sr or #)
Guided individual reading or study.

ArTH 5990. Directed Research. (1-5 cr per qtr; prereq sr or #)

Asian Studies

See Area Studies Programs and Institute of Linguistics and Asian and Slavic Languages and Literatures.

Astronomy (Ast)

Institute of Technology

Staff—*Chair*, T. W. Jones, 358 Physics;
Director of Undergraduate Studies, T. J. Jones, 355 Physics; *Director of Graduate Studies*, E. Skillman, 353 Physics

Regents' Professor Emeritus: Ney

Professors: Davidson, Dickey, Gehrz, Humphreys, T. J. Jones, T. W. Jones, Kuhl, Rudnick, Woodward

Associate Professor: Skillman

Astronomy activities include observations of stars, interstellar matter, galaxies, other constituents of the universe, and formulation of the laws that govern them.

A bachelor of science degree in astrophysics is offered in the Institute of Technology.

A bachelor of arts in astronomy is offered in CLA. Both programs can serve as preparation for graduate school, work in industry, or secondary school teaching.

General Education—1031 and 1032 are descriptive courses open to all students; 1021H is a more mathematical course for those pursuing

a major in a technical field. 1201 is a second course primarily for nonmajors. 1040 is for nonscience majors who need to satisfy the mathematical thinking requirement in the liberal education diversified core. Other courses are for majors in the physical sciences.

If you intend to satisfy CLA's pre-1994 group B lab requirement, you must take 1032 or you may take 1015 for one lab credit only. If you intend to satisfy the liberal education diversified core lab requirement in the physical sciences, you must take 1032, *not* 1031.

B.A. Major Sequence

Required Preparatory Courses—1021H; Math 1251-1252-1261 or equiv; Physics 1251-1252-1253-1254

Major Requirements—3051, 5162 and one other 5xxx astronomy course; Math 3251, 3252, 3261 or equiv; Physics 3512-3513, 3601, 5021, 5023, 5024

Major project: At least 3 cr of Ast 5990, Directed Research

Majors are encouraged to take additional 5xxx astronomy, 3xxx and 5xxx physics, mathematics, and/or computer science courses. This is especially important for students planning to pursue graduate work in astronomy.

Ast 1015f,w,s. Descriptive Astronomy Laboratory. (1 cr, §1025H; prereq high school algebra; high school trigonometry recommended; 2 lab hrs per wk)

Ast 1019. Our Changing Planet. (4 cr, §Geo 1019, §EEB 1019)
Interrelationships among Earth's subsystems—solid earth, oceans, atmosphere and biosphere, and solar and galactic super-systems. Way the Earth works by interactions of natural cycles, their rates, feedback, and human impact.

Ast 1021H. Introduction to Astronomy. (4 cr with lab, §1011; prereq high school trigonometry and physics or chem)
Solar system, stars, galaxies, and cosmology. A more mathematical and physical discussion than Ast 1032.

Ast 1031f,w,s. Exploring the Universe—A. (4 cr, §1011, 1021H, 1032; 3 lect hrs, 1 active learning session hr per wk)

The human place in the universe. Study of the Earth as a planet, other planets, the sun, stars and galaxies. Background and fragility of life on Earth. Scale, origin, and history of the universe and our relationship to it.

Ast 1032f,w,s,su. Exploring the Universe—L. (4 cr, §1011, 1015, 1021H, 1031; 3 lect hrs, 2 lab hrs per wk)
The human place in the universe. Study of the Earth as a planet, other planets, the sun, stars, and galaxies. Background and fragility of life on Earth. Scale, origin, and history of the universe and our relationship to it. Lab.

Ast 1040w. Mathematics and Our Universe. (4 cr; 3 lect hrs, 1 active learning session hr per wk) Selected topics in astronomy to illustrate how basic mathematical concepts and reasoning are used to further our understanding of the universe. Emphasis on using an intellectually stimulating discipline to introduce and explore mathematical modes of thinking.

Ast 1201. Topics in Modern Astrophysics. (4 cr; prereq 1011 or 1021H or equiv, #) Current research problems in astronomy and astrophysics.

Ast 3051. Introduction to Astrophysics. (4 cr; prereq 1 yr calculus, Phys 1254 or #) The solar system, galaxy, and extragalactic universe. How information is obtained; conclusions from observations.

Ast 3970. Directed Studies. (1-5 cr per qtr; prereq #, Δ) Independent, directed study in observational and theoretical astrophysics of interest to the student and a faculty member.

Ast 5061-5062. Computational Methods in the Physical Sciences. (4 cr, \$Phys 5061-5062-5063; prereq for 5061—upper div or grad student or #, prereq for 5062—Phys/Ast 5061 or #, prereq for 5063—Phys/Ast 5062 or #; 2 lect, 6 lab hrs per wk) Solving problems in the physical sciences with computer programs. Emphasis on selected numerical methods and mapping problems onto computational algorithms. Techniques illustrated through examples chosen from classical mechanics, electrodynamics, fluid dynamics. Computer experiments involving these techniques carried out on SUN work stations in the physics building lab.

Ast 5161. Astrophysics of Diffuse Matter. (4 cr; prereq 3051, Phys 5024 or #) Physical processes in diffuse matter—gas dynamics, MHD, excitation process, and equilibria in atoms and molecules. Emission and absorption by gas and dust. Dynamic processes in interstellar space, HII regions, and molecular clouds.

Ast 5162. Stars and Stellar Evolution. (4 cr; prereq 3051, Phys 3501 or Phys 3513 or #) Stars and stellar evolution. Stellar atmospheres, structure and evolution of single stars. White dwarfs, neutron stars, black holes, novae, and supernovae. Formation of stars.

Ast 5163. Galactic Astronomy and the Interstellar Medium. (4 cr; prereq 3051 or #) Structure, kinematics, and evolution of the Milky Way galaxy and its constituents, stars, star clusters, and the interstellar medium. Observed properties of the galaxy.

Ast 5164. Extragalactic Astronomy. (4 cr; prereq 5163 or #) Structure and evolution of external galaxies. Classification, stellar and gaseous contents, kinematics and dynamics, the extragalactic distance scale, clusters, galactic nuclei, and associated activity.

Ast 5165. Cosmology. (4 cr; prereq Phys 3513 or #) Large scale structure and history of the universe. Newtonian and relativistic world models, the Big Bang model, microwave background, physics of the early universe; cosmological tests, measurement of Hubble constant and deceleration parameter, galaxy formation.

Ast 5201s. Methods of Experimental Astrophysics. (4 cr; prereq 3051, Phys 3513; 2 lect, 6 lab hrs per wk) Contemporary techniques and instrumentation in astronomy. Astronomical observations, including data acquisition and instrument control using the facilities at O'Brien Observatory.

Ast 5321. Radiation Processes in Astrophysics. (4 cr; prereq Phys 5024, Phys 5102 or #) Physics of radiation by atoms and molecules. Radiation by energetic charged particles and plasma emission processes. Emission and absorption of radiation by solid particles. Transfer of continuum radiation and formation of spectral lines. Application to various astrophysical environments.

Ast 5362. Stellar Astrophysics. (4 cr; prereq 5321 or #) Theory of stellar structure and evolution. Basic physics and equations of stellar structure. Application to stellar interiors and atmospheres. Nucleosynthesis.

Ast 5421. High Energy Astrophysics. (4 cr; prereq 3051, Phys 5024, Phys 5101 or #) Energetic phenomena in the universe. Supernovae, pulsars, radio and X-ray stars. Radio galaxies and quasars. Acceleration of high energy particles. Observational basis and current theoretical understanding.

Ast 5990. Directed Research. (3 cr min; prereq #, Δ) Independent research in observational and/or theoretical astrophysics under the direction of a faculty member. For senior astrophysics and astronomy majors.

Behavioral Biology

See Ecology, Evolution, and Behavior.

Biblical Studies

Staff—*Chair of Minor Committee*, Jonathan Paradise, 330 Folwell Hall (625-5353)

Associate Professors: Paradise (Classical and Near Eastern Studies), Daniel Reisman (Classical and Near Eastern Studies), Philip Sellew (Classical and Near Eastern Studies)

The Biblical Studies minor focuses on study of the Hebrew Scriptures and New Testament in

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

translation or in the original languages. First-year Hebrew or Greek is required if you choose to study original texts in one of these languages. The courses required for the minor may be found under Classical and Near Eastern Studies.

Minor Sequence

Minor Requirements—Clas 3072; two courses from ANE 3501, 3502, 3505

One course from each of the following groups:

1. ANE 3501, 3502, 3505, 3251; Hebr 3201, 3202, 3203, 3204, 3205

2. Clas 5080 or Grk 3120

The minor program must be approved by a Biblical Studies faculty member.

Biochemistry (BioC)

College of Biological Sciences

Staff—*Acting Head*, David Bernlohr, 140 Gortner Laboratory of Biochemistry; *Director of Undergraduate Studies*, Clare Woodward

Professors: Allewell, Anderson, Bernlohr, Bloomfield, Conti-Fine, Fuchs, Lovrien, Nelsestuen, Raftery, Schottel, Tsong, C. Woodward

Associate Professors: Barry, Das, Flickinger, Wackett

Assistant Professors: Rougvie, Simon

Biochemistry is the study of the molecules, especially macromolecules such as proteins, nucleic acids, lipids, and carbohydrates that occur in living organisms.

A major leading to the B.S. degree is available through the College of Biological Sciences.

General Education—Courses especially appropriate for nonmajors include BioC 1401.

BioC 1401. Elementary Biochemistry. (4 cr, §3001, prereq Chem 1001 or one qtr college chem) Elementary survey of biochemistry with a brief introduction to organic chemistry. For students who need a general, non-intensive knowledge of the scope of biochemistry.

BioC 3021. Biochemistry. (4 cr, §Biol 5001; prereq Biol 1009 or Biol 1202, 8 cr organic chem) Fundamentals of biochemistry, including structure and function of proteins, nucleic acids, lipids, and carbohydrates; metabolism and regulation of metabolism; quantitative treatments of chemical equilibria, enzyme catalysis, and bioenergetics; chemical basis of genetic information flow.

BioC 3960. Research Topics in Biochemistry. (1 cr per qtr; S-N only) Lectures and discussions on current research in the department.

BioC 5025. Laboratory in Biochemistry. (2 cr; prereq 3021 or 5331 or ¶15331) Discussions of techniques and problem-solving approaches illustrated with lab experiments and demonstrations.

BioC 5301. Ecological Biochemistry. (3 cr; prereq 3021 or 5331 or #) Biochemistry of environmental processes. Biochemistry of organismal interactions, biological responses to environmental stress, gene transfer in the environment, and effects and fate of environmental toxins.

BioC 5331. Structure, Catalysis, and Metabolism in Biological Systems. (4 cr, §3021, §Biol 5001; prereq Biol 1009 or Biol 1202, 2 qtrs organic chem or #) Structure and function of biological molecules. Protein structure, catalysis, and intermediary metabolism. Enzyme kinetics, thermodynamics, and role of cofactors in catalysis.

BioC 5332. Energy and Signal Transduction in Biological Systems. (4 cr; prereq 5331 or #) Biological membrane structure and membrane-associated proteins. Processes such as transport, oxidation/reduction, photosynthesis, and electron transfer mechanisms, membrane receptors, signal transduction, specific regulatory systems.

BioC 5333. Molecular Mechanisms of Gene Action. (4 cr; prereq 5332 or #) Mechanisms of gene action. Structure and function of nucleic acids and regulatory process involved in gene expression from a biochemical point of view.

BioC 5352. Applied Microbial Biochemistry. (4 cr, §MicB 5352; prereq 3021 or 5331 or MicB 5321, intro microbiology course or #) Biochemistry of microorganisms and enzymes of industrial interest. Overview of heterologous peptide overproduction by microorganisms and yeasts; polymer, antibiotic, organic acid, and amino acid production; genetics of industrially useful microorganisms; biological systems useful for biotransformation and environmental remediation; introduction to fermentation technology.

BioC 5401. Metabolism and Its Regulation. (3 cr; prereq 3021 or 5331) Principles determining metabolism of both common and unusual compounds in plants, animals, and microbes. Regulation of carbon and energy flow in whole organisms.

BioC 5418. Topics in Molecular Immunology. (4 cr; prereq MicB 5218) Molecular interactions occurring among proteins and peptides involved in immune recognition.

BioC 5525. Physical Biochemistry: Solution Structure and Interactions of Biological Macromolecules. (4 cr, §Chem 5525, §MdBc 5525; prereq 2 qtrs physical chem, 5331 or equiv)

Physical chemistry of equilibrium, transport and scattering phenomena in solution, with application to proteins and nucleic acids. Intermolecular forces, macromolecular dynamics, conformational transitions, binding thermodynamics; methods for determining biopolymer size and shape, including sedimentation, diffusion, viscosity, electrophoresis, and scattering.

BioC 5526. Physical Biochemistry: Spectroscopic Methods I. (4 cr, §Chem 5526, §MdBc 5526; prereq 2 qtrs physical chem)
Fundamental spectroscopic principles with emphasis on development of magnetic resonance theory used in the study of biological macromolecules.

BioC 5527. Physical Biochemistry: Spectroscopic Methods II. (4 cr, §Chem 5527, §MdBc 5527; prereq 2 qtrs physical chem, BioC/MdBc 5526)
Applications of optical and magnetic resonance techniques to the study of structure and dynamics in proteins, lipids, nucleic acids, and synthetic analogs.

BioC 5528. Physical Biochemistry: Enzyme Kinetics. (4 cr, §Chem 5528, §MdBc 5528; prereq 2 qtrs physical chem, 5331 or BioC/MdBc 8001 or equiv)
Theory and application of steady state and transient kinetics to the study of enzymes, enzyme systems, and cellular regulation.

BioC 5529. Protein Structure and Folding. (4 cr, §Chem 5529, §MdBc 5529; prereq 5331 or equiv, 1 qtr physical chem or #)
Protein structure, stability, folding, and molecular modeling. Emphasis on results from X-ray crystallography, solution thermodynamics, NMR, computer graphics, and protein engineering.

BioC 5950. Special Topics. (1-5 cr; prereq #, Δ)

BioC 5970. Directed Studies. (Cr ar; prereq #, Δ; S-N only; max of 10 cr of 5970 or 5990 may count toward major requirements)
Individual study of selected topics or problems with emphasis on selected readings and use of scientific literature.

BioC 5990. Directed Research. (Cr ar; prereq #, Δ; S-N only; max of 10 cr of 5970 or 5990 may count toward major requirements)
Lab or field investigation of selected areas of research.

College of Biological Sciences

The basic sciences, which are administratively housed in the College of Biological Sciences (CBS), also are part of the College of Liberal Arts; any CBS course listed in this bulletin can be applied toward CLA degrees. Descriptions of

courses offered by CBS also may be found in the bulletin of that college. Information about requirements for entering CBS can be found on page 286.

Biology (Biol)

College of Biological Sciences

Staff—Dean, Robert P. Elde, Assistant Dean, Kathryn Hanna, 123 Snyder Hall; Director of Student Services, Kathleen Peterson, 223 Snyder Hall

Biologists are concerned with the fundamental properties of living things, from the interactions of molecules unique to life through the maintenance and integration of organisms to the interactions of populations with the environment over time.

CBS offers a program leading to the bachelor of arts (B.A.) degree in CLA and one leading to the bachelor of science (B.S.) degree in CBS. Information about the B.S. program may be found in the *College of Biological Sciences Bulletin*. Students interested in satisfying requirements for admission to programs in the health sciences will find that a biology major provides an excellent way to do so. Consult an adviser in the CBS Office of Student Services (612/624-9717) for more information.

Students interested in biology should also check for courses listed under Biochemistry (BioC); Ecology, Evolution, and Behavior (EEB); Genetics and Cell Biology (GCB); Microbiology (MicB); and Plant Biology (PBio).

General Education—Courses especially appropriate for nonscience and nonbiology majors include BioC 1401; Biol 1009, 1101, 1103, 1106, 1806, 1201, 1051, 3051, 3112; PBio 1009, 1012; EEB 1019, 3001, 3006, 3111; GCB 3002, 3008, 3022.

B.A. Major Sequence

Students must arrange an appointment with an adviser in the CBS Office of Student Services (612/624-9717, 223 Snyder Hall, St. Paul campus) to declare a major in biology.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ‡—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means “and” / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Required Preparatory Courses—Biol 1009 or 1201, 1202, or exemption examination; Chem 1051-1052; Math 1251-1252 (grades of C or better required in preparatory courses)

Required Major Courses—

1. Math 1261; a two-qttr statistics sequence (Stat 3011-3012 or Stat 5021) with grades of C or above may be substituted for Math 1261.
2. Chem 3301, 3302, 3305, 3306
3. Phys 1104-1105-1106 with 1107-1108-1109 or Phys 1251, 1252, 1253 (1254 optional); a two-qttr sequence in physics (Phys 1041-1045, Phys 1042-1046) plus a 4- or 5-cr course in mathematics, statistics, computer science, or physical science may be substituted by petition with approval of the major adviser and the CBS Scholastics Committee. Petitions for substitution should be submitted to 223 Snyder Hall, St. Paul campus.
4. Students who take Biol 1009 must also complete 3011, 3012/3812 and 5013. Students who start with 1201-1202 must also take 3011, 3012/3812 and 5013, or they may choose to take 1203 and one organismal course (3011, 3012/3812 or 5013); all majors must also take BioC 3021 and Biol 5003, 5004, and 3008 (5041/5841).
5. 9 additional 3xxx-5xxx cr in biological science, including:

a. Two courses involving lab or field work in biological sciences selected from the following list:

Biol 5125

BioC 5025, 5990 (4 cr minimum*)

EEB 5014, 5016, 5129, 5134, 5157, 5607, 5621, 5990 (4 cr minimum*)

GCB 5015, 5030, 5605, 5990 (4 cr minimum*)

MicB 5234, 5322, 5425, 5990 (4 cr minimum*)

PBio 3109, 3201, 5103, 5105, 5107, 5111, 5132, 5231, 5990 (4 cr minimum*)

All courses offered at the Lake Itasca Forestry and Biological Station are acceptable.

* *An independent research project is strongly recommended for every student. To use one of the department Directed Research courses to satisfy one of the upper division lab or fieldwork requirements, students must complete a minimum of 4 credits under the 5990 course number.*

b. A major project—minimum of 4 cr in 5970 or 5990 taken in the biochemistry; ecology, evolution, and behavior; genetics and cell biology; microbiology; or plant

biology departments. A maximum of 4 cr of 5970 or 5990 may be used toward the major.

(Courses from any of the following areas can be applied toward the major: biochemistry; biology; ecology, evolution, and behavior; genetics and cell biology; microbiology; and plant biology.)

Composition—one of the following courses is recommended to fulfill the upper division composition requirement: Comp 3015, Comp 3027, Comp 3033, Rhet 3562.

Minor Sequence

Minor Requirements—Biol 1009 or 1201-1202-1203 plus a minimum of 15 3xxx-5xxx cr chosen from courses carrying the following designators: BioC, Biol, EEB, GCB, MicB, PBio, Phsl

One course about animals (Biol 1106/1806 or 3011) and one course about plants (Biol 1103 or 3012/3812)

The minor program must be approved in the CBS Office of Student Services, 223 Snyder Hall (612/624-9717).

Biol 1009. General Biology. (5 cr; for majors that require a comprehensive survey of biol in a single qttr; high school chem strongly recommended; pre-biol majors see Biol 1201-2-3; non-science majors see 1201) Principles of biology. The cell, metabolism, heredity, reproduction, ecology, and evolution. Lab.

Biol 1009H. General Biology. (5 cr; prereq honors div or 3-4 yrs high school math, high school chem or Δ) For description, see 1009. For honors students or their equivalent who plan to major in a life science discipline.

Biol 1051. Environmental Studies. (4 cr, §3051, §ES 1051)

Principles of ecology and current environmental issues including air and water pollution, human population growth, toxic and hazardous wastes, urbanization, land use, biological diversity, energy, environmental health, conservation history, attitudes towards nature, environmental politics, and ethics. Meets environmental theme for liberal education curriculum.

Biol 1101. Heredity and Human Society. (4 cr, §5003, §GCB 3002; for students in programs not directly related to biological sciences) Principles of heredity and their social and cultural implications.

Biol 1103. General Botany. (5 cr, §3012, §3812; prereq 1009 or 1202; students who plan to major in Biol in CLA or any bio sci major in CBS should take 3012 or 3812) Organization levels of plants; plant function, growth and development, reproduction. Lab.

Biol 1106. General Zoology. (5 cr, §1806; prereq 1009 or 1202)

Survey of animal phyla; structure, function, behavior, adaptation, and evolutionary relationships. Lab includes dissections.

Biol 1201. Evolutionary and Ecological Perspectives. (5 cr; for non-biol major to meet the biol liberal ed req; also for pre-biol major in prep for 1202-1203. No chem background required) Origins and foundations of modern evolutionary thought, putting evolutionary theory to work; evolution and ecology. Lab. Can be taken as a single course or as the first in the Biol 1201-1202-1203 sequence.

Biol 1202. Molecular and Cellular Perspectives. (5 cr, §1009; prereq 1201, Chem 1051 or equiv) Chemistry of living things, cell structure and transport, energy processing in cells, introduction to primary metabolism, molecular genetics, cell physiology, and regulation of development. Lab. To be taken as the second course in the Biol 1201-1202-1203 sequence.

Biol 1203. Organismal Adaptation and Diversity. (5 cr, §1103 and §1106 and §1806; prereq 1201, Chem 1051 or equiv or #) How plants, animals, and microbes have adapted to similar environmental challenges, commonalities in these adaptations, and evolutionary diversity of organisms. Lab includes dissections.

Biol 1941. Preparation for Graduate Programs in Biology. (1 cr; prereq #: S-N only) Study habits, time and money management, course participation, personal sacrifices.

Biol 1951, 1952, 1953. Biology Colloquium. (1 cr ea; S-N only) Diversity of biology through seminars, lab tours, undergraduate research, trips to Itasca Biological Station, and interaction with other biology students and faculty.

Biol 1960. Biology Colloquium Project. (1 cr; prereq 1951 or 1952 or 1953 or ¶1951 or ¶1952, or ¶1953, #: S-N only) Individual project or research undertaken by a student concurrently enrolled in Biol 1951, 1952, or 1953, supervised by a faculty sponsor.

Biol 1961. Careers in Biology. (1 cr; prereq 1951 or 1952 or 1953; S-N only) Exploration of career options in biological sciences. Introduction to career life planning techniques and decision-making skills. Interest, aptitude, and skills assessment. Preparation for an internship experience.

Biol 3003. Introduction to Computing in Biology. (2 cr; prereq 1009 or 1202 or equiv, declared bio sci major; S-N only) Hands-on use of microcomputers to introduce students in biology to how computers can help them manipulate data, prepare graphs and graphics, perform literature searches, prepare posters and reports, and communicate with others through the use of the computer network.

Biol 3008. Ecology and Evolution. (4 cr, §5841; prereq 1009 or 1201, Math 1142 or Math 1251) Growth, structure, adaptation, and evolution of populations. Dynamics and evolution of biotic interactions and their effects on diversity and structure of natural communities. Function and stability of ecosystems.

Biol 3011. Animal Biology. (5 cr, §1106, §1806; prereq 1009 or 1202, Chem 1052) Comparison of ways different phyla have solved similar physiological problems. Lab includes survey of major animal groups and physiological experiments, including dissections.

Biol 3012. Plant Biology. (5 cr, §1103, §3812; prereq 1009 or 1202, Chem 1052) Plant diversity and evolution; structure and function of the plant cell and the whole organism; growth and development of plants. Lab.

Biol 3051. Environmental Studies. (4 cr; §1051, §ES 1051; bioscience students may not apply these credits toward the major) Principles of ecology and current environmental issues including air and water pollution, human population growth, toxic and hazardous wastes, urbanization, land use, biological diversity, energy, environmental health, conservation history, attitudes towards nature, environmental politics, and ethics. Meets environmental theme for liberal education curriculum.

Biol 3111. Animal Biology. (4 cr, §3011; prereq 1106 or 1806, Chem 1052) Lecture covering the comparative physiology of animal groups; coordination, movement, support, excretion, reproduction.

Biol 3112. Biological Rhythms and Timing Mechanisms. (4 cr, §5112; prereq 1009 or 1202 or #) Timing mechanisms and rhythms of organisms in physiological processes, ecological adaptation, and health; current hypotheses concerning their cellular and molecular nature. Individual projects.

Biol 3950H. Undergraduate Seminar. (2 cr per qtr; S-N only) Each quarter different members of the faculty lead discussions on topics of current interest.

Biol 3960H. Honors Seminar. (1 cr per qtr; prereq Δ; limited to participants in the CBS Honors Program; S-N only) Oral reports on topics of current interest to biologists; progress reports on lab and field research by participants.

Biol 3980. Directed Instruction. (1-3 cr per qtr; up to 8 cr may apply toward major; prereq #: S-N only) Leadership opportunities for upper division students wishing to assist with the Biology Colloquium.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Biol 5003. Genetics. (4 cr, §GCB 3022, §GCB 5022; prereq 5001 or BioC 3021 or BioC 5331)
Introduction to the nature of genetic information, its transmission from parents to offspring, its expression in cells and organisms, and its course in populations.

Biol 5004. Cell Biology. (4 cr; prereq 5001 or BioC 3021 or BioC 5331, Biol 5003 or BioC 5333)
Structures and functions of membranes, organelles, and other macromolecular aggregates found in plant, animal, and bacterial cells. Cell form and movement, intercellular communication, transport, and secretion.

Biol 5013. Microbiology. (5 cr, §MicB 3103, §MicB 5105, §VPB 3103; prereq 5001 or BioC 3021 or BioC 5331)
Taxonomy, anatomy, physiology, biochemistry, and ecology of microbes. Emphasis on molecular structure in relation to bacterial function. Lab.

Biol 5125. Recombinant DNA Laboratory. (4 cr, §5825, §MicB 5125, § MicB 5425; prereq Δ; application necessary)
Basic recombinant DNA techniques. Emphasis on methods for growing, isolating, and purifying recombinant DNAs and cloning vectors.

Biol 5150. Introduction to Neuroscience. (3 cr, §NSc 5150, §Phsl 5150; prereq 3011 or equiv or Phsl 3055-3056, BioC 3021 or equiv or #)
Survey of neuroscience from invertebrates to humans. Ion channels and membrane currents, neurotransmitters and signal transduction, neuroanatomy, sensory and motor systems, learning and memory, emotion, disease states, neural networks, development.

Biol 5950. Special Topics in Biology. (1-5 cr per qtr; prereq Δ)

Biol 5951. Social Uses of Biology. (3 cr; prereq 10 cr sciences; S-N only)
Influence of biological science on the quality of human life; agriculture, medicine, occupational health, environmental science, and theories of human nature. Responsibilities and roles of biologists in policy formulation in the scientific and political world.

Courses Offered at Lake Itasca Forestry and Biological Station

See also *Summer Session Bulletin*.

Biol 1806. Zoology. (5 cr, §1106; prereq 1009 or 1202, Δ)
Survey of animal phyla; structure, function, behavior, adaptation and evolutionary relationships. Lab includes dissections.

Biol 3812. Plant Biology. (5 cr, §1103, §3012; prereq 1009 or 1202, Chem 1052, Δ)
Plant diversity and evolution; structure and function of plant cell and of the whole organism; growth and development of plants. Field trips.

Biol 5816. Field Biology Photography. (5 cr; prereq course in beginning biol, Δ; A-F only)
Field photography techniques for documentation of insects, vertebrates, aquatic organisms, and habitats of the Itasca area. Emphasis on general photographic principles and applied advanced techniques using flash, reversed lenses, infrared photoelectric tripping devices. On-site processing of color slides and black- and-white films. No previous processing experience needed.

Biol 5825. Recombinant DNA Laboratory. (3 cr; §5125, §MicB 5125, §MicB 5425; prereq Δ, application necessary)
Basic recombinant DNA techniques. Methods for growing, isolating, and purifying recombinant DNAs and cloning vectors.

Biol 5841. Ecology. (5 cr, §5041; prereq 1103 or 1106 or 1806 or 3011 or 3012 or 3812, Math 1142 or 1251, Δ)
Growth, structure, and evolution of populations. Pairwise biotic interactions between species and their effect on the diversity and structure of natural communities. Nutrient dynamics, function, productivity, and temporal stability of ecosystems. Field work at Itasca station.

Biol 5850. Special Topics in Biology. (1-10 cr per qtr; prereq Δ)

Biol 5890. Research Problems at Itasca in Ecology, Evolution, Behavior, Entomology, Fisheries, Wildlife, Plant Pathology, Soil Science, or Zoology. (Cr ar; prereq #, Δ)
Courses Offered in Denmark Through the Danish International Study Program (DIS)

Biol 3991. Marine Biology of European Coastal Waters. (4.5 cr; prereq 1 yr college biol incl lab, 1 college chem course, Δ)

Marine biology using Baltic and North Seas as focus for study. Biology of coastal waters, interactions between organisms and their environment, methods used by marine researchers to investigate biological systems. Students conduct simple experiments during field trips. Given in Copenhagen area, with study tour in northern and western Denmark.

Biol 3992. Biological Oceanography. (4.5 cr; prereq 1 yr college biol incl lab, 1 college chem course, Δ)
Interaction among biology, physics, and chemistry in the ocean, with special reference to unique characteristics of North and Baltic Seas. Effect of light, temperature, salinity, density, pressure, and limiting chemical constituents on marine biological systems. Problems in fisheries management. Given in Denmark.

Biol 3993. Marine Biological Science Project. (9 cr; prereq 3991, 3992 or equiv, 1 yr college biol incl lab, 1 college chem course, Δ)
Research project with practical field components. Students use scientific libraries of various research institutions, engage in discussions and seminars with leading Danish and German scientists, and conduct experiments on research ship and at Marine Biological Laboratory. Given in Denmark.

Biol 3994. Ecology and Human Impact in the North and Baltic Seas. (4.5 cr; prereq 1 yr college biol incl lab, 1 college chem course, Δ) Ecosystems of North and Baltic Seas and how natural and human activities threaten their integrity. Given in Copenhagen area, with study tour in northern and western Denmark.

Biol 3995. Marine Vertebrate Biology. (4.5 cr; prereq 1 yr college biol, Δ) Ecology and physiology of marine fish, birds, and mammals. Factors controlling vertebrate distribution and abundance. Role of vertebrates in marine ecosystems. Ecological impact of habitat alteration, pollution, fishing, and hunting, with emphasis on North and Baltic Seas. Given in Denmark.

Biostatistics (PubH)

Biostatistics no longer has an undergraduate major. Students are advised to consider statistics as an alternative. For information about the Biostatistics Graduate Program, contact Dr. Louis or Dr. Le. For a listing of biostatistics courses, consult the *School of Public Health Bulletin*.

Broadcasting

Students interested in broadcasting may wish to pursue a major in either journalism or speech-communication.

Cell Biology

See Genetics and Cell Biology.

Chemistry (Chem)

Institute of Technology

Staff—Chair, W. Ronald Gentry, 139 Smith Hall; *Academic Vice Chair*, Wilmer G. Miller

Professors: Barany, Barbara, Britton, Carr, Dahler, Davis, Ellis, Evans, Gentry, Gladfelter, Gray, Hoye, Lipsky, Liu, Lodge, Mann, L. Miller, W. Miller, Moscovitz, Noland, Pignolet, Que, Raftery, Stankovich, Swofford, Truhlar

Associate Professors: Cramer, Kass, D. Leopold, K. Leopold, Roberts, Tolman

Assistant Professors: Distefano, Forsyth, Munson, Musier-Forsyth, O'Doherty, Siepmann, Stein, Sun

Adjunct Faculty—Associate Professors: Heilman, Krepski, Rasmussen

Chemistry probes the fundamental concepts of nature and helps us understand the world around us. Chemistry deals with matter—what substances are made of, their properties, and how they are transformed into new substances. Chemistry is central to research in areas such as superconductivity, biotechnology, high-tech polymers, drugs, energy, pollution, and new materials for electronics and catalysis.

The chemistry curriculum, which includes courses in chemistry, physics, and mathematics, covers the background necessary for a successful career in this field.

A special course program is recommended for bioscience chemistry majors. This program includes a number of substitutions, the appropriate biology and biochemistry courses, and a reduction in some of the normally required chemistry courses. It is also possible to obtain degrees in both chemistry and chemical engineering in the same time normally required for one of the degrees. This double major requires careful course planning and should be discussed as early as possible with a chemistry adviser. All chemistry majors are advised by faculty and staff in the chemistry advising office. Students submit one-year degree program plans in consultation with an adviser.

Special Opportunities—The chemistry department offers opportunities for undergraduate research with many of its outstanding faculty. Professional activities are available through membership in the Student Affiliate Program of the American Chemical Society. In addition, the department offers a number of scholarships and awards for outstanding chemistry majors. Information on these opportunities may be obtained from the chemistry advising office.

Transfer Students—It is recommended that prospective transfer students contact the advising office concerning the proposed transfer of courses before planning a curriculum. This can be done in writing, during a visit, or over the phone: Chemistry Undergraduate Advising, 135 Smith Hall, 207 Pleasant Street S.E., Minneapolis, MN 55455 (612/624-8008).

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ‡—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

For Students Taking Beginning Courses—

All course offerings are for students who have taken high school chemistry. Completion of at least one course in high school chemistry is a *prerequisite* for Chem 1001 or 1051. High school chemistry is recommended preparation for all other courses; students who lack this background will be at a serious disadvantage.

All students taking Chem 1001 or 1051 are required to take the chemistry placement examination. For more information, contact General Chemistry, 115 Smith Hall, 207 Pleasant Street S.E., Minneapolis, MN 55455 (612/624-0026).

High School Chemistry—All course offerings are intended for students who have taken high school chemistry. Completion of at least one course in high school chemistry is a *prerequisite* for Chem 1001 and 1051. All students taking Chem 1051 are required to take the chemistry placement examination. For more information, contact General Chemistry, 115 Smith Hall, 207 Pleasant Street S.E., Minneapolis, MN 55455 (612/624-0026).

B.A. Major Sequence

Required Preparatory Courses—

Chem 1051-1052; Math 1251-1252-1261;
Phys 1251-1252-1253

Major Requirements—Chem 3301, 3302, 3305, 3306, 3701, 5130, 5131, 5501 or 5534, 5502 or 5533 or 5535, advanced chemistry lecture elective (1 qtr),^a advanced chemistry laboratory electives (2 qtr),^b Math 3251, advanced technical electives, lecture (2 qtr),^c Major project: 2 cr minimum research project (Chem 3970 or 5970)

a Selected from Chem 3303 and any non-required 5xxx-level chemistry course

b Selected from Chem 3336, 5140, 5540, and 5740

c Selected from 3xxx- and higher-level courses in Chem, Biol, BioC, GCB, ChEn, MatS, Math, Phys, PubH, and Stat

B.A. Minor Sequence

Minor Requirements—The minor consists of 3xxx-5xxx courses totaling 21 credits. Chem 3301, 3302, and 3305 (Organic Chemistry) are required. The remaining credit requirements can be satisfied by lecture or laboratory courses in chemistry. Not more than 20 percent of the total 3xxx-5xxx credits in the minor program may be taken S-N. Grades of C or better are required in the minor program courses. At least 5 credits (two courses) must be completed at the University of Minnesota, Twin Cities.

Chem 1001. General Principles of Chemistry. (4 cr, §1003, §1008; for students not passing chem placement exam; prereq high school chem or equiv, 2 yrs high school mathematics required; 4 yrs recommended, high school physics recommended; 3 lect, 1 lab conf, one 3-hr lab per wk)
Chemistry, matter and energy, atoms, molecules, chemical bonding, mole and chemical calculations, gases, liquids, solids, chemical reactions, acids, bases, and equilibrium.

Chem 1002. Elementary Organic Chemistry. (4 cr, §3301, §3302; prereq 1001 or passing placement exam; primarily for nursing and forestry students; all IT students excluded without special permission; terminal course; 3 lect, 1 lab conf, one 3-hr lab per wk)
Short introduction to organic chemistry; emphasis on biological systems.

Chem 1003. Physical World, Chemistry. (5 cr, §1001-1002, §1008, all IT students excl; prereq 1 yr high school algebra; high school chem recommended; a terminal course—cannot be used as prereq for any other advanced chem course; 4 lect, 1 rec, one 2-hr lab per wk [a similar course, but without lab, is offered as 1008])
Fundamental concepts of chemical bonding, structure of matter, and forces in the physical world. Scientific methods and principles that contribute to understanding the environment and problems faced in improving it. Labs to illustrate.

Chem 1008. Physical World, Chemistry. (4 cr, §any other college chem courses; prereq 1 yr high school algebra; high school chem recommended; a terminal course—cannot be used as prereq for any other chem course)
Fundamental concepts of chemical bonding, structure of matter, and forces on the physical world. Scientific methods and principles that contribute to understanding the environment and problems faced in improving it.

Chem 1051-1052. Chemical Principles I-II. (4 cr per qtr; prereq 1001 or passing placement exam; primarily for students majoring in science or engineering; 3 lect, 1 lab discussion, one 3-hr lab per wk)
Atomic theory, periodic properties of elements, chemical thermodynamics, development of structural concepts, geometry of molecules, bonding theory, behavior of gaseous and liquid states, solid state and materials, chemistry, dynamics, equilibrium, behavior of solutions, acids and bases, descriptive chemistry of elements and compounds; applications to environmental problems.

Chem 1051H-1052H. Honors Chemical Principles I-II. (4 cr per qtr; prereq selection for IT Honors curriculum or consent of IT Honors Office, 1001 or passing placement exam; 3 lect, 1 lab conf, one 3-hr lab per wk)
For description see Chem 1051-1052.

Chem 3100. Quantitative Analysis Lecture. (3 cr, for non-chemistry majors; prereq 1052; 3 lect per wk)
Introduction to the theory of quantitative chemical analysis.

Chem 3101. Quantitative Analysis Laboratory. (2 cr; prereq 3100 or §13100; two 4 hr labs per wk)
Introductory laboratory in quantitative chemical analysis.

Chem 3301. Organic Chemistry I. (4 cr, prereq 1052 or equiv; 4 lect per wk)

Important classes of organic compounds, their constitutions, configurations, and conformations; relationship between molecular structure and chemical reactivity.

Chem 3302. Organic Chemistry II. (4 cr; prereq 3301, 3305 or ¶13305; 4 lect per wk)

Reactions of organic compounds, nucleophilic substitution and addition; electrophilic substitution and addition; elimination reactions; molecular arrangements; oxidation and reduction.

Chem 3303. Organic Chemistry III. (4 cr; prereq 3302, 3306 or ¶13306; 4 lect per wk)

Chemical reactivities and methods for the synthesis and structural characterization of biologically important classes of organic compounds such as lipids, carbohydrates, amino acids, peptides, proteins, nucleotides, nucleosides, and nucleic acids.

Chem 3305. Organic Chemistry Laboratory I. (2 cr; prereq 3301 or ¶13301; 1 lab conf, one 4 hr lab per wk)

Laboratory techniques used in the preparation, purification, and characterization of typical organic substances.

Chem 3306. Organic Chemistry Laboratory II. (2 cr; prereq 3302 or ¶13302, 3305; 1 lab conf, one 4 hr lab per wk)

Continuation of Chem 3305.

Chem 3335H-3336H†. Honors Organic Chemistry Laboratory. (5 cr for sequence, §3305, 3306, 3336; prereq 3301 or ¶13301, #; Chem, ChemE, BioC majors only; A-F only)

Honors organic chemistry laboratory to take the place of 3305, 3306, and 3336.

Chem 3336. Organic Chemistry Laboratory III. (3 cr; prereq 3302, 3306; 1 lect, two 4-hr labs per wk; A-F only)

Emphasis on instrumentation routinely used in support of experimental work in organic chemistry.

Chem 3701 (formerly 5731). Introduction to Inorganic Chemistry. (4 cr; prereq 3302 or ¶13302; 4 lect)

Introduction to inorganic chemistry. Periodic trends. Structure and bonding concepts in compounds where *s* and *p* electrons are important. Descriptive chemistry of solids and transition metal compounds.

Chem 3970. Directed Studies. (Cr ar; prereq #) On- or off-campus learning experiences, individually arranged before student and chemistry faculty member, in areas not covered by regular courses.

Chem 3991, 3992, 3993. Special Topics in Chemistry. (1 cr; prereq 1 qtr 1xxx chem or #; S-N only, 1 lect per wk)

Topics in chemistry: opportunities and current research.

Chem 5122. Advanced Analytical Chemistry. (4 cr; prereq 3302, 5501 or 5534, 3 lect per wk) Equilibria in aqueous and nonaqueous systems.

Chem 5126. Modern Analytical Chemistry. (4 cr; prereq 3302, 3306; Chem Eng majors only; two 1½ hr lect, one 4 hr lab per wk)

Strategies and techniques for solving modern analytical problems. Use of modern instruments in analysis.

Chem 5127. Analog Instrumentation. (5 cr; prereq Chem major or grad, Phys 1253, Math 3251 or equiv or #; three 1½ hr lect, one 3 hr lab per wk)

Basic principles of electronic circuitry; servo systems, operational amplifiers, feedback control, oscillators, and converters for signal processing and control of chemical measurement systems.

Chem 5130. Analytical Chemistry. (3 cr; prereq 3302, 3306; 3 lect per wk)

Primarily for chemistry majors. Methods and concepts of measurement by chemical and instrumental analysis, including titrimetry, quantitative spectrophotometric analysis, chromatographic separations, and equilibrium and rate methods emphasizing applications to organic and biochemical systems.

Chem 5131. Analytical Chemistry Laboratory. (2 cr; prereq 5130 or ¶15130; two lab lect, two 3 hr labs per wk)

Lab for 5130. High precision methods, acidimetry and complexometry, single and multicomponent analysis by spectrophotometry, analysis of mixtures by ion exchange and gas chromatography, enzymatic and rate methods.

Chem 5133. Chemical Instrumentation and Analysis Lecture. (3 cr; prereq 5130, 5131, 5501 or 5534; 3 lect per wk)

Introduction to the methodology and practices for solving analytical problems. Application of modern instrumental techniques.

Chem 5139. Chromatography and Separation Science. (3 cr; prereq Chem major or grad, 5133, 5140 or equiv or #)

Fundamental and practical aspects of gas liquid chromatography, modern liquid chromatography, electrophoresis, and other techniques used for analysis and separations.

Chem 5140. Chemical Instrumentation and Analysis Laboratory. (3 cr; prereq 5133, Chem majors only; 1 rec, two 4 hr labs per wk)

Instrumental techniques including spectroscopic methods and analysis, electrochemical methods of analysis, and analyses based on separation. Emphasis on using computers in data collection and reduction.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Chem 5302. Interpretation of Organic Spectra. (4 cr, §8302; prereq 3303 or equiv; 4 lect per wk)
Practical application of nuclear magnetic resonance, mass, and ultraviolet and infrared spectral analysis to solution of organic structural problems.

Chem 5311. Organic Synthesis I. (4 cr, §8311; prereq 3303 or equiv or #: 3 lect per wk)
Core course in organic synthesis which introduces fundamental concepts, reactions, reagents, structural and stereochemical issues, and mechanistic skills necessary for the understanding of organic chemistry.

Chem 5312. Organic Synthesis II. (4 cr, §8312; prereq 5311 or #: 3 lect per wk)
Advanced course in organic synthesis. Depending upon instructor and year, course will emphasize topics like complex carbon skeleton synthesis, asymmetric synthesis, and/or modern studies in organic chemistry.

Chem 5331. Advanced Organic Chemistry I. (4 cr, §8331; prereq 3303 and #)
Advanced course in organic chemistry. Depending upon year and instructor, course will emphasize heterocyclic chemistry, natural products chemistry, organic electrochemistry, synthetic applications of organometallic chemistry, solid-state chemistry, polymer chemistry and/or stereochemistry.

Chem 5332. Advanced Organic Chemistry II. (4 cr; prereq 3303, #)
Advanced course in organic chemistry. Depending on year and instructor, course will emphasize heterocyclic chemistry, natural products chemistry, organic electrochemistry, synthetic applications of organometallic chemistry, solid-state chemistry, polymer chemistry and/or stereochemistry.

Chem 5501 (formerly 5520). Introduction to Thermodynamics and Kinetics. (4 cr, §5534; prereq 1052, Math 3251 or equiv, Phys 1253 or ¶Phys 1253 or Phys 1106; 4 lect per wk)
Basic thermodynamics with applications to chemical and biological systems. Development of the concepts (enthalpy, entropy, Gibbs free energy, chemical potential) needed to understand the equilibrium properties of bulk matter and its physical and chemical changes. Brief introduction to chemical kinetics.

Chem 5502 (formerly 5521). Introduction to Quantum Theory and Spectroscopy. (4 cr; prereq 1052, Math 3251, Phys 1253 or Phys 1106; 4 lect per wk)
Introduction to quantum theory, and the electronic structures of atoms and molecules. Emphasis on their application to understanding spectroscopic techniques widely used by chemists and biochemists, including vibrations (IR, Raman), electronic (UV/vis, photoelectron) and spin (NMR, ESR) spectroscopies.

Chem 5526. Physical Biochemistry: Spectroscopic Methods I. (4 cr, §BioC/MdBc 5526; prereq 2 qtrs physical chem)
Lectures on fundamental spectroscopic principles. Emphasis on development of magnetic resonance theory used in study of biological macromolecules.

Chem 5527. Physical Biochemistry: Spectroscopic Methods II. (4 cr, §BioC/MdBc 5527; prereq 2 qtrs physical chemistry; two 1½ hr lect per wk)
Application of optical and magnetic resonance techniques to study of structure and dynamics in proteins, lipids, nucleic acids, and synthetic analogs.

Chem 5528. Physical Biochemistry: Enzyme Kinetics. (4 cr, §BioC/MdBc 5528; prereq 2 qtrs physical chemistry, BioC 5331 or BioC/MdBc 8001 or equiv desirable; two 1½ hr lect per wk)
Theory and application of steady-state and transient kinetics to the study of enzymes, enzyme systems, and cellular regulations.

Chem 5529. Protein Structure and Folding. (4 cr, §BioC/MdBc 5529; prereq BioC 5331 or equiv, 1 qtr physical chemistry or #: two 1½ hr lect per wk)
Advanced course on protein structure, stability, folding, and molecular modeling. Emphasis on results from X-ray crystallography, solution thermodynamics, NMR, computer graphics, and protein engineering.

Chem 5533. Quantum Chemistry. (4 cr; prereq 1052, Math 3252 or ¶Math 3252, or Math 3261 or ¶Math 3261, Phys 1253 or ¶Phys 1253; 4 lect per wk)
Principles of quantum mechanics; applications to atomic and molecular structure and to spectroscopy.

Chem 5534. Chemical Thermodynamics. (4 cr; §5501; prereq upper div IT or CLA Chem major or Δ, 1052, Math 3251, Phys 1106 with # or Phys 1253 or ¶Phys 1253; 4 lect per wk)
Principles of thermodynamics; application to chemical systems.

Chem 5535. Statistical Mechanics and Reaction Kinetics. (4 cr; prereq 5501 or 5534; 4 lect per wk)
Statistical thermodynamics and the kinetic theory of gases; application to reaction rate theory. Phenomenological kinetics and experimental methods. Continuation of 5534.

Chem 5538. Physical Chemistry Laboratory. (1 cr; prereq 5501 or 5535 or ¶5535; not open to Chem majors; one 3-hr lab per wk)
Experiments in thermodynamics and reaction kinetics.

Chem 5540. Physical Chemistry Laboratory. (3 cr; prereq 5502 or 5533, Chem majors only; 1 rec, on 4-hr lab per wk)
Laboratory experiments illustrating principles and methods of thermodynamics, reaction kinetics, and quantum mechanics.

Chem 5610. Polymer Science. (3 cr; §MatS 5610; prereq upper div, 3301; 3 lect per wk)
Polymer synthesis and physical chemistry: polymerization kinetics and reactors, molecular weight distribution, network formation, macromolecules in solution and their characterization, the glassy and crystalline state, rubber elasticity, flow and viscoelasticity, environmental degradation.

Chem 5702. (formerly 5732) Intermediate Inorganic Chemistry. (4 cr; prereq 3701, 5501 or ¶5501 or 5534 or ¶5534; 4 lect per wk)
Emphasis on transition metal chemistry. Advanced topics in main groups and materials chemistry.

Chem 5740. Inorganic Chemistry Laboratory. (3 cr; prereq 5702 or 15702, Chem majors only; 1 lect, two 4-hr labs per wk)

Lab experiments in inorganic and organometallic chemistry illustrating synthetic and spectroscopic techniques.

Chem 5803. The Chemistry of Industry. (4 cr; prereq Chem sr or grad or #: 3 lect per wk)

Industry and polymer chemistry technology on which industry is based. Relationship of basic properties to industrial utility. Strong emphasis on economics, social problems, and the industrial environment.

Chem 5970. Directed Study. (Cr ar; prereq any 5xxx Chem course, #)

On- or off-campus learning experiences, individually arranged between student and chemistry faculty member, in areas not covered by regular courses.

Chem 5991, 5992, 5993. Selected Topics in Chemistry. (Cr ar; prereq sr, Δ)

Topics of current interest. Consult department for details for a particular quarter.

Chicano Studies (Chic)

Staff—*Chair*, Guillermo Rojas, 102 Scott Hall

Associate Professor: Valdés

The department offers an interdisciplinary program leading to a major and minor in Chicano Studies. Courses are for students interested in the social, historical, and cultural experience of the Mexican population in the United States. The core courses introduce the student to historical and literary methodologies while exploring the germinal texts that portray the history of the Southwest from 1598 to the present. The Chicano Studies Program allows for flexibility in pursuing related work in Latin American Studies, Women's Studies, and Spanish. Students are encouraged to develop interests in other disciplines in order to seek double majors.

Study Abroad—Study in a Spanish-speaking country can help improve language skills and deepen understanding of Hispanic culture in the United States. The Chicano Studies department actively encourages students to include a study abroad experience as an integral part of their undergraduate program. Approved credits can be applied toward the major or minor. A number of

relevant programs are available in Mexico, Central America, and the Spanish-speaking Caribbean. See Foreign Study.

B.A. Major Sequence

Spanish Language Proficiency—Span 1101, 1102, 1103 or proficiency oral exam required (documented 3 years of high school Spanish) or departmental translation exam.

Major Requirements—48 cr from the following 3105, 3106, 3107, 3115, 3212, 3213, 3330, 3375, 3427, 3428, 3441, 3442, 3507, 3508, 3510, 3511, 3712, 3970, 5901, 5920. These must include at least 8 credits from 3105, 3106, 3107. May include up to 8 credits of electives from other departments, with adviser approval.

Major project: 5970—Research Project (1-3 cr)

Minor Sequence

Required Preparatory Courses—Minimum of two courses from the following: Chic 3105, 3106, 3107

Minor Requirements—16 cr in 3xxx or 5xxx courses selected with approval of adviser

Chic 3105s. Introduction to Chicano Studies: The Beginnings. (4 cr)

Convergence of Europe and America in Mesoamerica and the formation of Mexican society. Literary, social, cultural, and historical perspectives. Colombian period to 1821.

Chic 3106f. Introduction to Chicano Studies: Mexico and the United States. (4 cr)

Convergence of Spanish-Mexican and Anglo-American societies in the Spanish borderlands. Literary, social, cultural, and historical perspectives, 1821 to 1960.

Chic 3107w. Introduction to Chicano Studies: The Chicano in Contemporary Society. (4 cr)

Formation of contemporary Chicano political, economic, and cultural consciousness, and the forms in which it has been expressed, 1960 to the present.

Chic 3115f. Latinos in Education. (4 cr)

Social, cultural, and professional issues encountered by the Spanish-speaking and other minorities in pursuit of opportunities in higher education.

Chic 3212s. La Chicana. (4 cr)

Women of *la raza*, their impact on literature, history, society, politics, and culture.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Chic 3213. Chicano Music and Art. (4 cr)
Musical and artistic experiences of Chicanos.

Chic 3375. Folklore of Greater Mexico. (4 cr) Rojas
Survey of scholarly materials on Hispanic folk religion, arts, crafts, foodways, and oral literature.

Chic 3427. History of Cuba and Puerto Rico. (4 cr, §Hist 3427) Valdés
Historical development of Cuba and Puerto Rico from Spanish conquest to present. Conquest and colonization, slavery, Hispanic Caribbean society and culture, Operation Bootstrap, Cuban Revolution.

Chic 3428. History of Relations Between United States and Mexico: 1821 to Present. (4 cr, §Hist 3428) Valdés
U.S.-Mexico relations in the 19th and 20th centuries.

Chic 3441. Chicano History to 1900. (4 cr, §Hist 3441) Valdés
History of Chicanos to 1900. The Spanish conquest and colonization of the borderlands. Mexican society in the early 19th century, the Mexican-American War and aftermath.

Chic 3442. Chicano History: 1900 to Present. (4 cr, §Hist 3442) Valdés
Migration, repatriation, the Bracero program, contemporary Chicano politics, work, society, and culture.

Chic 3507. Introduction to Chicano Literature. (4 cr) Rojas
History, background, readings in all genres of Chicano literature.

Chic 3508. Introduction to Chicano Literature: Text and Context. (4 cr) Rojas
Major literary works by Chicano writers in their social and historical context.

Chic 3510. Chicano Literature: Topics. (4 cr per qtr [12 cr max]; §LAS 3510; prereq 3507 or 3508 or #, some knowledge of Spanish recommended)
New dimensions in Chicano literature; prominent themes, figures, tendencies, trends.

Chic 3511. Chicano Literature: Text and Context. (4 cr)
Fiction, poetry, and theater by contemporary Chicano writers.

Chic 3712. Chicanos: Psychological Perspectives. (4 cr)
Psychological studies of Chicanos.

Chic 3970f,w,s,su. Directed Studies. (Cr ar; prereq #)
Guided individual reading or study.

Chic 5901. Chicano Studies: Theory and Methodology. (4 cr; prereq grad or sr with #)
Focus on theory and methodology of Chicano Studies scholarship in social sciences and humanities.

Chic 5920. Topics in Chicano Studies. (4 cr; prereq grad or sr, #)
Multidisciplinary themes in Chicano Studies.

Chic 5970. Directed Studies. (Cr ar; prereq #)
Guided individual reading or study.

Child Psychology (CPsy)

Institute of Child Development

Staff—*Director*, Richard A. Weinberg, 180 Child Development; *Director of Undergraduate Studies*, W. Andrew Collins, 104C Child Development; *Assistant Director of Undergraduate Studies*, Ann Mooney-McLoone; *Director of Graduate Studies*, Charles A. Nelson, 196 Child Development; *Departmental Honors Adviser*, Anne D. Pick, 170 Child Development

Professors: Collins, Egeland, Gunnar, Hartup, Maratsos, Nelson, A. Pick, H. Pick, Sroufe, Weinberg, Yonas

Associate Professors: Bauer, Masten, Sera

Lecturer: Galle, Mooney-McLoone, Murphy

Adjunct Faculty—Brookins (Social Work), Christenson (Psychology), Garnezy (Psychology), Georgieff (Pediatrics), Grotevant (Family Social Science), Hoberman (Psychiatry), Hupp (Educational Psychology), Leon (Psychology), McConnell (Educational Psychology), Muret-Wagstaff (Pediatrics), Oberg (Pediatrics), Shapiro (Neurology), Thomas (VocTech Education), Tumure (Educational Psychology), Van den Broek (Educational Psychology), Williams (Public Health)

Child psychology deals with behavioral development and maintenance from the pre-natal period to maturity in the spheres of cognition, ethology, genetics, language, learning, perception, and social behavior.

The Institute of Child Development is housed in the College of Education and Human Development. However, the child psychology B.A., B.S., and minor are CLA programs and all undergraduate child psychology courses are considered CLA courses; they count toward the CLA graduation and residency requirements. More information about child psychology majors, independent or directed study courses, and other current course offerings is available from the undergraduate advisory committee, 106 Child Development. Honors contract registration is available for most courses offered by the department with the exception of those offered S-N credit only. Qualified students should consult the Honors Program, 115 Johnston Hall.

For information about the specialized curriculum in nursery school and kindergarten education, see the *College of Education and*

Human Development Bulletin. If you are interested in studies leading to licensure for nursery school education, consult the adviser for the licensure program, 134C Child Development.

General Courses—1301, 3309, 5301, 5302, 5303, 5304, 5332 deal with general education subject matter that is often of interest to students in other concentrations.

B.A. Major Sequence

Required Preparatory Courses—1301; Psy 1001

Major Requirements—3308; Psy 3801 or equiv; 3331 or 5331, 3343, 5329

One course from 5332 or 5336; one course from 5341, 5343 or 5345; one course from 5311, 5315 or 5319

Senior project: 3960

Minimum of 12 additional cr in any 3xxx and 5xxx child psychology courses, which may include the following: 3330, 3980, 5970, 5990 (4 cr of each course may be counted toward the major)

Psychology cr may not be counted toward the 28 3xxx-5xxx cr outside the major. (Psychology-child psychology double majors are not permitted.)

B.S. Major Sequence

Required Preparatory Courses—1301; Psy 1001

Major Requirements—11-17 cr to include 3308, Psy 3801 or equiv, EPsy 5240 or 5849

12 cr from 3331 or 5331, 3343, 5329

8 cr from 3330 or 5330, 5334

4 cr from 5341, 5343, 5345

4 cr from 5332, 5336

8 cr from 5311, 5315, 5319

4 cr from senior project: 3960

12 cr from 3xxx or 5xxx CPsy courses, which may include 3980, 5970, 5990 (4 cr of each course may be counted toward the major)

22-24 cr from supporting field courses (list available from department)

Minor Sequence

Required Preparatory Courses—1301; Psy 1001

Minor Requirements—3308

One course from 3331 or 5331, 3343, 5329

8 cr from 5302, 5303, 5304, 5311, 5315, 5319, 5322, 5332, 5334, 5336, 5341, 5343, 5345, 5349

CPsy 1301f,w,s,su. Introductory Child Psychology. (4 cr, §3309, §5301; prereq 5 cr intro psy) The science of child behavior; review of theory and research.

CPsy 3308f,w,s. Research Methods in Child Psychology. (4 cr; prereq 1301; Psy 1001) Techniques used in the study of child development; emphasis on collection, organization, and analysis of data.

CPsy 3309f,w,s,su. Introductory Child Psychology for the Social Sciences. (4 cr, §1301, §5301; prereq Psy 1001) The science of child behavior; review of theory and research. Designed for majors in psychology, sociology, and related disciplines; not suggested for child psychology majors.

CPsy 3330w,s. Directed Experiences. (1-4 cr per qtr, §5330; prereq 1301 or equiv, Psy 1004) Intellectual and/or social development of children, adolescents, or adults as individuals or members of families or peer groups. Options include work with a specific age group or training in research methods, including experimental and observational techniques.

CPsy 3331f,w,s,su. Introduction to Social Development. (4 cr, §5331; prereq 1301 or equiv) Development of social relations and personality; research, methodology, and contrasting theoretical perspectives. Findings on interpersonal relationships, the concept of self, prosocial and antisocial behavior, and acquisition of social roles.

CPsy 3343. Introduction to Cognitive Development. (4 cr; prereq 1301, 3308 or Psy 1005) Development of cognitive processes: research, methodology, and contrasting theoretical perspectives. Introduction to research and theory in developmental psychology necessary to understand course material.

CPsy 3360H. Honors Seminar: Current Research in Developmental Psychology. (2 cr; prereq 1301 or equiv; primarily for child psy majors; S-N only) Introduction to ongoing research programs, preparation for independent research (thesis research if honors major), discussion of career opportunities, other topics. Required for honors majors. Normally taken in junior year.

CPsy 3960f,w. Senior Project in Child Psychology. (1-4 cr [4 cr max]; prereq 1301, sr status, #; A-F only) Review of the literature in a current topic area of child psychology.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / **1011, 1012, 1013**—Series courses, separated by commas; may be entered any quarter / **1011-1012-1013**—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ‡—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means “and” / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

CPsy 3980f,w,s,su. Directed Instruction. (1-4 cr per qtr [4 cr max]; S-N only)
Undergraduates serve as teaching assistants in courses they have completed for credit.

CPsy 5302w,s. Infancy. (4 cr; prereq 1301 or #)
Perceptual, motor, emotional, social, and cognitive development during the first two years of life; the developing infant in his or her social and physical environment.

CPsy 5303f,w,s,su. Adolescent Psychology. (4 cr, §3303; prereq 5 cr intro psy)
For description, see 3303.

CPsy 5305f. Multidisciplinary Perspectives On Aging. (4 cr, §Educ 5440, §HSU 5009, §PA 5414, §SAHP 5009, §SW 5024, §Soc 5960)
Multidisciplinary introduction to aging and the aging process.

CPsy 5310. Topics in Child Psychology. (1-4 cr per qtr; prereq 1301)
Selected topics in the general content area.

CPsy 5311f,s,su. Introduction to Developmental Psychopathology. (4 cr, §3311; prereq 1301 or equiv, 3308 or Psy 1005)
Theories and research strategies to investigate origins and course of disordered behavior in children and adults, including description, etiology, development, excluding problems of physical, sensory, or mental handicaps.

CPsy 5315w. Introduction to Mental Retardation. (4 cr, §EPsy 5620; prereq 1301 or equiv)
Psychological and educational problems related to the mentally retarded.

CPsy 5319w. Introduction to Clinical Child Psychology. (4 cr; prereq 12 cr in psy or ed psy or soc or child psy)
Assessment and intervention procedures of clinical child psychology in clinical and community settings. Primarily for students not majoring in clinical psychology.

CPsy 5322w. Motor Development. (3 cr, §Kin 5131, §Kin 5132; prereq Kin 3132 or #)
Developmental aspects of motor skill acquisition from birth to physical maturity.

CPsy 5329. Genetics, Ethology, and Development. (4 cr; prereq 1301 or equiv)
Evolutionary theory and behavioral genetics applied to understanding of development of human behavior; formation of species-typical adaptive behavior and individual differences in infancy, childhood, adolescence.

CPsy 5330w. Directed Experiences. (1-4 cr per qtr, §3330; prereq 1301 or equiv, Psy 1004; A-F only)
Intellectual and/or social development of children as individuals or members of peer groups. Experiences offered in case study, social behavior, cognitive stimulation of children.

CPsy 5331f,w,s,su. Processes of Social Development. (4 cr, §3331; prereq 1301 or equiv)
Processes of individual change from infancy through adolescence and development of capacities for and influence of social relations: research, methodology, and theoretical perspectives.

CPsy 5332. Cross-Cultural Child Development. (4 cr; prereq 4 cr child psy)
Interdisciplinary, cross-cultural survey of theories and research on similarities and differences in cognitive, perceptual, socioemotional, and personality development; emphasis on child-caretaker relations and Asian and Hispanic cultures.

CPsy 5334. Children and Youth in Society. (4 cr; prereq 4 cr child psy)
Child development principles relative to social policy decision making; issues in applying theories, findings to problems (e.g., media influences, mainstreaming, day care, child abuse, effects of peers).

CPsy 5336f,s. Development and Interpersonal Relations. (4 cr, §5339; prereq 1301 or equiv, 3308 or Psy 1005, 3331 or 5331)
Processes and functions of interactions with parents and peers; analysis of theory and research on developmental changes and influences.

CPsy 5341. Perceptual Development. (4 cr; prereq 1301, 3308 or Psy 1005 or #)
Perceptual learning and the development of sensory and perceptual processes.

CPsy 5343. Cognitive Development. (4 cr; prereq 3343, 3308 or Psy 1005 or #)
Cognitive processes; relevant theory, research literature, and methodology.

CPsy 5345. Language Development. (4 cr; prereq 1301, 3308 or Psy 1005 or #)
Structure and function of language; factors influencing development; methodological problems, language scales, theories.

CPsy 5349. Children's Learning and Intellectual Skills. (4 cr; prereq 1301, 3343 or #; not open to grads; offered alt yrs)
Current research on learning, problem solving, intellectual performance in children; practical applications.

CPsy 5353. Development During the School Years. (4 cr; prereq 4 cr psy)
Principles of psychological development, emphasizing ages 5-18. Theory and research from developmental psychology relevant to individual growth and achievement; issues in applying a developmental perspective to topics in child and adolescent development (e.g., fostering learning, risk for school failure, behavior and emotional problems, diversity).

CPsy 5970f,w,s,su. Directed Study in Child Psychology. (Cr ar; prereq #)
Independent reading.

CPsy 5990f,w,s,su. Directed Research in Child Psychology. (Cr ar; prereq #)
Individual empirical investigation.

Chinese

See Institute of Linguistics and Asian and Slavic Languages and Literatures.

Classical Civilization (CICv)

Staff—*Chair*, Thomas Clayton, 300 Folwell Hall

Faculty—Akehurst (French and Italian), Aris (Regents' Professor Emeritus, Chemical Engineering and Materials Science), C. Asher (Art History), Belfiore (Classical and Near Eastern Studies), Clayton (English, and Classical and Near Eastern Studies), Clouse (archaeologist, Minnesota Historical Society), Cooper (Classical and Near Eastern Studies, and Art History), Kelly (History), Liberman (German), McDonald (Regents' Professor Emeritus, Ancient Studies, and Classical and Near Eastern Studies), Peterson (Philosophy), Sonkowsky (Classical and Near Eastern Studies), Stuewer (History of Science and Technology), Tracy (History), Wilson (History of Medicine)

This undergraduate interdisciplinary program encompasses the study of Greek and Roman cultures and their influence on Western civilization. Its primary goal is to investigate classical civilization and its heritage from several perspectives as well as the methods and aims of several disciplines.

Details about the program as well as a list of approved courses and information about special independent study and other learning opportunities are described in the *Undergraduate Student Handbook*, available in the Classical Civilization Office, 300 Folwell Hall. Proseminars and other courses are offered regularly.

Study Abroad—Relevant field experience in the Mediterranean region can greatly enhance an undergraduate program in classical civilization, as can study in foreign universities with strong curricula in this field. Appropriate credits from study abroad can be applied toward the major or minor. See also CICv 3340 and Clas 5120. For information on options and procedures, see Foreign Study.

B.A. Major Sequence

Required Preparatory Courses—CLA language requirement in Greek or Latin

Major Requirements—80 cr in approved courses selected from four designated areas (at least 16 cr in language and literature; 16 in art history, archaeology, and history; 12 in thought and religion; 12 in classical traditions); at least 60 of these cr must be in 3xxx-5xxx courses, and courses from at least three departments must be represented in each program. A senior project as well as a minimum of 8 cr in classical civilization courses also are required.

Minor Sequence

Required Preparatory Courses—At least 15 credits in Greek or Latin, or pass proficiency examination in either; 12 credits in courses concerned with the culture of the country or countries where the chosen language was used.

Minor Requirements—15-25 cr in approved 3xxx-5xxx courses (one course from each of the four designated areas required for the major) selected with guidance by faculty adviser.

CICv 3201. The Olympic Games. (4 cr, §Clas 1201, §Clas 3201) Cooper
Surveys the Olympic Games (776 B.C. to A.D. 338) and other ancient athletic festivals, including those for women participants. Greek art and literature serve as basic sources. Comparisons are made with modern athletic events.

CICv 3340. Practicum in Archaeological Field Techniques. (4 cr, §Clas 3340, §Clas 5340) Cooper
Methods used for excavation on classical sites. Meets at a selected site in Minnesota for day-long sessions for one half quarter. Format arranged according to actual procedures in the field.

CICv 3510. Great Books. (4 cr; prereq jr or sr or #)
Clayton, staff
Intensive study of major works of classical antiquity and after (written in or translated into English), related by kind, theme, style, or perspective, sometimes including works from non-Western cultures.

CICv 3711. Classics of Literary Criticism. (4 cr, §Engl 3711)
Principles of criticism used in major works by such writers as Plato, Aristotle, Horace, Longinus, Sir Philip Sidney, John Dryden, Samuel Johnson, David Hume, Samuel Taylor Coleridge, Matthew Arnold, and T.S. Eliot.

CICv 3950. Topics in Classical Civilization.
(1-5 cr per qtr)
Topics specified in *Class Schedule*.

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CICv 3970. Directed Studies. (1-15 cr per qtr; prereq #)
Guided individual reading and study.

CICv 3980. Directed Studies. (1-15 cr per qtr; prereq #)
Guided individual reading and study.

Classical and Near Eastern Studies

Staff—*Chair*, William W. Malandra, 330 Folwell Hall; *Director of Undergraduate Studies*, Robert Sonkowsky; *Director of Graduate Studies*, Nita Krevans

Regents' Professors Emeriti: Aris, McDonald

Professor Emeritus: Erickson

Professors: Belfiore, Clayton, Cooper, Hershbell, Kelly, Keuls, McNally, Sonkowsky, Stavrou

Associate Professors: Krevans, Malandra, Nicholson, Paradise, Peterson, Reisman, Sellow, Sheets

Assistant Professor: Lardinois

The Department of Classical and Near Eastern Studies offers courses in the languages and literatures of Greece, Rome, and the Near East (including Indo-Iranian, modern Greek, and modern Hebrew); the archaeology and art history of these same civilizations and their prehistoric antecedents; religion; and the interconnected traditions of the Latin west, the Greek east, and the Jewish experience, down to the present.

Many sophomores can qualify to enroll in 3xxx courses. Students with four years of high school Latin, three years of high school Greek, or advanced placement may begin 3xxx courses as entering freshmen. All courses are open to nonmajors.

Courses with the “Clas” and “RelA” designations do not require knowledge of a foreign language.

Major programs are offered in Greek, Latin, Ancient Near Eastern Studies, Religious Studies, and Hebrew. In addition, the department contributes to the interdepartmental majors of Classical Civilization (see separate bulletin listing) and Jewish Studies (see separate bulletin listing). Minor programs are offered in Biblical Studies, Greek, Latin, Religious Studies, and Classical Civilization.

Study Abroad—Study in Europe or Israel may provide valuable enrichment for students with majors in the department. For information on options and procedures, see Foreign Study.

B.A. Major Sequence—Greek

Required Preparatory Courses—1104 or 1122 or 3052 or equiv and Δ; one course selected from Clas 1001-1003, 1023/3023, 1024/3024, 1025/3025 or Δ

Major Requirements—25 cr in Greek courses above 3052, of which at least 15 cr must be 34xx courses or higher

15 cr in Clas 3xxx-5xxx courses (except Clas 3046) and/or in Grk courses numbered above 3052

Major project: 3951

Minor Sequence—Greek

Required Preparatory Courses—See major sequence preparatory courses above

Minor Requirements—10 cr in Greek courses above 3052, of which at least 5 cr must be 34xx courses or higher

5 cr in Clas 3xxx-5xxx courses and/or in Grk courses numbered above 3052

B.A. Major Sequence—Latin

Required Preparatory Courses—1104 or 1122 or 3052 or four yrs high school Latin or equiv (students with three yrs high school Latin should enter 1104; with four yrs or advanced placement, any 3xxx course above 3052); one course selected from Clas 1004-1006 or 1023/3023—1025/3025 or Δ

Major Requirements—25 cr in Latin courses above 3052, of which at least 15 cr must be 34xx courses or higher

15 cr in Clas 3xxx-5xxx courses (except Clas 3046) and/or in Latin courses numbered above 3052

Major project: 3951

Minor Sequence—Latin

Required Preparatory Courses—See major sequence preparatory courses above

Minor Requirements—10 cr in Latin courses above 3052, of which at least 5 cr must be 34xx courses or higher

5 cr in Latin courses above 3052 or in 3xxx-5xxx classics courses

No more than one Lat 31xx course may be applied toward the minor. Clas 3046 may not be applied toward the minor.

**B.A. Major Sequence—
Ancient Near Eastern Studies**

Required Preparatory Courses—Hebr 1013 or Hebr 1103, or Arabic 1103

Major Requirements—15 cr 3xxx or higher in Hebrew or Arabic, 10 cr in Akkadian or Aramaic or Sumerian, 8 cr anthropology (Anth 3201 req), 16 additional cr 3xxx or higher in art, archeology, history, language, or literature.

**B.A. Major Sequence—Hebrew
Required Preparatory Courses—**Hebr 3013 or equiv

Major Requirements—Hebr 3015-3016-3017, 8 cr biblical Hebrew, 8 cr rabbinics, 8 cr modern Hebrew, 4 cr using texts in translation, 4 cr major project.

**B.A. Major Sequence—Religious
Studies**

Languages—six quarters or equivalent of Latin, Greek, Hebrew or Sanskrit.

**Non-language and advanced language
courses—**

- 20 credits of required courses;
- 16 credits of electives;
- Major project (4 credits)

Minor Sequence—Religious Studies
5 courses in at least three fields (Bible, Religion in Antiquity, Methodology/Philosophy, Comparative Study).
For details, contact the director of undergraduate studies.

Greek (Grk)

Grk 1101-1102. Beginning Classical Greek. (5 cr per qtr, §3051-3052; prereq 1101 or equiv for 1102)

Grk 1103. Selections From Greek Literature. (5 cr, §3051-3052; prereq 1102 or equiv) Prose and poetry.

Grk 1104. Greek Prose. (5 cr, §3051-3052; prereq 1103 or 2 yrs high school Greek or Δ) Selections from Lysias and/or Plato.

Grk 1111H-1122H. Honors Course: Beginning Classical Greek. (5 cr per qtr; prereq regis in honors program or high ability as indicated by college entrance records)

3051-3052. Beginning Ancient Greek: Accelerated. (5 cr per qtr, §1101-1102, §1103, §1104; previous exper in another foreign language desirable)

Grk 3104. Greek Prose. (5 cr, §1104; prereq 3052 or 3002 or equiv or #) Classical Greek prose.

Grk 3105. Greek Drama. (5 cr; prereq 1104 or Δ) Euripides.

Grk 3106. Greek Poetry. (5 cr; prereq 1122 or 3052 or 3105 or Δ) Selections from Homer.

Grk 3120. The Greek New Testament. (5 cr per qtr [10 cr max]; prereq 1104 or 1122 or 3052 or 3106 or #, Δ) Sellwv
Emphasis on reading proficiency. No text read more than once every three years.

Grk 3451, 3452, 3453, 3454, 3455, 3456, 3457, 3458. Advanced Undergraduate Greek. (5 cr per qtr; prereq 3106 or 5 cr of 3120 or 3 yrs high school Greek or Δ)
A cycle, with one course offered each quarter. 3451: Homer. 3452: Herodotus. 3453: Sophocles. 3454: Thucydides. 3455: Aristophanes. 3456: Plato. 3457: Euripides. 3458: Orators.

Grk 3951. Major Project. (5 cr; prereq Greek-Latin or Greek major, three 3xxx Greek courses or #)
Research paper using the documents and other sources of Greece and Rome. Students select a topic in consultation with a faculty member whose interests are close to theirs.

Grk 3970. Directed Studies. (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.

Grk 5012. Prose Composition. (4 cr; prereq 3106 or Δ)

Grk 5121. Biblical and Patristic Greek. (4 cr; prereq 3106 or 3120 or Δ) Sellwv
Septuagint, Philo, Josephus, New Testament, Apostolic Fathers, and other patristic literature to 5th century C.E.
Reading and discussion of selected texts in the major genres.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Grk 5310, 5320, 5330, 5340, 5350, 5360, 5370, 5380, 5390. Greek Literature. (4 cr per qtr [12 cr max in each course])
One or more appropriate authors studied in each course. Authors vary from term to term and year to year. *5310*: Oratory. *5320*: Tragedy. *5330*: Comedy. *5340*: History. *5350*: Philosophy. *5360*: Religious texts. *5370*: Epic. *5380*: Lyric. *5390*: Romance.

Grk 5715. Introduction to Classical Philology. (4 cr, §Lat 5715) Sheets
Historical grammar of Greek and Latin from their Indo-European origin to the classical norms.

Grk 5716. History of Greek. (4 cr; prereq Grk/Lat 5715 or equiv, 2 yrs Greek) Sheets
Reading and analysis of documents illustrating the evolution of the Greek language from Mycenaean to modern times.

Grk 5970. Directed Studies. (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.

Grk 5980. Directed Instruction. (Cr ar; prereq #, Δ)

Grk 5990. Directed Research. (Cr ar)

Coptic (Copt)

Copt 5011-5012. Elementary Coptic. (4 cr per qtr; prereq some knowledge of another ancient language, preferably Greek) Sellev
5011: Coptic grammar and vocabulary (Sahidic dialect);
5012: Further instruction in grammar, introduction to other dialects; first readings of texts.

Copt 5300. Readings in Coptic. (4 cr per qtr [12 cr max]; prereq Copt 5012 or equiv) Sellev
Advanced reading in a variety of Coptic literature, such as Nag Hammadi treatises, Hermetic writings, and Egyptian monastic texts. Authors vary from year to year.

Latin (Lat)

Lat 1101-1102. Beginning Latin. (5 cr per qtr; prereq 1101 or equiv for 1102)

Lat 1103. Selections From Latin Literature. (5 cr, §3051-3052; prereq 1102 or equiv)
Prose and poetry.

Lat 1104. Latin Prose. (5 cr; prereq 1103 or 3 yrs high school Latin or Δ)
Selections from Caesar and Cicero.

Lat 1111H-1122H. Honors Course: Beginning Latin. (5 cr per qtr; prereq regis in honors program or high ability as indicated by college entrance records)

Lat 3051-3052. Accelerated Beginning Latin. (5 cr per qtr, §1101-1102, §1103, §1104; previous exper in another foreign language desirable)

Lat 3104. Latin Prose. (5 cr; prereq 3052 or 3002)
Latin Republican prose.

Lat 3105. Latin Poetry. (5 cr; prereq 1104 or Δ)
Selections from Catullus and Ovid.

Lat 3106. Latin Poetry. (5 cr; prereq 1122 or 3052 or 3105 or Δ)
Selected books from Virgil's *Aeneid*.

Lat 3440. Advanced Undergraduate Latin: Later Latin Authors. (5 cr per qtr; prereq 3106 or 4 yrs high school Latin or Δ)
Reading course covering Latin authors of Late Antiquity, the Middle Ages, and the Renaissance. Authors vary.

Lat 3451, 3452, 3453, 3454, 3455, 3456, 3457, 3458. Advanced Undergraduate Latin. (5 cr per qtr; prereq 3106 or 4 yrs high school Latin or Δ)
A cycle, with one course offered each quarter. *3451*: Comedy. *3452*: Cicero. *3453*: Lucretius. *3454*: Livy. *3455*: Virgil. *3456*: Petronius. *3457*: Horace. *3458*: Tacitus.

Lat 3951. Major Project. (5 cr; prereq Latin major, three 3xxx Latin courses or #)
Research paper using the documents and other sources of Greece and Rome. Students select a topic in consultation with a faculty member whose interests are close to theirs.

Lat 3970. Directed Studies. (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.

Lat 5012. Prose Composition. (4 cr; prereq 3106 or Δ)

Lat 5310, 5320, 5330, 5340, 5350, 5360, 5370, 5380, 5390. Latin Literature. (4 cr per qtr [12 cr max for each course])
One or more appropriate authors studied in each course. Authors vary from term to term and year to year. *5310*: History. *5320*: Epistles and essays. *5330*: Oratory. *5340*: Epic and pastoral. *5350*: Lyric and Elegian poetry. *5360*: Drama. *5370*: Satire. *5380*: Law. *5390*: Religious texts.

Lat 5410. Latin Literature of Antiquity. (4 cr [12 cr max])
Pagan and Christian Latin literature selected from authors between 3rd and 8th centuries.

Lat 5420. Medieval Latin. (4 cr; prereq #) Nicholson
Literature from 5th to 12th centuries; Carolingian and 12th-century Renaissance.

Lat 5621. Latin Paleography. (4 cr; prereq three 3xxx-5xxx Latin cr or #)
Analysis of various hands used in manuscripts of Latin authors with attention to date and provenance; transmission of ancient Latin literature.

Lat 5715. Introduction to Classical Philology. (4 cr, §Grk 5715) Sheets
Historical grammar of Greek and Latin from their Indo-European origin to the classical norms.

Lat 5717. History of Latin. (4 cr; prereq Grk/Lat 5715 or equiv or #, 2 yrs Latin) Sheets
Reading and analysis of documents illustrating the evolution of the Latin language from its earliest attestations to late antiquity.

Lat 5970. Directed Studies. (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.

Lat 5990. Directed Research. (Cr ar)

Classics (Clas)

Knowledge of Greek and Latin is not required for these courses. They may be of interest to students of literature, history, art history, and archaeology. Many may be applied to majors in classical civilization (see separate listing) and satisfy related coursework requirements for majors in Greek, Latin, or Greek-Latin.

Literature and Culture

Clas 1001. Age of Homer. (4 cr)
Study of Homer and his epics; Trojan War. Other early Greek epics and the archaic period of tyrants and lyric poets; rise of Greek philosophy.

Clas 1002. Age of Pericles. (4 cr)
“Golden age” of Athens in 5th century B.C. Emergence of Athenian democracy and origins of tragedy, comedy, and history; art and architecture.

Clas 1003. Age of Alexander. (4 cr)
Military conquests of Alexander the Great and their results; Hellenistic philosophy, art, science, religion, and literature.

Clas 1004. Age of Caesar. (4 cr)
Roman Republic from its origins to Caesar’s death.

Clas 1005. Age of Augustus. (4 cr)
“Golden age” of Latin literature; the monuments. Transition from republic to empire.

Clas 1006. Age of Nero. (4 cr)
The Roman Empire; “silver age” of Latin literature and rise of Christianity; art and architecture.

Clas 1023. Age of Constantine the Great. (4 cr, §3023) Nicholson
Change and continuity in the Roman Empire from its zenith in the 2nd century through the 3rd century crisis to the New Empire of Diocletian and Constantine, the first Christian emperor (circa A.D. 180 to 363). Proscription of Classical paganism; Christianity as imperial religion.

Clas 1024. Age of Saint Augustine of Hippo. (4 cr, §3024) Nicholson
Replacement of the Roman Empire in Western Europe by barbarian kingdoms (A.D. 363 to circa 500); consolidation of Constantinople as capital in the East. Literature, art, and thought resulting from Christianity becoming the religion of the Empire; pagan resistance.

Clas 1025. Age of Justinian and Muhammad. (4 cr, §3025) Nicholson
Transformation of the Roman Empire in Europe into barbarian kingdoms (circa A.D. 500 to circa 700). “Golden age” of the Eastern Roman Empire under Emperor Justinian. Tension between Rome and Persia; rise of Islam; Arab invasions.

Clas 1042. Greek and Roman Mythology I. (4 cr) Clayton, Hershbell, Lardinois
Heroes, gods, and goddesses of ancient Greece and Rome. Myths and the stories behind them.

Clas 1043. Introduction to Greek and Roman Archaeology. (4 cr) McNally
Role that material culture, including art and architecture, plays in forming our picture of the classical past. Relationship between archaeology and other disciplines dealing with the past. Selected examples used to consider motives and methods of research and how material culture has been used by archaeologists, their patrons, and the public.

Clas 1082. Jesus in History. (4 cr. § RelA 1082) Sellw
Earliest attempts to describe Jesus and his significance in the emergent gospel literature of the first-century church. How historians may claim to know the facts of Jesus’ life and its meaning in light of these various presentations. Different literary portraits of Jesus and their reflection of their authors’ social, religious, and political situations. Modern situations and how they shape one’s own reading of the gospels and Jesus.

Clas 1201. The Olympic Games. (4 cr, §3201, §CICv 3201) Cooper
Same as ArtH 1201. Surveys the Olympic Games (776 B.C. to A.D. 338) and other ancient athletic festivals, including those for women participants. Greek art and literature serve as basic sources. Comparisons are made with modern athletic events.

Clas 3007. The Pastoral Tradition. (4 cr, §5007; prereq 2 lit courses or #) Krevans
Origins and development of pastoral poetry and prose. Readings in English translation from Greek and Latin pastoral poets, and vernacular imitations of the Middle ages and Renaissance. Nature of allegory, “debate-poems,” *pastourelle*, genre of pastoral.

Clas 3023. Age of Constantine the Great. (4 cr, §1023; prereq soph) Nicholson
See Clas 1023. Additional reading of sources in translation for students in 3023.

Clas 3024. Age of Saint Augustine of Hippo. (4 cr, §1024; prereq soph) Nicholson
See Clas 1024. Additional reading of sources in translation for students in 3024.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Clas 3025. Age of Justinian and Muhammad. (4 cr, §1025; prereq soph) Nicholson
See Clas 1025. Additional reading of sources in translation for students in 3025.

Clas 3035. Mythology in Western Art. (4 cr, §ArH 3035) McNally
Selected figures and events from classical mythology as ancient artists first depicted them and as they have reappeared in later Western art.

Clas 3071. Greek and Hellenistic Religions. (4 cr, §3071H, §5071, §RelA 3071, §RelA 5071) Sellw
Survey of ancient Greek religion from the Bronze Age to Hellenistic times. Sources include literature, art, and archaeology. Prehistoric religion; Homer and the Olympian deities; music, dance, and procession as ritual performance; prayer and sacrifice; temple architecture and sanctuaries; oracles; beliefs about death and the afterlife; mystery cults; philosophical religion; criticism of traditional myths; ruler cult; Near Eastern salvation religions.

Clas 3071H. Honors Course: Greek and Hellenistic Religions. (4 cr, §3071, §5071, §RelA 3071, §RelA 5071) Sellw
See Clas 3071. Additional work for honors credit.

Clas 3072. The New Testament. (4 cr, §3072H, §5072, §RelA 3072, §RelA 5072) Sellw
Early Jesus movement in its social and historical setting; origins in Judaism; traditions about Jesus; Paul, his controversies and his interpreters; questions of authority, religious practice, and structure in early communities; apocryphal literature and emergence of a scriptural canon. Contemporary methods of New Testament study. Ancient sources studied as evidence for constructing critical history and as an attempt to appreciate their narrative structures and other literary techniques.

Clas 3072H. Honors Course: The New Testament. (4 cr; §3072, §5072, §RelA 3072, §RelA 5072) Sellw
For description, see Clas 3072. Opportunities for small group discussion.

Clas 3073. Roman Religion and Early Christianity. (4 cr, §3073H, §5073, §RelA 3073, §RelA 5073) Sellw
Etruscans. Republican religion. Appeal of non-Roman cults. Ruler worship. Christians in Asia Minor, Egypt, and the West. Popular piety, Christian and non-Christian. Rabbinic Judaism. Varieties of Christianity in 2nd and 3rd centuries. Influence of Greco-Roman culture on emerging church. Constantine and Julian.

Clas 3073H. Honors Course: Roman Religion and Early Christianity. (4 cr; §3073, §5073, §RelA 3073, §RelA 5073) Sellw
See Clas 3073. Additional work for honors credit. Opportunities for small group discussion.

Clas 3081. Classical Epic in Translation. (4 cr, §5081)
Homer's *Iliad* and *Odyssey*, Virgil's *Aeneid*; cultural context of epic, the heroic character, epic formulas, poetic techniques.

Clas 3082. Greek Tragedy in Translation (Aeschylus, Sophocles, Euripides). (4 cr, §5082)
Origin of European drama as a distinct literary form; characteristics of Greek tragedy; ancient theatres and theatrical conventions. Selected tragedies. Problems related to cultural patterns of the time.

Clas 3089. Introduction to Biblical Archaeology. (4 cr, §5089, §RelA 3089, §RelA 5089)
Archaeological data relevant to Jewish scriptures and New Testament; major sites in Holy Land and other areas of Mediterranean and Near East. Evidence of pottery, inscriptions, manuscripts, and coins. Excavation methods. Archaeology as a tool for study of ancient religions.

Clas 3145. Greek and Roman Mythology II: Analysis and Tradition. (4 cr; prereq 1042 or #)
Methods of interpreting Greco-Roman myth, from Homer to Freud, Jung, and Levi-Strauss; artistic survival of classical myth in literature, painting, and music.

Clas 3201. The Olympic Games. (4 cr, §1201, §ArH 3201, §CICv 3201) Cooper
For description, see Clas 1201.

Clas 3970. Directed Studies. (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.

Clas 5007. The Pastoral Tradition. (4 cr, §3007; prereq 2 lit courses or #) Krevans
Meets with Clas 3007. Additional work for graduate credit.

Clas 5013. Roman Law and Society. (4 cr) Sheets
Roman law as a social institution: basic concepts of persons, property, obligations in historical and social perspectives.

Clas 5071. Greek and Hellenistic Religions. (4 cr, §3071, §RelA 3071, §RelA 5071) Sellw
Meets with Clas 3071. Additional work for graduate credit.

Clas 5072. The New Testament. (4 cr, §3072, §RelA 3072, §RelA 5072) Sellw
Meets with Clas 3072. Additional work for graduate credit.

Clas 5073. Roman Religion and Early Christianity. (4 cr, §3073, §RelA 3073, §RelA 5073) Sellw
Meets with Clas 3073. Additional work for graduate credit.

Clas 5080. New Testament Proseminar. (4 cr per qtr [12 cr max]; prereq 3072 or 5072 or #) Sellw
Selected topics in study of the New Testament and related ancient literatures. Topics specified in *Class Schedule*.

Clas 5081. Classical Epic in Translation. (4 cr, §3081)
Meets with Clas 3081. Advanced independent work required.

Clas 5082. Greek Tragedy in Translation (Aeschylus, Sophocles, Euripides). (4 cr, §3082)
Meets with Clas 3082. Additional independent work required.

Clas 5089. Introduction to Biblical Archaeology. (4 cr, §3089, §ReIA 3089, §ReIA 5089) For description, see Clas 3089. Requires additional work for graduate credit.

Clas 5145. Classical Mythology: Methodology, Interpretation, and Tradition. (4 cr, §3145; prereq 1042 or #)
Same coursework as Clas 3145; independent reading and research assignments in consultation with the instructor.

Clas 5794. Proseminar: Introduction to Classical Studies. (1 cr; prereq grad or #)
Research in classical scholarship, methods, bibliography, textual history, and criticism.

Clas 5970. Directed Studies. (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.

Art and Archaeology

Clas 1043. Introduction to Greek and Roman Archaeology. (4 cr) McNally
Role that material culture, including art and architecture, plays in forming our picture of the classical past. Relationship between archaeology and other disciplines dealing with the past. Selected examples used to consider motives and methods of research and how material culture has been used by archaeologists, their patrons, and the public.

Clas 3008. History of Ancient Art. (4 cr, §Arth 3008) Cooper, McNally
Architecture, sculpture, and painting of selected early cultures; influences contributing to the development of Western art.

Clas 3035. Mythology in Western Art. (4 cr, §Arth 3035) McNally
Selected figures and events from classical mythology as ancient artists depicted them and as they have reappeared in later Western art.

Clas 3089. Introduction to Biblical Archaeology. (4 cr, §5089, §ReIA 3089, §ReIA 5089)
Archaeological data relevant to Jewish scriptures and New Testament; major sites in Holy Land and other areas of Mediterranean and Near East. Evidence of pottery, inscriptions, manuscripts, and coins. Excavation methods. Archaeology as a tool for study of ancient religions.

Clas 3142. Art of Egypt. (4 cr, §Arth 3142) Cooper, McNally
Arts and architecture of Egypt from prehistoric times to the emergence of modern Egypt, with stress on the elements of continuity and of change that have shaped Egyptian culture.

Clas 3152. Greek Art and Archaeology. (5 cr, §Arth 3152) Cooper, McNally
Architecture, sculpture, painting, and archaeology from 1050 B.C. to 31 B.C.

Clas 3162. Roman Art and Archaeology. (5 cr, §Arth 3162) Cooper, McNally
Roman art and material culture: origins, change, continuity, "progress" or "decay" in the later empire.

Clas 3175. The Topography of a Medieval City: Constantinople. (4 cr, §5175, §Arth 5175)
Study of Constantinople, a world capital and imperial residence for more than a millennium. Original and translated texts and archaeological evidence used to reconstruct individual monuments and broader patterns of urban life and urbanistic development from circa 200 until the Turkish conquest of 1453.

Clas 3252. History of Early Christian Regions and Byzantine Art. (4 cr, §Arth 3252)
Architecture, sculpture, and painting in eastern Christian regions, from founding to fall of Constantinople. Meaning and broader cultural context in which works of art were created.

Clas 3340. Practicum in Archaeological Field Techniques. (4 cr, §5340, §CIV 3340; prereq Grk or Lat or Hebr or ANE or CIV major or #, one course in ancient art or archaeology) Cooper
Methods used for excavation on classical sites. Meets at selected site in Minnesota for day-long sessions for one half quarter. Format arranged according to actual procedures in field.

Clas 5089. Introduction to Biblical Archaeology. (4 cr, §ReIA 5089)
Archaeological data relevant to the Jewish scriptures and the New Testament; major sites in the Holy Land and in other areas of the Mediterranean and the Near East. The evidence of pottery, inscriptions, manuscripts, and coins. Excavation methods. Archaeology as a tool for study of ancient religions. Requires additional work for graduate credit.

Clas 5101. Introduction to Prehistoric Greek Archaeology. (4 cr; prereq jr or #)
Aims and methods of modern field archaeology; the record of human habitation in the Aegean area from earliest times to the end of the Bronze Age; concentration on the Mycenaean period. Archaeological evidence as the basis for historical reconstruction.

Clas 5102. Classical Greek Art. (5 cr, §Arth 5102)
Architecture, sculpture, and painting in Greece from the Persian Wars to the conquests of Alexander.

Clas 5103. Hellenistic Art and Archaeology. (4 cr, §Arth 5103; prereq jr or sr or #)
Sculpture, architecture, painting, and topography in developing centers of Hellenistic culture in eastern Mediterranean from 400 B.C. to end of Hellenistic period.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Clas 5104. Roman Architecture. (5 cr, §Arth 5104; prereq jr or #) Cooper, McNally
Buildings in Rome and the empire from the 5th century B.C. to A.D. 4th century. Major archaeological sites.

Clas 5105. Roman Painting and Mosaics. (5 cr, §Arth 5105; prereq jr or #) McNally
Roman painting and mosaics; specific problems; sites such as Pompeii and Antioch.

Clas 5106. Greek Painting. (5 cr, §Arth 5106; prereq jr or #) McNally
Research and analysis in classical art as applied to the study of vases, original objects, and sources.

Clas 5107. Roman Sculpture. (4 cr, §Arth 5107; prereq jr or #) Cooper, McNally
Sculpture of Rome and its provinces from the 1st century B.C. to A.D. 4th century; role of sculpture in Roman politics and religion.

Clas 5108. Greek Architecture. (4 cr, §Arth 5108; prereq jr or #) Cooper
Archaic and classical examples of religious and secular architecture and their setting in major archaeological sites.

Clas 5111. Bronze Age Art and Architecture in Greece, CA. 3000-1100 B.C. (4 cr, §Arth 5111)
Artistic and architectural forms in Neolithic period in Aegean area and Cycladic, Minoan, and Mycenaean cultures.

Clas 5113. Archaic Greek Art. (4 cr, §Arth 5113; prereq jr or #)
Architecture, sculpture, and painting in Greek lands from 9th through 5th centuries B.C. Examination of material remains of Greek culture; archaeological problems such as identifying and dating buildings; analysis of methods and techniques.

Clas 5120. Field Research in Archaeology. (3-6 cr per qtr, §Arth 5120; prereq #)
Field excavation, survey, and research at archaeological sites in the Mediterranean area. Techniques of excavation and exploration; interpretation of archaeological materials.

Clas 5252. History of Early Christian and Byzantine Art. (4 cr, §Arth 5252)
Architecture, sculpture, and painting in eastern Christian regions from the founding to the fall of Constantinople in the 15th century. Emphasis on meaning and broader cultural context in which works of art were created.

Clas 5340. Practicum in Archaeological Field Techniques. (4 cr, §3340, §CICv 3340; prereq Grk or Lat or Hebr or ANE or CICv major or #, one ancient art or archaeology course) Cooper
Meets with 3340. Additional work for graduate credit.

Greek and Latin Word Roots

Clas 1045. Basic Program in Technical Terminology and Word Study. (3 cr)
Prefixes, suffixes, and high frequency roots from Greek and Latin through computer-assisted instruction; principles of word compounding; methods and techniques of word analysis.

Clas 1048. Greek and Latin Terminology in the Medical and Biological Sciences. (2 cr, §1141; prereq 1045 or ¶1045)
Roots and terms basic to the medical and biological sciences in English contexts.

Clas 1141. Greek and Latin Terminology for Nursing. (3 cr, §1048)
Greek and Latin prefixes, suffixes, and roots basic to the vocabulary of nursing through computer-assisted instruction.

Clas 3046. Advanced Etymology: Vocabulary of the Sciences and Humanities. (2 cr; prereq 1045 or ¶1045)
Latin and Greek roots with English derivatives; regularities of linguistic change (Grimm's law), principles of etymology, and lessons on specialized terminology in various fields. Computer-assisted instruction.

Akkadian (Akka)

Akka 5011-5012-5013. Elementary Akkadian. (4 cr per qtr; for advanced undergrads by permission only and for grads) Reisman
Cuneiform script. Akkadian grammar, written drills, readings from historical annals, law collections, religious, and epic literature.

Ancient Near Eastern Studies (ANE)

ANE 1001/3001. The Bible: Narrative Texts. (4 cr, §RelA 3201) Paradise, Reisman
Survey of literary and historical narrative texts from: Pentateuch, Joshua, Judges, Samuel, and Kings. Reading of extensive selections from Bible and secondary materials discussing literary background of the texts. Knowledge of Hebrew not required.

ANE 1002/3002. The Bible: Prophecy. (4 cr, §RelA 3202) Paradise, Reisman
Survey of Israelite Prophets, with emphasis on Amos, Hosea, Isaiah, Jeremiah, Ezekiel, and Second Isaiah. Prophetic contributions to Israelite religion, personality of prophets, politics, and prophetic reaction. Textual analysis and biblical scholarship. Knowledge of Hebrew not required.

ANE 1003/3003. The Bible: Wisdom, Poetry, and Apocalyptic. (4 cr, §RelA 3203)
Survey of books of Psalms, Proverbs, Job, Song of Songs, Lamentations, Ecclesiastes (Qoheleth). Characteristics of biblical poetry. Conceptions of Israelite wisdom movement. Traits of early Jewish apocalyptic writings. Knowledge of Hebrew not required.

ANE 3101. Ancient Near Eastern Texts in Translation. (4 cr) Reisman
The Sumerian-Akkadian literary and historical tradition. Relationships of the Mesopotamian traditions, particularly to the Old Testament.

ANE 3251. The Modern Study of the Old Testament. (4 cr, §RelA 3251)
Methods used in studying the Old Testament, including textual criticism, the anthropological approach, form criticism, the sociological approach, the history of religion, and the uses of archaeology in interpreting the text.

ANE 3501, 3502, 3505. Ancient Israel. (4 cr per qtr; \$5501, \$5502, \$5505, \$RelA 3501, \$RelA 3502, \$RelA 3505, \$RelA 5505) Paradise, Reisman
History of Israel and development of its religion from earliest times through the intertestamental period. *3501*: The foundation of the Hebrew people; patriarchal period; development of Israelite religious and legal institutions; conquest of Canaan; development of the monarchy and the united kingdom. *3502*: The divided kingdom; classical prophecy, destruction, exile, and restoration. *3505*: The Hellenistic period. Period of Ezra and Nehemiah, Samaritans, apocalyptic and other eschatological types; the Maccabean period; Sadducees, Pharisees, Zealots, Christians, Qumran, wisdom literature; Philo, Josephus; Jewish rights during Roman Empire. Evaluation of sources for historical reliability. Knowledge of Hebrew not required.

ANE 5501, 5502, 5505. Ancient Israel. (4 cr per qtr; \$3501, \$3502, \$3505, \$RelA 3501, \$RelA 3502, RelA 3505; no knowledge of Hebrew required; prereq grad or #)
History of Israel and development of its religion, from earliest times through intertestamental period. *5501*: formation of Hebrew people; patriarchal period; development of Israelite religious and legal institutions; conquest of Canaan; development of monarch of United Kingdom. *5502*: divided kingdom; classical prophecy, destruction, exile, and restoration. *5505*: The Hellenistic Period. Period of Ezra and Nehemiah, Samaritans, apocalyptic and other eschatological types; the Maccabean period; Sadducees, Pharisees, Zealots, Christians, Qumran, wisdom literature; Philo, Josephus; Jewish rights during Roman Empire. Evaluation of sources for historical reliability. Knowledge of Hebrew not required.

ANE 5970. Directed Studies. (1-4 cr per qtr; prereq #)
Guided individual reading or study.

Aramaic (Arm)

Arm 5011, 5012. Aramaic. (4 cr per qtr; prereq 1 yr Hebrew or Arabic or #; for students preparing for biblical studies, ancient history majors, and students specializing in Semitic languages; recommended for students of Talmud) Reisman
5011: Biblical Aramaic—grammar, fluency in reading biblical and ancient Aramaic. *5012*: Syriac—grammar, fluency of reading Syriac texts.

Hebrew (Hebr)

Hebr 1012-1013. Beginning Hebrew for Students With Prior Exposure. (5 cr per qtr [total 15 cr for students who complete the sequence], \$1101-1102-1103)
For students familiar with the Hebrew alphabet and with some previous study of elementary Hebrew.

Hebr 1101f-1102w-1103s. Beginning Hebrew. (5 cr per qtr; prereq # if Hebrew studied previously)
Speaking, reading, and writing modern Hebrew. Aural comprehension, pronunciation, basic grammar, biblical syntax.

Hebr 3011f-3012w-3013s. Intermediate Hebrew. (5 cr per qtr; prereq 1103 or qualified fr or #)
Modern short stories, contemporary idiom, newspaper articles, biblical narratives. Review of fundamentals of grammar. Emphasizes development of fluent speech and composition.

Hebr 3015f-3016w-3017s. Advanced Modern Hebrew. (4 cr per qtr; prereq 3013 or #)
Further development of fluent speech and self-expression in composition; advanced literature and the Hebrew press. Exposure to a variety of literary styles and genres.

Hebr 3111. Rabbinic Texts. (4 cr per qtr; prereq 3013, 3017 or 3202 or #)
Selections from Mishnah, Tosefta, Talmud, Midrash, Codes. Critical scholarship. Use of material for history of Judaism.

Hebr 3121. Medieval Hebrew Literature. (4 cr per qtr; prereq 3013 or #)
Medieval Bible commentaries; Rashi, Rashbam, Ibn Ezra, Nachmanides, others. Sources in Talmud and Midrash. Contributions of commentaries and their methods. Especially recommended for students of biblical literature.

Hebr 3131. Talmudic Texts. (4 cr per qtr; prereq 3013 or 3017 or 3202 or #)
Study of a tractate of Talmud: Mishnah, Tosefta, Babil, and Yerushalmi. Literary critical methods. Redactional and historical problems.

Hebr 3201, 3202, 3203. Readings in Biblical Hebrew. (4 cr per qtr; prereq 1103 or 1104 or #)
Textual study of the Bible, basic research tools, and commentaries. Exegesis; development of reading fluency and familiarity with the biblical text.

Hebr 3204, 3205. A Book of the Bible. (4 cr per qtr; prereq 3013 or #)
Scientific study of a book of the Bible. Modern scholarly trends and medieval exegesis. Analysis of a selected text.

Hebr 3301. Modern Hebrew Essay. (4 cr; prereq 3017 or #)
Works from 19th- and 20th-century Hebrew essayists. Jewish nationalism, literary criticism, social and political issues, religion, philosophy.

Hebr 3304. Modern Hebrew Short Story. (4 cr; prereq 3017 or #)
Works of Agnon, Hazaz, Yizhar, Yehoshua, and others. The disintegration of traditional society, freedom, militarism, alienation, genocide, and other themes.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Hebr 3307. Modern Hebrew Poetry. (4 cr; prereq 3017 or #)
Major Israeli poets such as Rachel, Lamdan, Shlonsky, Leah Goldberg, Alterman, Greenberg, Pagis, Amihai, Ravikovitch, and others.

Hebr 3980. Directed Instruction. (1-5 cr per qtr; prereq #)
Observation and discussion of language classes. Gradually increased participation of student in preparation and presentation of instructional materials to an elementary class. Evaluation of materials, teaching techniques. Seminars with instructor and staff on problems of language teaching.

Hebr 5970. Directed Readings. (Cr ar; prereq 3013 or #)
Special problems for advanced students.

Hebr 5990. Honors Course: Research. (Cr ar; prereq 5970 or #)
Independent research under guidance of faculty member. Must begin fall quarter.

Sanskrit (Skt)

Sanskrit, a major classical language, is the linguistic source of modern North Indian languages and a powerful influence on South Indian languages.

Skt 5131f-5132w-5133s. Beginning Sanskrit. (5 cr per qtr) Malandra

Skt 5161f-5162w-5163s. Advanced Sanskrit. (4 cr per qtr; prereq 5203 or #) Malandra

Skt 5201f-5202w-5203s. Intermediate Sanskrit. (5 cr per qtr; prereq 5133 or #) Malandra

Skt 5970. Directed Readings. (Cr ar; prereq #) Malandra
Guided individual reading or study.

Skt 5990. Directed Research. (Cr ar; prereq #) Malandra

Sumerian (Sum)

Sum 5011-5012. Elementary Sumerian. (4 cr per qtr; for advanced undergrads with 2 yrs of another foreign language and for grads)
Sumerian writing and grammar. Readings from classical Sumerian literary and historical texts.

Religious Studies

Major and minor programs in Religious Studies and a variety of courses in Religions in Antiquity (RelA) are offered through the Department of Classical and Near Eastern Studies (330 Folwell Hall, 612/625-5353).

For information about other CLA courses dealing with aspects of religious texts and experience, consult the listings for Anthropology, Art History, Cultural Studies and Comparative

Literature, History, Humanities, Philosophy, Sociology, and South Asian and Middle Eastern Languages and Cultures (Institute of Linguistics and Asian and Slavic Languages and Literatures).

Religions in Antiquity (RelA)

RelA 1031. Introduction to the Religions of South Asia. (4 cr, §RelA 3031, 5031, §SALC 1504, 3031, 5031) Malandra

Historical study of the three traditional religions of India: Hinduism, Buddhism, and Jainism through literature, art, and film. General topics include myth, yoga, asceticism and the religious order of society.

RelA 1034. Introduction to Judaism. (4 cr, §3034, §JwSt 1034, §JwSt 3034)
Concepts, movements, and institutions in the development of classical Judaism and manifested in the literature and festivals of the Jewish people from Second Commonwealth times to the present.

RelA 1082. Jesus in History. (4 cr. § Clas 1082) Sellw

Earliest attempts to describe Jesus and his significance in the emergent gospel literature of the first-century church. How historians may claim to know the facts of Jesus' life and its meaning in light of these various presentations. Different literary portraits of Jesus and their reflection of their authors' social, religious, and political situations. Modern situations and how they shape one's own reading of the gospels and Jesus.

RelA 3034. Introduction to Judaism. (4 cr, §1034, §JwSt 1034, § JwSt 3034)
Concepts, movements, and institutions in the development of classical Judaism and manifested in the literature and festivals of the Jewish people from Second Commonwealth times to the present.

RelA 3036. The Religion of Islam. (4 cr, §1036, §5036, §MELC 1536, §MELC 3036, §SALC 3036, §SALC 5036) Farah
Rise of Islam. Role of Muhammad, Koran, traditions; fundamentals and observances of the faith; sectarian movements; the spread of Islam into Asia and Africa; Baha'i, Black Muslims, reformist movements and change.

RelA 3071. Greek and Hellenistic Religions. (4 cr, §Clas 3071, §Clas 5071, §5071) Sellw
Greek religion of the archaic, classical, and Hellenistic periods. Eclipse of city-state and "failure of nerve." Mystery religions and impact of Eastern cults. Ancient myths and need for allegory. Ruler worship. Gnosticism. Judaism in Greek world. Dead Sea Scrolls.

RelA 3072. The New Testament. (4 cr, §Clas 3072, §Clas 5072, §5072) Sellw
Early Jesus movement in its social and historical setting: origins in Judaism; traditions about Jesus; Paul, his controversies and his interpreters; questions of authority, religious practice, and structure in early communities; apocryphal literature and emergence of a scriptural canon. Contemporary methods of New Testament study. Ancient sources studied as evidence for constructing critical history and as an attempt to appreciate their narrative structures and other literary techniques.

ReIA 3073. Roman Religion and Early Christianity. (4 cr, \$5073, \$Clas 3073, \$Clas 5073) Sellow

Etruscans. Republican religion. Appeal of non-Roman cults. Ruler worship. Christians in Asia Minor, Egypt, and the West. Popular piety, Christian and non-Christian. Rabbinic Judaism. Varieties of Christianity in 2nd and 3rd centuries. Influence of Greco-Roman culture on emerging church. Constantine and Julian.

ReIA 3089. Introduction to Biblical Archaeology. (4 cr, \$5089, \$Clas 3089, \$Clas 5089) Archaeological data relevant to Jewish scriptures and New Testament; major sites in Holy Land and other areas of Mediterranean and Near East. Evidence of pottery, inscriptions, manuscripts, and coins. Excavation methods. Archaeology as a tool for study of ancient religions.

ReIA 3201. The Bible: Narrative Texts. (4 cr, \$ANE 1001, \$ANE 3001) Paradise, Reisman
Literary and historical texts from: Pentateuch, Joshua, Judges, Samuel, and Kings. Readings of Bible and secondary materials on literary background of texts.

ReIA 3202. The Bible: Prophecy. (4 cr, \$ANE 1002, \$ANE 3002) Paradise, Reisman
Israelite prophets, emphasis on Amos, Hosea, Isaiah, Jeremiah, Ezekiel, and Second Isaiah. Prophetic contributions to Israelite religion, personality of prophets, politics, and prophetic reaction. Textual analysis and biblical scholarship.

ReIA 3203. The Bible: Wisdom, Poetry, and Apocalyptic. (4 cr, \$ANE 1003, \$ANE 3003)
Books of Psalms, Proverbs, Job, Song of Songs, Lamentations, Ecclesiastes (Qoheleth), Characteristics of Biblical poetry. Conceptions of Israelite wisdom movement. Traits of early Jewish apocalyptic writings.

ReIA 3251. The Modern Study of the Old Testament. (4 cr, \$ANE 3251) Reisman
Methods employed in the study of the Old Testament, including textual criticism, the anthropological approach, form criticism, the sociological approach, the history of religion, and the uses of archaeology in interpreting the text.

ReIA 3501. Ancient Israel. (4 cr, \$ANE 3501) Paradise, Reisman
History of Israel and development of its religion from earliest times through the intertestamental period. The foundation of the Hebrew people, patriarchal period; development of the Israelite religious and legal institutions; conquest of Canaan; development of the monarchy and the united kingdom.

ReIA 3502. Ancient Israel. (4 cr, \$ANE 3502) Paradise, Reisman
History of Israel and development of its religion from earliest times through the intertestamental period. The divided kingdom, classical prophecy, destruction, exile, and restoration.

ReIA 3505. Ancient Israel: The Hellenistic Period. (4 cr, \$5505, \$ANE 3505, \$ANE 5505)
Period of Ezra and Nehemiah, Samaritans, apocalyptic and other eschatological types; the Maccabean period; Sadducees, Pharisees, Zealots, Christians, Qumran, wisdom literature; Philo, Josephus; Jewish rights during Roman empire. Evaluation of sources for historical reliability. Knowledge of Hebrew not required.

ReIA 3970f,w,s. Directed Studies. (3-5 cr per qtr; prereq Δ)
Guided individual reading or study.

ReIA 5036. The Religion of Islam. (4 cr, \$1036, \$3036, \$MELC 1536, \$SALC 3036, \$SALC 5036) Farah
Meets with 3036. Additional work for graduate credit.

ReIA 5071. Greek and Hellenistic Religions. (4 cr, \$3071, \$Clas 3071, \$Clas 5071; prereq #) Sellow
Meets with 3071. Additional work for graduate credit.

ReIA 5072. The New Testament. (4 cr, \$3072, \$Clas 3072, \$Clas 5072; prereq #) Sellow
Meets with 3072. Additional work for graduate credit.

ReIA 5073. Roman Religion and Early Christianity. (4 cr, \$3073, \$Clas 3073, \$Clas 5073; prereq #) Sellow
Meets with 3073. Additional work for graduate credit.

5089. Introduction to Biblical Archaeology. (4 cr, \$3089, \$Clas 3089, \$Clas 5089)
For description, see 3089. Requires additional work for graduate credit.

5505. Ancient Israel. (4 cr, \$3505, \$ANE 3505, \$ANE 5505; prereq grad or #)
Meets with 3505. Additional work for graduate credit.

5970. Directed Studies. (3-5 cr per qtr)
Guided individual reading or study.

Coptic

See Classical and Near Eastern Studies.

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Communication Disorders (CDIs)

Staff—*Chair*, Charles E. Speaks, 115 Shevlin Hall; *Director of Undergraduate Studies*, Shirley S. Doyle, 115 Shevlin Hall; *Director of Graduate Studies*, Joe E. Reichle, 115 Shevlin Hall

Professors: Broen, Davis, Gundel (Linguistics), Haroldson, Margolis (Otolaryngology), Moller (Preventive Sciences), Nelson (Otolaryngology), Reichle, Siegel, Speaks, Starr, Stemberger, Van Tasell, Viemeister (Psychology)

Associate Professors: Carney, Schlauch, Windsor

Assistant Professor: Solomon

Clinical Specialists: Carlstrom, Doyle

Associate Clinical Specialist: Hinderscheit

Assistant Clinical Specialist: van Deusen

The Department of Communication Disorders curriculum focuses on the study of normal speech, language, and hearing, and applying that knowledge to identifying, preventing, evaluating, and clinically managing disordered speech, language, and hearing.

Some students complete the speech and hearing science major and pursue vocational opportunities or graduate study in related fields. Others pursue graduate work in speech-language pathology or audiology. Both the B.S. and B.A. degrees provide appropriate preparation for further education and training as a speech-language pathologist, audiologist, or speech and hearing scientist. The M.A. programs in speech-language pathology and audiology provide the educational and clinical background required to qualify a student for the Certificate of Clinical Competence issued by the American Speech-Language-Hearing Association. If you are contemplating graduate study, consult the director of graduate studies early in your senior year.

General Education—1304, 5301, 5302, 5303, 5304¹, 5305, and 5306¹, which address the processes of normal hearing, speech, language, and voice and offer an understanding of the multidisciplinary foundations of human communication. 5103 addresses issues of cultural diversity. Other courses, such as 3101, 5101, and

5102, which survey problems of human communication, and 5502, 5504¹, 5507¹, 5508¹, 5509¹, 5606¹, 5607¹, 5608¹, 5611, 5701¹, 5703¹, and 5704¹, which deal with specific problems of human communication, may be of interest to students pursuing coursework in linguistics, psychology, child psychology, speech-communication, education, or medical and dental fields.

B.S. Major Sequence— Speech and Hearing Science

The B.S. degree is appropriate for students who desire a prescribed curriculum that includes related coursework from other departments.

Required Preparatory Courses—Math 1111 or 1031 or 1051; Ling 3001 or 5001; Psy 1001, 1004-1005; Phys 1041 and 1042 or Biol 1009 and Phys 1041 or Biol 1009 and Phys 1001

Major Requirements—5301, 5302, 5303, 5304 or 5306, 5305; CPsy 1301; Psy 3011, 3031; EPsy 5260

Four courses from 3101, 5103, 5304, 5306, 5502, 5504, 5507, 5508, 5509, 5606, 5607, 5608, 5611, 5701, 5702, 5703, 5704, 5705, 5706, 5707, 5900 (clinical issues and procedures)

One of the following groups:

1. at least two courses from CPsy 5341, 5343; Psy 3051, 3135, 5011
2. at least two courses from Ling 5006, 5201, 5202, 5302; CPsy 5345; Psy 5054; EPsy 5600
3. At least two courses from Math 1008, 1142, 1251, 1252
4. Psy 5012-5013
5. at least two courses from EPsy 5620 or CPsy 5315; EPsy 5608, 5609, 5622, 5710

B.A. Major Sequence— Speech and Hearing Science

The B.A. degree is appropriate for students who desire a broader liberal arts preparation than the B.S. degree provides.

Required Preparatory Courses—Psy 1001, 1004-1005

Major Requirements—3101, 28 cr selected from among the following groups:

1. basic communication processes—5103, 5301, 5302, 5303, 5304, 5305, 5306
2. speech and language disorders—5502, 5504, 5507, 5508, 5509, 5606, 5607, 5608, 5611, 5900 (clinical issues and procedures)

¹ Prerequisites required.

- disorders of the auditory system—5701, 5702, 5703, 5704, 5705, 5706, 5707, 5900 (clinical issues and procedures)

Major project (2 cr): paper completed in conjunction with extra credit registration in a course from one of the above groups or 5970

Minor Sequence—
Speech and Hearing Science

Minor Requirements—Minimum of 15 cr selected from one or more of the following groups:

- introductory and survey courses—3101, 5101, 5102, 5103
- basic communication processes—5301, 5302, 5303, 5304, 5305, 5306
- speech and language disorders—5502, 5504, 5507, 5508, 5509, 5606, 5607, 5608, 5611, 5900 (clinical issues and procedures)
- disorders of the auditory system—5701, 5702, 5703, 5704, 5705, 5706, 5707, 5900 (clinical issues and procedures)

CDIs 1101f,w,s. Introduction to Communication Disorders. (4 cr) Haroldson
Processes and impairments of human oral communication. Stuttering, phonology, voice disorders including laryngectomy, cleft palate, language disorders, augmentative communication, hearing and hearing impairment. Identification and intervention strategies.

CDIs 1304w. The Physics and Biology of Spoken Language. (4 cr) Speaks
The physics and biology of spoken language, from the talker's production of sounds and words, to the transmission of sound, to the listener's perception of what was said. Computer analysis and synthesis of speech.

CDIs 3100f,w,s,su. Clinical and Research Observation. (2 cr per qtr; S-N only)
Supervised observation of clinical procedures, such as evaluation and treatment of persons with communication disorders, or of research relating to normal and disordered communication.

CDIs 3101f,w,s. Introduction to Communication Disorders. (4 cr) Haroldson
For description, see CDIs 1101.

CDIs 5101s. Communication Problems of Children. (3 cr; prereq non-speech and hearing science major; offered all yrs) Doyle, staff
Problems of children with impaired communication due to delayed language development, hearing loss, articulation disorders, voice disorders, stuttering, cleft palate (oral-facial anomalies), and neuromuscular disorders. Communication disorders and their effects on speech and language development.

CDIs 5102s. Communication Problems Associated with Aging. (3 cr; prereq non-speech and hearing science major; offered all yrs) Starr
Speech, hearing, and language problems associated with aging. Characteristics, etiology, and management. Implications for families, associates, and caregivers.

CDIs 5103s. Communication Disorders and Cultural Diversity. (4 cr) Siegel
Influence of culture on communication disorders and the role of the speech-language clinician in serving diverse populations.

CDIs 5301f. Introduction to Acoustics. (5 cr) Speaks
Elements of acoustics necessary to understand quantitative aspects of speech and hearing science, speech-language pathology, and audiology. Nature of sound, sound transmission, units of measurement, acoustic characteristics of speech, and elementary electronics.

CDIs 5302f. Anatomy and Physiology of the Speech and Hearing Mechanisms. (5 cr) Solomon
Gross anatomy, physiology, and function of structures related to phonation, articulation, and audition.

CDIs 5303f. Phonetics Laboratory. (2 cr) Broen
Phonetic analysis of speech, the IPA classification system and articulatory correlates of English phonemes. Lab transcription of isolated sounds, words, and connected speech.

CDIs 5304w. Speech Science. (4 cr; prereq 5301, 5302, 5303 or #) Speaks
Acoustic characteristics of speech. Theories of and review of research in speech production and speech perception. Techniques for speech analysis and synthesis.

CDIs 5305f. Language Acquisition. (4 cr) Windsor
Theory and experimental research dealing with language development.

CDIs 5306s. Hearing Science. (4 cr; prereq 5301, 5302 or #) Schlauch
Fundamental concepts in normal audition. Psychoacoustic methods; sensitivity and acuity; loudness, pitch, timbre; distortion, aural harmonics; masking, adaptation; auditory reflex, binaural phenomena, localization.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

CDIs 5502s. Stuttering. (4 cr) Haroldson
Description, nature, and treatment of stuttering in children and adults. Involvement in therapeutic and research activities.

CDIs 5504s. Normal and Disordered Child Phonology. (4 cr; prereq 5302, 5303 or #) Broen
Theory and research relating to normal and disordered phonological development. Emphasis on assessment and treatment of phonological disorders.

CDIs 5507f. Cleft Palate, Oral-Facial Anomalies, and Speech. (4 cr; prereq 5304, 5504 or #) Moller, Starr
Relationships between oral-facial structures and speech. Speech problems associated with dental and palatal anomalies and their clinical management. Observations of clinical activities.

CDIs 5508w. Voice Disorders. (4 cr; prereq 5304 or #) Haroldson, Starr
Physical and physiological bases of normal voice production. Voice disorders (pitch, loudness, quality) and their symptomatology, etiology, and clinical management. Laryngectomy. Other organic disorders.

CDIs 5509w. Motor Speech Disorders. (4 cr; prereq 5304 or ¶5304) Solomon
Nature, assessment, and treatment of motor speech disorders in adult and pediatric populations.

CDIs 5506w. Language Assessment and Intervention: Early Stages. (4 cr; prereq 5305 or #) Reichle
Communication disorders in preschool-age children with special emphasis on the assessment and management of language disorders observed in children with developmental disabilities as well as intellectually normal children.

CDIs 5507s. Language Assessment and Intervention: Later Stages. (4 cr; prereq 5305 or #) Windsor
Language disorders in school-age children, with special emphasis on assessment and intervention.

CDIs 5508s. Language Assessment and Intervention: Adults. (4 cr; prereq 5302 or #) Brookshire
Language disorders in adolescent and adult populations, with special emphasis on assessment and intervention strategies applicable to aphasia and other neurogenic disorders.

CDIs 5511f. Augmentative Systems of Communication. (4 cr) Reichle
Equipment and instructional procedures used to establish communication board and signing skills in severely handicapped populations.

CDIs 5701w. Hearing Loss and Audiometry. (5 cr; prereq 5301, 5302 or #) Schlauch, Carney
Overview of hearing disorders: audiometric and medical correlates, medical and surgical management, effects on communication, and psychosocial adjustment. Basic audiometry: pure-tone audiometry, speech audiometry, screening, acoustic immittance. Lab.

CDIs 5702f. Advanced Audiometry. (5 cr; prereq 5701 or #) Schlauch
Procedures for speech discrimination testing, pediatric testing, detection and evaluation of pseudohypacusis. Behavioral diagnostic procedures for determining site of lesion; auditory pathologies. Lab.

CDIs 5703s. Communication Problems of the Hearing Impaired. (5 cr; prereq 5701 or #) Carney
Effects of hearing loss on development of language, perception, and production of speech, and psychosocial adjustment. Techniques for habilitation and rehabilitation of hearing-impaired children and adults, including use of amplification, speechreading, and auditory training. Basic instruction in finger spelling and elements of manual communication.

CDIs 5705s. Objective Measures of Auditory Function. (3 cr; prereq 5701 or #; offered alt yrs) Margolis
Advanced techniques for clinical physiological evaluation of the auditory system. Acoustic immittance, auditory evoked potentials; electronystagmography, galvanic skin response, electrocardiac response. Lab.

CDIs 5706w. Hearing Aids. (4 cr; prereq 5701 or #) Van Tasell
Electroacoustic characteristics of personal hearing aids and group amplification systems. Acoustical principles of earmold design and modification. Selection of amplification for hearing-impaired children and adults.

CDIs 5707s. Audiology in Educational Settings. (3 cr; prereq 5703 or #; offered alt yrs) Carlstrom
Audiological services for hearing-impaired children in schools. Selection and maintenance of group amplification equipment. Acoustical evaluation of classrooms. Legal educational rights of hearing-impaired children. In-service training of other professionals who work with hearing-impaired school children.

CDIs 5900. Topics in Communication Disorders. (1-4 cr per qtr)

CDIs 5970f,w,s,su. Directed Studies. (Cr ar; prereq #)
Guided individual reading or study.

Comparative Literature (CLit)

See Cultural Studies and Comparative Literature.

Comparative Studies in Discourse and Society (CSDS)

See Cultural Studies and Comparative Literature.

Composition

See English.

Computer Science (CSci)

Institute of Technology

Staff—*Head*, Ahmed Sameh, 4-192 EE/CS Bldg.; *Associate Head*, Pen-Chung Yew, 4-192 EE/CS Bldg.; *Director of Undergraduate Studies*, Shashi Shekhar, 5-203 EE/CS Bldg.; *Director of Graduate Studies*, Jaideep Srivastava, 4-196C EE/CS Bldg.

Professors: D. Du, D-Z. Du, Fox, Kumar, Norberg, Petzold, Rosen, Saad, Sameh, Shragowitz, Slagle, Stein, Tsai, Yew

Associate Professors: Boley, Carlis, Frankowski, Gini, Janardan, Papanikolopoulos, Park, Riedl, Shekhar, Srivastava, Tripathi

Assistant Professors: Konstan, Li, Teng

Computer science is concerned with the study of the hardware, software (programming), and theoretical aspects of high-speed computing devices, and with the application of these devices to a broad spectrum of scientific, technological, and business problems.

A bachelor's degree in computer science can be earned in either CLA or the Institute of Technology (IT). Both curricula give students a basic understanding of computer science. After completing a required set of fundamental courses, students can arrange their subsequent work around one of several different upper division options. The curriculum is flexible enough so that a student can build on the basic foundation by means of the upper division. This flexibility allows concentrations within computer science or in interdisciplinary areas involving computer applications. Students may prepare for a variety of industrial, governmental, and business positions involving computer use or for graduate work in the field.

The four-year CLA program leads to the bachelor of arts degree (B.A.) with a major sequence in computer science. The four-year IT curriculum leads to the bachelor of science in computer science (B.S.). A minor sequence in computer science is available through CLA only.

Admission—CLA students interested in the B.A. in computer science should apply directly to the Department of Computer Science. Before applying, students should complete Math 3251 and at least 4 of the 33xx computer science requirements (3311, 3316, 3317, 3321, 3322, 3327) with a grade of C or better. Petition forms for admission are available in the department office (4-196 EE/CSci). Evaluations for admission are based on a minimum modified GPA of 2.50 in the required math and computer science courses. A modified GPA is calculated using F's equal to zero and repeated course grades not replacing old grades.

B.A. Major Sequence

Required Preparatory Courses—Math 1251, 1252, 1261, 3251, 3261; Stat 3091 or 5121

Major Requirements—CSci 3311, 3316, 3317, 3321, 3322, 3327, 5102, 5106, 5201, 5301, 5400

At least 12 cr in 5xxx computer science courses not listed above

All courses listed above must be taken A-F (except courses offered S-N only).

A grade of at least C is required to satisfy prerequisite and degree requirements.

Minor Sequence

Required Preparatory Courses—Math 1251

Minor Requirements—A minor in computer science consists of 20 credits of approved computer science courses. All courses and prerequisite courses must be taken A-F and be passed with a grade of C or better. Computer science courses for nonmajors and courses from other departments that are equivalent to computer science courses are not acceptable. Some examples: CSci 3113 is not acceptable because it is a service course and not required by CSci majors. CSci 3321 is acceptable. Honors students can replace CSci 3321 with CSci 3204H and CSci 3205H. If the student has taken EE 3352, then CSci 3327 is *not*

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

acceptable because those two courses are equivalent. For more information, contact the computer science undergraduate adviser.

CSci 1001. Introduction to Computers for Non-Computer Science Majors. (4 cr; no degree credit for IT students)

History and societal impact of computers; legal and ethical issues in computer usage; basic computer organization; concept of an algorithm; flowcharting; exemplifying the personal computer as a versatile tool by conceptual understanding of and hands-on experience with packages ranging from editing and word processing to symbolic mathematics.

CSci 3101. Introduction to Computer Applications for Scientists and Engineers. (4 cr; prereq 1 qtr calculus)

Algorithm development and principles of computer programming using FORTRAN, emphasizing numerical methods for science and engineering applications. Integral open lab.

CSci 3102. Introduction to Pascal Programming. (4 cr; prereq non-CSci major, precalc or #; informal lab) PASCAL computer language, applications, programming techniques. Brings students to advanced-level competence in PASCAL programming. Integral nonscheduled lab.

CSci 3113. Introduction to Programming in C. (4 cr, \$3121, \$3322, or \$5113; prereq precalc or #) Introduction to computer programming in the procedural paradigm. Students use C language to write several programs that illustrate flow control, basic data types (array, record, pointer), and program structuring. Prepares students for more advanced courses in data structures and algorithms.

CSci 3121. Survey of Data Structures and Algorithms. (4 cr, \$3105, \$3321; prereq knowledge of C or 3113 or #)

Fundamental data structures with some of the rudimentary computer algorithms. Students implement these data structures and their operations as abstract data types. Study of C++ with emphasis on implementation of data types and control structures.

CSci 3204H. Introduction to Programming and Problem Solving in Science and Engineering I. (2 cr; prereq Calc I, IT Honors or consent of IT Honors office) Introduction to programming using FORTRAN, designed to meet needs for programming in science and engineering courses and projects. Includes program development and data types, structured and modular programming and subprograms, input/output, and one- and multidimensional arrays, double precision, and complex data types.

CSci. 3205H. Introduction to Programming and Problem Solving in Science and Engineering II. (2 cr; prereq 3204H, Calc II, IT Honors or consent of IT Honors office)

Introduction to C++ programming sequence, iteration, decision, functions, pointers and arrays. Searching and sorting as example of complexity study. Organization of larger programs. Concept of abstract data type and its implementation using C++ classes.

CSci 3311. Discrete Structures of Computer Science. (4 cr, \$3400; prereq 3317, 3321) Mathematical techniques and structures needed in computer science. Topics include formal logic, elementary combinatorics, induction, recurrences, relations, and graphs.

CSci 3316. Structure of Computer Programming I. (4 cr, \$3106; prereq 1 qtr calculus or #)

Different programming paradigms as a formal way of expressing computer algorithms and data. Procedures, recursion, and iteration as algorithmic development techniques. Use of abstraction and modularity. The language Scheme is used for illustration of ideas and lab problems.

CSci 3317. Structure of Computer Programming II. (4 cr; prereq 3316)

Advanced programming paradigms. Object-oriented programming, logic programming, and pattern matching are illustrated with examples. Generic operators, local variables, and objects as ways of encapsulating conceptual parts of a program. The language Scheme is used for illustration of ideas and lab problems.

CSci 3321. Algorithms and Data Structures I. (4 cr, \$3105, \$3121; prereq knowledge of C or 3113 or #)

Fundamental data structures with some of the rudimentary computer algorithms. Students implement these data structures and their operations as abstract data types. Study of C++ with emphasis on implementing data types and control structures.

CSci 3322. Algorithms and Data Structures II. (4 cr, \$5121; prereq 3311; no grad credit for CSci majors)

Fundamental paradigms for algorithm design with supporting data structures. Complexity, correctness analysis, and lower bound theory. Implementation of selected algorithms and data structures using the C++ language.

CSci 3327. Introduction to the Organization of Computer Systems. (4 cr, \$3107, \$5101; prereq 3316 or 3121 or 3321 or #)

Organization of hardware and software systems that support computer programming and program execution. Symbolic assembly language to study the mapping of application programs and data into the underlying hardware. Ideas illustrated in assembly language programs (currently Motorola 680x0).

CSci 5090. History of Computing. (4 cr, \$HSci 5321)

Developments in the last century: factors affecting evolution of hardware and software, growth of the industry and its relation to other business areas, and changing relationships resulting from new data gathering and analysis techniques.

CSci 5101. Introduction to the Organization of Computer Systems. (4 cr, \$3107, \$3327; prereq 3121 or 3316, non-CSci major or #; majors should take 3327) For description, see CSci 3327.

CSci 5102. Introduction to Systems Programming. (4 cr; prereq 3327 or 5101 or #; informal lab; no graduate credit for CSci majors) User-level programming view of the operating system functions. Introduction to UNIX systems programming. Use of system calls, relationships between C library functions and systems calls, file systems, process management functions, input-output, signal handling, use of pipes and sockets, and shell programming.

CSci 5103. Introduction to Operating Systems. (4 cr, \$5502; prereq 3322, 5102 and 5201 or #; informal lab) Conceptual foundations used in operating system designs and implementations. Relationships between operating system structures and the underlying machine architectures. UNIX implementation mechanisms will be presented as examples.

CSci 5104. System Simulation: Languages and Techniques. (4 cr; prereq 3327 or 5101, Stat 3091 or #; informal lab) Methodologies relevant to system modeling and simulation. Application of stochastic processes, Markov chains, and queuing theory to developing system models and simulation experiments. Data collection and statistical analysis of output. Fundamentals of discrete event-based simulations using digital computers. Discussion of simulation languages, both process and event oriented, including SIMULA and SIMPAS. Application of these techniques to job shops, operations research, and modeling of computer and communications systems.

CSci 5106. Structure of Higher Level Languages. (4 cr; prereq 3321, 3327, 3317 or #; informal lab; no graduate credit for CSci majors) Motivation, syntax and semantics, imperative languages (e.g. Ada, C), type system, control structures, procedures, activation record model, exception handlers; Encapsulation, parameterization; functional languages (e.g. Lisp, Scheme, ML or FP); Object-oriented languages, (e.g. Smalltalk, C++ or CLOS); Trends (e.g. concurrent model).

CSci 5107. Computer Graphics I. (4 cr; prereq 3322, 3327, or #) Introduction to computer graphics. Extensive programming and theoretical underpinnings of computer graphics. General graphics issues, user interface issues, 2D graphics, introduction to 3D graphics (including the 3D pipeline, shading and hidden surface removal, and ray tracing.)

CSci 5110. User Interface Design, Implementation and Evaluation. (4 cr; prereq 3322, 3327, or #; informal lab) Design, programming, and evaluation of interactive applications with focus on task-centered approach to user interface design. Students work in groups on a course-long project that includes designing, prototyping, evaluating, and implementing an application interface. Experience with interface evaluation techniques including user testing and non-user walkthrough and heuristic techniques.

CSci 5111. GUI Toolkits and Their Implementation. (4 cr; prereq 5110 or 5107 or #; informal lab) Structure and design of user interface toolkits and frameworks. Includes discussion of window system protocols, toolkits design, event processing, data management and constraints, geometry management, resource management, and other features of advanced interface development toolkits. Completion of a project implementing a toolkit extension or widget.

CSci 5113. Introduction to Object-oriented Programming Using C++. (4 cr; prereq background in C language programming equiv to 3113, \$3121, \$3321 or \$3322; no graduate credit for CSci majors) Introduction to object-oriented programming in C++ for students who already know how to program in C. Object-oriented programming and inheritance, including polymorphism and multiple inheritance, container classes and iterators, operator overloading, user-defined implicit conversions, constructors, destructors, and templates.

CSci 5117. Computer Graphics II. (4 cr; prereq 5107 or #; informal lab) Spline curves and surfaces, other advanced modeling techniques, solid modeling, color theory, advanced shading algorithms, advanced ray tracing, radiosity, introduction to scientific visualization.

CSci 5121. Algorithms and Data Structures II. (4 cr, \$3322; prereq knowledge of C or 3113 and non-CSci major [CSci major should take 3322]) Fundamental paradigms for algorithm design with the supporting data structures. Complexity, correctness analysis, and lower bound theory. Implementation of selected algorithms and data structures using the C++ language.

CSci 5151. Introduction to Parallel Computing. (4 cr; prereq 3121 or 3322 or #) Programming techniques, algorithms and data structures in parallel computing. Evaluation of algorithm quality. Effectiveness and scalability. Basic concepts and algorithms for parallel computation.

CSci 5161. Introduction to Compilers. (4 cr, \$5504; prereq 5106 or #; informal lab) Techniques for implementing programming languages. The compiler front end, recognizing syntactic structures, generating internal representations. Symbol table manipulation and type checking.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

CSci 5180. Software Engineering I. (4 cr; prereq 5106 or #; informal lab)

Software life cycle, requirement acquisition, specification, design, coding and testing. Criteria for requirement acquisition, object-oriented analysis and modeling, structures analysis, process description. Specification verification and validation techniques, completeness and consistency techniques, multilevel checking techniques. Formal analysis of semi-formal specifications. Object-oriented design techniques, object-oriented design patterns. Current software develop and application environments. Software prototyping, software maintenance and application issues. Students will participate in a group project to develop an application from user requirements.

CSci 5181. Software Engineering II. (5 cr; prereq 5180; scheduled lab)

Requirement analysis. Project planning and management. Design reviews, software testing, validation strategies. Maintenance. Lab with group projects, 12 hours per week project work outside of class time. Selected projects on the process of systems development, from requirements analysis through maintenance. Student groups will specify, design, implement, and test partial software systems. Emphasis on application of general software development methods and principles from 5180, rather than on specific systems.

CSci 5199. Problems in Languages and Systems. (1-4 cr [may be repeated for cr]; prereq #)

Special courses or individual study arranged with a faculty member.

CSci 5201. Introduction to Computer Architecture. (4 cr; prereq 3327 or #; informal lab; no graduate credit for CSci majors)

Elementary computer architecture, gates, and digital logic, register transfers and micro operations, and processor studies of existing systems.

CSci 5211. Data Communications and Computer Networks. (4 cr; prereq 5102 or #; informal lab)

Network classification and services. Hardware components: multiplexors, concentrators, and communications media. Network protocols and architectures. Research areas.

CSci 5212. Network Programming. (2 cr; prereq 5102 or #, #5211; informal lab; no graduate credit for CSci majors)

Network and distributed programming concepts using C++ and UNIX, including TCP/IP, sockets, and RPC applications.

CSci 5221. Advanced Computer Networks and Its Applications. (4 cr; prereq 5211 or #)

Design, maintenance and use of high speed networks and their impact on society. Emphasis on new emergent protocols such as FDDI-II, Frame-Relay, ATM. Characteristics of hardware, protocols and applications such as high performance distributed computing and multimedia.

CSci 5222. Network Operations and Administration. (4 cr; prereq 5211 or #; no graduate credit for CSci majors)

Plan, configure, install, diagnose, performance tune, operate, and manage computer network components.

CSci 5280, 5281. Computer-Aided Design. (4 cr each; prereq 3311; informal lab)

CAD for digital systems with emphasis on VLSI. 5280: Hardware description languages: synthesis, simulation, text generation. 5281: Physical design: partitioning, placement and routing, design, and electrical rule checks. Inherent complexity of algorithms. Analysis of best known algorithms.

CSci 5299. Problems in Machine Design. (1-4 cr [may be repeated for cr]; prereq #)

Special courses or individual study arranged with faculty member.

CSci 5301. Numerical Computation. (4 cr; prereq Math 3261, knowledge of a programming language or #; informal lab; no graduate credit for CSci majors)

Floating point arithmetic and rounding errors. Iterative methods. Numerical solution of nonlinear equations. Newton's method. Direct methods for linear systems of equations. Gaussian elimination. Factorization methods. Interpolation and approximation. Numerical integration and differentiation. Numerical solution of ordinary differential equations.

CSci 5302. Analysis of Numerical Algorithms. (4 cr; prereq 5301 or #)

Norms, condition numbers, and error analysis. Convergence rates for iterative methods. Numerical approximation methods. Least squares. Fast Fourier transform. Gaussian quadrature. Spline interpolation. Computation of eigenvalues and eigenvectors. Stability and error analysis of methods for solution of ordinary differential equations.

CSci 5304. Computational Aspects of Matrix Theory. (4 cr; prereq 5302 or #; informal lab)

Direct and iterative solution of large linear systems. Decomposition methods. Computation of eigenvalues and eigenvectors. Singular value decomposition. Linpack and other software packages. Methods for sparse and large structured matrices.

CSci 5305. Numerical Methods for Ordinary Differential Equations. (4 cr; prereq 5302 or #; informal lab)

Initial value problem. Convergence and stability. Efficient implementation. Error estimation and step size control. Comparison of recent software packages. Two-point boundary value problems. Collocation and finite element methods.

CSci 5306. Numerical Methods for Partial Differential Equations. (4 cr; prereq 5302, differential equations or advanced calculus or #)

Fundamentals of partial differential equations (PDEs). Finite difference and finite element discretization methods. Numerical treatment of parabolic, hyperbolic, and elliptic problems. Convergence, stability, and consistency. Iterative methods. Programming techniques and use of FORTRAN packages.

CSci 5320 Introduction to Linear Programming. (4 cr; §5001; prereq 5301 or #; informal lab)

Basic solutions to linear systems; inequalities; convex polyhedral sets; linear programming formulation and optimality conditions; theoretical and computational aspects of simplex algorithm; postoptimal analysis; duality. Revised simplex and numerically stable methods, upper-bounded problems; commercially available LP systems; methods for large, sparse systems. Interior methods for LP.

CSci 5399. Problems in Numerical Analysis. (1-4 cr [may be repeated for cr]; prereq #)

Special courses or individual study arranged with faculty member.

CSci 5400. Introduction to Automata Theory. (4 cr; prereq 3311 or #, no graduate credit for CSci majors) Turing machines, computable functions, unsolvability of the halting problem, recursive functions. Finite state models; equivalence, minimization, properties, decision questions, characterizations. Regular expressions. Survey of other automata.

CSci 5421. Introduction to Algorithm Design. (4 cr; §8401; prereq 3322, 5121 or #) Fundamental paradigms for algorithm design. Divide-and-conquer, dynamic programming, the greedy method, maroids, backtracking and branch-and-bound, basic graph algorithms, some techniques for geometric problems, and string matching.

CSci 5422. Advanced Data Structures. (4 cr, §5122; prereq 5421 or #) Advanced techniques for representing and manipulating data efficiently, and techniques for analyzing the performance of these methods. Priority queues, balanced search trees, multidimensional searching structures, amortized complexity and its applications to data structure design, persistent data structures, and data structures for secondary storage.

CSci 5442. Introduction to Computational Geometry. (4 cr; prereq 5421 or #) Techniques for the design and analysis of geometric algorithms. The geometric problems studied include many that occur naturally in various applications such as computer graphics, solid modeling, CSD, robotics, manufacturing, vision, etc. Introduction and coverage of both "pure" and "applied" aspects of geometric computation.

CSci 5499. Problems in Computational Theory or Logic. (1-4 cr [may be repeated for cr]; prereq #) Special courses or individual study arranged with faculty member.

CSci 5511. Artificial Intelligence I. (4 cr; prereq 3322 or #; informal lab) Ideas and issues of artificial intelligence. Knowledge representation, problem solving, search, inference techniques, theorem proving. Expert systems. Introduction to applications. Programming languages.

CSci 5512. Artificial Intelligence II. (4 cr; prereq 5511 or #; informal lab)

Techniques of artificial intelligence to solve complex problems. Natural language processing and speech recognition. Machine perception and integrated robots. Planning. Machine learning. Expert systems.

CSci 5521. Pattern Recognition. (4 cr; prereq 5301, Stat 3091 or #; informal lab)

Pattern recognition, feature selection, measurement techniques, and similar problems. Classification methods: statistical decision theory, nonstatistical techniques. Automatic feature selection. Syntactic pattern recognition. The relationship between mathematical pattern recognition and artificial intelligence. Applications.

CSci 5531. Artificial Intelligence Programming Techniques. (4 cr; prereq 5511 or #; informal lab)

Languages and programming techniques for problems in artificial intelligence. Lisp and Prolog. Production system and frame-based languages. High-level tools. Implementation of knowledge representation structures and inference operations. Applications in expert systems.

CSci 5551. Introduction to Intelligent Robotic Systems. (4 cr; prereq 5511 or #)

Fundamentals of operations of a robot manipulator. Overview of sensing techniques and introduction to their basic principles. Real-time programming issues as applied to the control of a robot. Robot programming and planning.

CSci 5561. Computer Vision. (4 cr; prereq 5511 or #)

Representational and computational tools. Matching. Edge direction. Shape from shading, motion, and stereo. Texture. Object recognition. Applications.

CSci 5571. Expert Systems. (4 cr; prereq 5511 or #; informal lab)

Expert systems. Aspects of artificial intelligence representations and inferencing mechanisms. Students will develop a small expert system.

CSci 5599. Problems: Artificial Intelligence. (1-4 cr [may be repeated for cr]; prereq #)

Special courses or individual study arranged with faculty member.

CSci 5702. The Principles of Database Systems. (4 cr; prereq 3322 or #; informal lab)

Fundamental concepts. Conceptual data organization. Data models. Data manipulation languages. Database design. Security and integrity. Performance evaluation. Query optimization. Distributed database systems.

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CSci 5703. Database System Design. (4 cr; prereq 5702 or #: informal lab)
Application of database concepts in the design and development of database systems and database applications. Design of current commercial and research-oriented database systems. Techniques of using database systems for applications.

CSci 5705. Object-oriented Databases. (4 cr; prereq 5702 or #)
Applications and motivation; extended relational, object-relational and object-oriented data models; object identifier, types and constructors; versions and schema evolution; query language (recursion, path expressions, etc.); object indices, buffer management and other implementation issues; triggers, rules, complex objects and case studies.

CSci 5799. Problems in Information Science. (1-4 cr [may be repeated for cr]; prereq #)
Special courses or individual study arranged with faculty member.

Cultural Studies and Comparative Literature (CSCL)

Staff—*Chair*, Richard Leppert, 355 Folwell Hall; *Director of Undergraduate Studies*, Gary Thomas, 341 Folwell Hall; *Director of Graduate Studies in Comparative Studies in Discourse and Society*, John Archer, 103 Folwell Hall; *Director of Graduate Studies in Comparative Literature*, John Archer, 103 Folwell Hall

Professors: Leppert, Sarles, Schulte-Sasse

Associate Professors: Archer, Mowitt, Pomata, Thomas

Assistant Professor: Jha

Cultural Studies and Comparative Literature (CSCL) offers interdisciplinary and cross-cultural studies of how varying modes of discourse (e.g., art, architecture, literature, music, philosophy, religion) are both rooted in and active within history, society, and culture. The objective is an improved understanding of the complex interrelation of ideas, values, social patterns, and material realities, with attention to the subtleties inherent within different styles of thought, genres of expression, cultural contexts, and historic moments.

To declare a major or minor in CSCL, complete a form with the CSCL department's director of undergraduate studies. This form documents your initial advising session and notifies the CLA Divisional Office of your intention to major or minor in CSCL.

For information about graduate programs in Comparative Literature and Comparative Studies in Discourse and Society, contact the Department of Cultural Studies and Comparative Literature.

Study Abroad—Students are encouraged to study abroad and integrate such study into their undergraduate programs. Credits in relevant fields can be applied toward a CSCL major or minor upon prior approval by the director of undergraduate studies. For information on options and procedures, see Foreign Study.

B.A. Major Sequence

Major Requirements

A. CSCL Department Courses—48 credits to include (1) CSCL 1301 or 1001; 1302, and 1303 (12 credits); (2) Five 3xxx CSCL courses, including courses from at least three of the following four divisions (20 credits): a) Discursive Practices, b) Culture and Conflict: Case Studies, c) Influential Configurations of Knowledge, and d) Social Constructions of the Subject; 3) Four 5xxx CSCL courses, including one CSCL 5990 (Senior Workshop/Major Project) and three additional courses carrying any of the departmental designators (CSCL, CLit, CSDS) (16 credits).

B. Concentration (16 credits)—Four 3xxx-5xxx CLA courses relevant to the declared area of concentration, approved by an adviser. At least one course must be from CSCL, CLit, or CSDS. None of the four courses can be 1xxx (16 credits).

Note: For sections A(2), A(3), and B, departmental (CSCL, CLit, CSDS) topics courses (3910 and 5910) and directed studies (3970 and 5970) will meet stated requirements. Up to four courses in sections A and B, excluding 3xxx and 5xxx department courses, may be taken S-N.

Minor Sequence

Minor Requirements

(Minimum 24 credits)

Six CSCL courses, including a) CSCL 1301 or 1001 (4 credits), and 1302 or 1303 (4 credits); b) three 3xxx courses (12 credits), and c) one 5xxx CSCL course carrying any of the departmental designators (CSCL, CLit, CSDS) (4 credits).

No more than 4 credits of the total program credits may be taken S-N. No more than 4 credits of the total 3xxx-5xxx credits may consist of directed study, directed instruction, or independent study courses.

Introductory Courses

CSCL 1001. Introduction to Cultural Studies: Rhetoric, Power, Desire. (4 cr)
Critical theories and methods for examining texts, artistic forms, and discursive practices that reflect and produce a society's culture. Case studies from history and the present, including examples from the visual arts, music, video, film, literature, myth, ritual, and the built environment.

CSCL 1301. Discourse and Society I: Reading Culture. (4 cr)
Introduction to modes of expression (e.g., verbal, visual, musical) through representative works. Analysis of discourse in relation to social structures, examining its role in creating and contesting social borders, replicating cultures, and attaching differential privilege to various practices.

CSCL 1302. Discourse and Society II: Meaning and History. (4 cr)
Examines varied historically grounded case studies to explicate ways in which social and political tensions of particular moments and local milieus find representation in specific items of discourse. Relation of cultural discourses to the sociohistorical conditions of their emergence.

CSCL 1303. Discourse and Society III: Knowledge, Persuasion, and Power. (4 cr)
Inquiry into the ways certain bodies of discourse come to cohere, to exercise persuasive power, and to be regarded as authoritative, while others are marginalized, ignored, or denigrated. Inter-relations of center and periphery, hegemony and counter-hegemony, canon and apocrypha.

CSCL 1921. Introduction to Film Study. (4 cr, §Arth 1921)
Fundamentals of film language and the major theories of film presented through detailed analysis of several films.

Intermediate Courses

Discursive Practices

Examination of specific discursive modes and critical skills necessary for explicating works within them. Focus on their characteristic systems of production, distribution, and consumption, and the metadiscourses that have grown up around them.

CSCL 3115. Cinema and Ideology. (4 cr)
Major aspects of film as discourse with special attention to the complex relations it maintains with the ideological and political contexts in which it appears. Specific films will be used to study cinema as institution, film as current product, and artistic ideologies in politics.

CSCL 3132. The Modern Novel in a Comparative Perspective. (4 cr)
Relationship of modernity to the genre of the novel in Western Europe and the Americas. Students will analyze the notions of subjectivity and philosophical reflection as they are manifested in the literatures of various novelists over a variety of literary periods and geographical terrains.

CSCL 3172. Music As Discourse. (4 cr) Thomas
Close examination of widely varying musical forms and styles, "classical" and "popular," in relation to larger patterns of culture, ideology, and power.

CSCL 3174. Poetry As Cultural Critique. (4 cr) Damon
Examines the status of poetry in several cultures of the Americas, bringing together techniques of close reading and broad cultural inquiry.

CSCL 3175. Comedy: Text and Theory. (4 cr) Thomas
Interdisciplinary study of comedy and comic theory through time and across world cultures in philosophy, psychology, literature, drama, film, folk tale, play, and social convention.

CSCL 3176. Oppositional Cinemas. (4 cr; prereq 1301 or Arth 1921) Mowitz
The way film texts and the social institutions of cinema both contribute to and resist the reproduction of social relations in modern Western countries. Particular attention to class, race, and gender as sites of sociocultural conflict.

CSCL 3196. Religious Discourses. (4 cr, §RelS 3196)
Critical analysis of such phenomena as myth, ritual, and cosmology; the grounding of ethical and legal systems in transcendent claims; priestly and prophetic authority; religion as ideology and practice.

CSCL 3198. Social and Aesthetic Production of Space. (4 cr) Archer
Production, distribution, and consumption of architecture and built space in the context of the larger societal framework. Attention to the perception, interpretation, and critique of built form.

Culture and Conflict: Case Studies

Each of these courses focuses on a particular locus in time and space and explores the multiple discourses that circulated,

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

complemented, and conflicted with one another, while grounding all of them in the social structures and historic events of which they were a part.

CSCL 3254. Architecture and Society: 1760-1870. (4 cr) Archer

Role of individualism, capitalism, technology, social change, property relations, land use in production of architecture and urban space in Europe and especially North America, 1760-1870. Formal and aesthetic means of articulating social tensions and relations.

CSCL 3276. The West and the World: Literary Perspectives. (4 cr; prereq jr or sr or #)

Novels concerned with the collision between the West and non-Western cultures. Authors such as Melville, Conrad, Forster, Orwell, Achebe, Mac Dun, Tanizaki, V.S. Naipaul.

CSCL 3277. The Family in the Novel, East and West. (4 cr; prereq jr or sr or #)

Cross-cultural study of novels in which family relationships over generations serve as subject matter, theme, and structure. Authors may include the following: Böll, Butler, Faulkner, Lawrence, Mann, Marquez, Muraski, V.S. Naipaul, Pa Chin, Stegner, Tanizaki, Ts'ao Hsieh-ch'in, Turgenev, Woiwode.

Influential Configurations of Knowledge

Bodies of knowledge that hold privileged status as metadiscourse through which other discourses can be interpreted. Attention to the internal logic, rhetorical figures, and explicative power of such discourses, as well as the processes through which they both gain and lose their influence.

CSCL 3321. Theories of Culture. (4 cr; prereq jr or sr or #)

Sociological, anthropological, philosophical models of culture. Critical analyses of interrelations of art, society, and ideology. Authors include Marx, Durkheim, Freud, Gramsci, Benjamin, Marcuse, Geertz, Derrida, Foucault.

CSCL 3331. Science and the Humanities. (4 cr; prereq jr or sr or #)

Implications for ethics and social design of the competing claims made by the sciences and the humanities. Kinds of creativity and the ways of knowing in the two fields. Snow, Bronowsky, Frye, Bohr, Beckett, Heisenberg, Skinner, E.O. Wilson.

CSCL 3361. Visions of Nature: The Natural World and Political Thought. (4 cr, SEEB 3006) Regal

A history from ancient times to the present of theories about the organization of nature, and their significance for the development of ethics, religion, political and economic philosophy, civic, and environmentalism in Western civilization and elsewhere.

CSCL 3366. Landscape and Ideology:

1600-1875. (4 cr) Archer

Cultural construction of nature as concept and as environment. From Puritan "garden in the wilderness" to 18th-century "natural" landscape garden and 19th-century transcendentalism. Role of agriculture, religion, philosophy, aesthetics, property relations, travel, and exploration.

Social Constructions of the Subject

Analyses of gender, sexuality, race, and class as discursive constructions productive of human subjectivity and cultural difference. Attention to the institutions and ideologies through which such difference is transmitted, maintained, or subverted.

CSCL 3412. Psychoanalysis and Literature Part I: The Essential Freud. (4 cr; prereq jr or sr or #)

Theoretical writings of Sigmund Freud, basic concepts of psychoanalytic criticism, the dream and interpretation, the genre of the case study, Freud's ideas concerning the constitution of ethnicity, culture, identity and gender, fantasy vs. reality, psychoanalysis of the author/character/culture.

CSCL 3413. Psychoanalysis and Literature Part II: Post Freudian Criticism. (4 cr; prereq jr or sr or #)

Impact of psychoanalytic discourses on literary studies as well as the opposite effect—impact of literary theory on psychoanalysis. Archetypal of Jung, structural of Lacan, post-structural of Derrida and Kristeva, feminist psychoanalytic of Mitchell, self/object of Klein Kernberg and Kohut. The unconscious and society of Deleuze and Guattari.

CSCL 3421, 3422. Culture and the Production of Modern Identity. (4 cr) Schulte-Sasse, Leppert
History of cultural, perceptual and/or conceptual changes in early modern Western societies, 1600 to 1900, concerning new and conflicting understandings of human imagination, subjectivity, identity, and the body; addressed via the study of medical treatises, philosophy, literature, the visual arts, music, pedagogy, and manners. 3421: 1600-1750, 3422: 1750-1900.

CSCL 3456. Sexualities—From Perversity to Diversity. (4 cr; prereq 1301 or 1302 or 1303 or any women's studies course) Messer-Davidow
Contemporary constructions of Western sexuality (heterosexuality, homosexuality, lesbianism, romance, pornography, erotic domination, and lynching), institutions that constitute or compel them, and moral discourses. Materials include fiction, personal narratives, manuals, ads, journalism, and scholarship and theory from several disciplines.

CSCL 3458. The Body and the Politics of Representation. (4 cr) Leppert

Western representation of the human body, Renaissance to 1900, considering both Western and non-Western peoples. Body's appearance as site/sight for production of sociocultural difference (race, ethnicity, class, gender). Visual arts, medical treatises, courtesy books, travel literature, ethnographies, erotica.

CSCL 3472. Gay Men and Homophobia in American Culture. (4 cr) Thomas
The historical experience of gay men, the social construction of same-sex desire in American society since 1700, studied in a broad context of (sub)cultural history and discourse, including literature and the arts, journalism, science and medicine, religion, and law.

CSCL 3474. The Political Novel. (4 cr; prereq jr or sr or #)
Selected novels from Stendahl to the present; emphasis on critical study of work by major authors; consideration of theories of human nature; relation of the individual and society; philosophy of history and political action; experience and ideology, the political novel as genre.

Topics: Intermediate

CSCL 3910. Topics in Cultural Studies and Comparative Literature. (4 cr per qtr; prereq jr or sr or #)
Topics specified in *Class Schedule*.

CSCL 3910H. Honors Course: Topics in Cultural Studies and Comparative Literature. (4 cr; prereq jr or sr or #)
Topics specified in *Class Schedule*.

CSCL 3931. Problems in Stateless Literatures. (4 cr) Jha, staff
Literatures not subsumed under national boundaries. Aesthetics of the governing nation in relation to governed communities in contrast to alternative communitarian modes of language use to relate history and construct identity.

CSCL 3944. Honors Thesis. (4 cr; sr, candidate for *magna* or *summa* honors in CSCL, Δ)

CSCL 3970. Directed Studies. (Cr ar; prereq #)
Guided individual reading or study.

CSCL 3970H. Directed Studies: Honors. (Cr ar)
Guided individual reading or study.

CSCL 3979. Issues in Cultural Pluralism. (4 cr; prereq ¶|AmSt 3113) Sarles, staff
Critical, comparative basis for studying minority cultures in America: fabric, dynamics, strengths, tensions; how they differ, yet form a distinct culture.

Advanced Courses

Socio-discursive Processes

Analysis of the ways in which material and nonmaterial dimensions of human experience condition one another.

CSCL 5102. Cultural Politics. (4 cr; prereq jr or sr or grad or #) Mowitz
Transformation of the traditional domain of politics once the legitimation and contestation of social power is conducted primarily within the cultural sphere. Attention to how dynamics of marginalization, resistance, and reappropriation come to characterize cultural politics.

CSCL 5154. Theoretical Constructions of Space. (4 cr; prereq jr or sr or grad or #) Archer
Inquiry into theories of space drawn from various disciplines, including anthropology, architecture, geography, history, landscape design, philosophy, planning, and sociology. Areas of intersection and difference; emphasis on new and developing areas of inquiry. Theoretical integration of social and aesthetic concerns.

CSCL 5178. The Political Discourse of Social Change. (4 cr; prereq jr or sr or grad or #) Josephides
Tension between “tradition” and innovation (of ideas, techniques, material development) in contexts of rapid social change, especially when local cultures come into contact with politically more forceful ones. “Traditions” recast as an already politicized discourse.

Historic Trajectories

Development of significant traditions of thought and expression and their dialectic relation to events and processes that unfold over history of the long duration. Particular attention to shifts in technology, the organization of power, modes of production, and levels of social integration.

CSCL 5256. Suburbia. (4 cr; prereq jr or sr or grad or #) Archer
Ideology and practice of suburbia, from origins in mid-18th century Britain to present-day United States, with particular concern for characteristic architectural and spatial forms in relation to social and political relations.

Analysis of Ideological Systems

Examination of attempts to conceptualize culture and their mystificatory operations. Different theories of ideology studied, as well as whether there are alternatives to ideology within any given society or only alternative ideologies.

CSCL 5301. Society, Ideology, and the Production of Art. (4 cr, §CSDS 5301; prereq jr or sr or grad)
Recent critical theories on the relation of the arts to social and ideological forces; selected artifacts from Western culture (Renaissance to 20th century; high, popular, and mass cultures). Music, visual art, literature.

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CSCL 5302. Aesthetics, Ideology, Valuation of Art. (4 cr; prereq jr or sr or grad or #)
Society, ideology, and aesthetic value considered in light of recent critical theories of visual art, music, and literature. Mediations of place, social class, gender, and ideology of aesthetic judgment in post-renaissance Western culture.

CSCL 5392. The Ideology of the Master Narrative. (4 cr; prereq jr or sr or grad or #) Josephides
Totalizing frameworks of explanation as hegemonic discourses whose claim to objectivity and universality rests on an exclusion of other possible discourses and representations. With special attention to ethnography, consideration of usefulness and viability of a polyphonic, postmodernist approach.

CSCL 5398. Phenomenology and Ethnography. (4 cr, §Anth 5394; prereq jr or sr or grad or #) Josephides
Phenomenological/existentialist thought conceived as “the end of ideology”; its politicization during World War II; its use in reflexive anthropology conscious of its own colonial foundations; its use in attempts to understand The Other and in concepts of the person.

Topics: Advanced

CSCL 5711. Interpretation of Myth. (4 cr, §CSDS 5711, §ReIS 5111; prereq jr or sr or grad or #)
Structure and function of myths. Myth as social charter, ideological system, and literary form. Readings in classic theories of myth; primary sources from India, Iran, Mesopotamia, Greece, Africa, North and South America.

CSCL 5751. Basic Concepts of Cinema. (4 cr, §CLit 5221)
Intellectual ability to situate film, as a mass cultural phenomenon, in a historical context; current positions in film theory; fundamentals of film analysis. Comparative perspective on mass culture.

CSCL 5910. Topics in Cultural Studies and Comparative Literature. (4 cr; prereq jr or sr or grad)
Topics specified in *Class Schedule*.

CSCL 5910H. Honors Course: Topics in Cultural Studies and Comparative Literature. (4 cr; prereq jr or sr or grad or #)
Topics specified in *Class Schedule*.

CSCL 5970. Directed Studies. (Cr ar; prereq jr or sr or grad or #)
Guided individual reading or study.

CSCL 5970H. Directed Studies: Honors. (Cr ar; prereq jr or sr or grad or #)
Guided individual reading or study.

CSCL 5990. Senior Workshop. (4 cr; prereq jr or sr major with Δ)
Student-defined, faculty-assisted collective research project devoted to the comparative, sociohistorical analysis of discursive practices. Faculty and student analysis of cultural artifacts. Primarily for CSCL majors and limited to about fifteen seniors, the Senior Workshop offers an opportunity to apply the skills and knowledge gained in previous courses. Faculty and students together explore issues through original research and class discussion.

Comparative Literature (CLit)

CLit 5147. Dynamics of Pedagogy in Higher Education. (4 cr) Sarles
Nature of teaching and the teacher. Considers teaching authority; dynamics of Socratic dialogue and relation of the teacher to students and to oneself in the present and future.

CLit 5221. Basic Concepts of Cinema. (4 cr) Mowitt
Tools and knowledge necessary to place film in historical context, define major boundaries of film theory, and introduce basic concepts of film analysis. Comparative study of French, English, and American theories.

CLit 5555. Introduction to Semiotics. (4 cr)
Problems of the nature of the sign; sign function; sign production; text; culture; complex sign systems. Application of semiotics to various signifying practices (literature, film, images, television, cities).

CLit 5711. Sociocriticism. (4 cr; prereq 3xxx lit course or #) Jha
Sociological theories of discourse, including Bakhtin, Goldmann, and Foucault, and apply theory to practice in readings of specific texts.

CLit 5910. Topics in Comparative Literature. (3-6 cr per qtr; prereq reading knowledge of French or German or Spanish or #)
Topics specified in *Class Schedule*.

CLit 5970. Directed Reading in Comparative Literature. (1-4 cr per qtr; prereq #)
Guided individual reading or study.

Comparative Studies in Discourse and Society (CSDS)

CSDS 5301. Society, Ideology, and the Production of Art. (4 cr, §CSCL 5301; jr or sr or grad)
Recent critical theories on the relation of the arts to social and ideological forces; selected artifacts from Western culture (Renaissance to 20th century; high, popular, and mass cultures). Music, visual art, literature.

CSDS 5711. Interpretation of Myth. (4 cr, §CSCL 5711; prereq jr or sr or grad)
Structure and function of myths. Myth as social charter, ideological system, and literary form. Readings in classic theories of myth; primary sources from India, Iran, Mesopotamia, Greece, Africa, North and South America.

CSDS 5712. Interpretation of Ritual. (4 cr, §ReIS 5112; prereq jr or sr or grad)
Structure and function of rituals. Ritual as symbolic communication, religious action, and technique of social restructuring. Sacrifice, initiation, sacred dance, and other rituals. Theoretical and primary source readings.

CSDS 5910. Topics in Comparative Studies in Discourse and Society. (4 cr; prereq jr or sr or grad)
Themes in comparative, sociohistorical analysis of discursive practices. Individually or team taught. Topics vary quarterly.

CSDS 5970. Directed Studies. (Cr ar; prereq grad, #)
Guided individual reading or study.

Dance

See Theatre Arts and Dance.

Danish

See German, Scandinavian, and Dutch.

Dutch

See German, Scandinavian, and Dutch.

East Asian Studies

See Areas Studies Programs and Institute of Linguistics and Asian and Slavic Languages and Literatures.

Ecology, Evolution, and Behavior (EEB)

College of Biological Sciences

Staff—Head, Patrice Morrow, 100 Ecology Building; *Director of Undergraduate Studies,* Richard Phillips

Regents' Professors: Davis, Gorham

Professors: Barnwell, Birney, Corbin, Cushing, McKinney, McNaught, Megard, Morrow, Phillips, Regal, Schmid, Siniff, Starfield, Tester, Tilman

Associate Professors: Alstad, Beatty, Curtsinger, Packer, Pusey, Shaw

Assistant Professor: Naeem

Adjunct Faculty—Professor: Heinselman (retired forest ecologist)

Associate Professor: Murdock (Bell Museum)

Assistant Professors: Knops, Oberhauser

Ecologists study the evolutionary adaptations of plants and animals to the environment. The ecological perspective encompasses the growth and maintenance of populations and their interactions in communities, and the interrelationships among organisms and physical events in terrestrial and aquatic ecosystems. The behavioral biology perspective deals with adaptations to the environment,

mechanisms of behavior, and evolution of social systems.

Courses listed here frequently are taken by students seeking a B.A. degree in biology through CLA.

General Education—Courses especially appropriate for nonmajors include Biol 1106 or 1806 and EEB 1019, 3001, 3006, 3111.

Biol 1106. General Zoology. (5 cr, §1806; prereq Biol 1009 or 1202)

Survey of animal phyla; structure, function, behavior, adaptation, and evolutionary relationships. Lab includes dissections.

Biol 3008. Ecology and Evolution. (4 cr, §Biol 5841; prereq 1009 or 1201, Math 1142 or 1251)

Growth, structure, adaptation, and evolution of populations. Dynamics and evolution of biotic interactions and their effects on the diversity and structure of natural communities. Function and stability of ecosystems.

Introductory Ecology and Behavioral Biology

EEB 1019. Our Changing Planet. (4 cr, §Ast 1019, §Geo 1019)

Interrelationships among Earth's subsystems—solid earth, oceans, atmosphere and biosphere, and solar and galactic super-systems. Interactions of natural cycles, their rates, feedback, and human impact.

EEB 3001. Introduction to Ecology. (4 cr; open to jrs and above but not to Biol majors)

Basic concepts in ecology; the organization, development, and functioning of ecosystems; population growth and regulation. Human impact on ecosystems.

EEB 3006. Visions of Nature: The Natural World and Political Thought. (4 cr, bioscience students may not apply these cr toward the major) History from ancient times to the present of theories about the organization of nature and their significance for the development of ethics, religion, political and economic philosophy, civics, and environmentalism in Western civilization and elsewhere.

EEB 3111. Introduction to Animal Behavior. (4 cr, §AnSc 3111. §EEB 3811; prereq Biol 1009 or Biol 1201 or Biol 1202 or #)

Biological study of animal behavior including questions of causation, development, function, and evolution; emphasizes evolution of adaptive behavior, especially social behavior, in the natural environment.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / **1011, 1012, 1013**—Series courses, separated by commas; may be entered any quarter / **1011-1012-1013**—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ¶—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

EEB 5965. Decision Analysis. (4 cr; conservation biology graduate program or #)
Active learning class explores how decision analysis techniques and modeling can be used to clarify issues in conservation biology.

EEB 5970. Directed Studies. (Cr ar; prereq #, Δ; S-N only; a max of 10 cr of 5970 or 5990 may count toward the major requirements)
Individual study on selected topics or problems, with emphasis on selected readings and use of scientific literature.

EEB 5990. Directed Research. (Cr ar; prereq #, Δ; S-N only; a max of 10 cr of 5970 or 5990 may count toward the major requirements)
Lab or field investigation of selected areas of research.

Community Ecology and Paleoecology

EEB 5004. Earth System: Geosphere/Biosphere Interactions. (4 cr, §Geo 5631; prereq Geo 3202, Geo 3301 or #)
Interdisciplinary study of global change forcing mechanisms, feedbacks and dynamics on various time scales, using paleorecord to illustrate processes.

EEB 5008. Quaternary Ecology. (4 cr; prereq Biol 3008 or Biol 5041 or Biol 5841 or #)
Impact of changes in the physical and biological environment during the Quaternary Period on plants and animals; changes in evolutionary rates, geographical distributions, community composition, and fluctuations in population sizes. Impact of prehistoric human culture on the environment, including ecosystem-level changes recorded in sedimentary sequences. Recent climatic changes. General principles of analysis and methods of investigation and interpretation.

EEB 5014. Ecology of Vegetation. (5 cr; prereq Biol 3008 or Biol 5041 or Biol 5841, 1 qtr statistics or #)
Methods of describing, sampling, and classifying vegetation; spatial and temporal variation of vegetation on landscapes; theory of the structure and dynamics of plant communities. Field trips to local vegetation types; analysis of quantitative data.

EEB 5016. Ecological Plant Geography. (5 cr; prereq Biol 3008 or Biol 5041 or Biol 5841, PBio 3201 or ¶PBio 3201 or #; offered when feasible)
Vegetation regions of the world in general and North America in detail; ecological principles of plant distribution; interpretation of regional and temporal patterns in the distribution of vegetation and taxonomic groups. Field trips to floristic regions of Minnesota.

Population and Evolutionary Biology

EEB 5034. Population Genetics. (3 cr; prereq basic genetics, one qtr calc, familiarity with computer programming)
Introduction to the genetic basis of evolutionary change, including basic population genetics theory, techniques for Monte Carlo simulation of genetic evolution, and important papers in the literature of experimental population genetics.

EEB 5044. Evolution. (4 cr; prereq Biol 1106 or Biol 1806 or Biol 3011, Biol 1103 or Biol 3012 or Biol 3812)
Evidence for and causes of biological evolution.

EEB 5051. Analysis of Populations. (4 cr; prereq Biol 3008 or Biol 5041 or Biol 5841 or #; offered when feasible)
Factors involved in the regulation, growth, and general dynamics of populations. Data needed to describe populations, population growth, population models, and regulatory mechanisms.

EEB 5052. Theoretical Population Ecology. (5 cr; prereq Biol 3008 or Biol 5041 or Biol 5841 or #; offered when feasible)
Theories of population ecology, including models of growth and regulation of single populations, and of interactions between populations, including competition, predation, mutualism; emphasizes assumptions and rationales of models and their predictions for dynamics, stability, and diversity of communities.

EEB 5064. The Process of Evolution. (4 cr; prereq Biol 3008 or Biol 5041 or Biol 5841 or #)
Mechanistic bases of evolution, including causes and consequences of natural selection, stochastic consequences of Mendelian segregation, and their combined influences on the structure of natural and captive populations. Lab exercises based on "Populus" computer simulation software.

Organismal Biology and Physiological Ecology

EEB 5122. Plant/Animal Interactions. (4 cr; prereq Biol 1106 or Biol 1806 or Biol 3011, Biol 1103 or Biol 3012 or Biol 3812, 10 cr bio sci or #; offered when feasible)
Herbivory, pollination, seed dispersal. Implications of interaction for plants and animals at organismal, population, and community levels. Coevolution.

EEB 5129. Mammalogy. (5 cr, §FW 5129; prereq Biol 1106 or Biol 1806 or Biol 3011 or #)
Recent families and orders of mammals of the world and genera and species of mammals of North America, with emphasis on morphology, evolution, and zoogeographic history.

EEB 5134. Introduction to Ornithology. (5 cr; prereq Biol 1106 or Biol 1806 or Biol 3011)
Lab and field course in structure, classification, distribution, migration, habits, habitats, and identification of birds. Weekend trips.

EEB 5136. Ichthyology. (4 cr; prereq 15 cr incl Biol 1106 or Biol 1806 or Biol 3011)
Biology of fishes including development, systematics, anatomy, physiology, and ecology.

EEB 5156. Comparative Animal Physiology. (3 cr; prereq Biol 1106 or Biol 1806 or Biol 3011, Chem 3302 or #)
The passive organism: environmental stresses and biological mechanisms by which they are counteracted.

EEB 5157. Animal Physiology Laboratory. (3 cr; prereq 5156 or 5323 or AnSci 3301 or ¶AnSci 3301 or Biol 3011 or Biol 3111 or Ent 5030 or FW 5459 or GCB 5114 or #)

Introduction to basic physiological processes in animals using computerized recording and analysis equipment and techniques. Recording and analysis of bioelectric events, transduction of force and displacement into electrical signals, respirometry, spectrophotometry. Independent or team research projects required.

Behavior

EEB 5321. Evolution of Social Behavior. (4 cr; prereq Biol 1106 or Biol 1806 or Biol 3011 or #; offered when feasible)

Current theories and concepts relating to mating systems, spacing systems, and cooperative behavior in animals.

EEB 5323. Mechanisms of Behavior. (3 cr; prereq 3111 or Biol 3011 or #; A-F only)

Neural and hormonal mechanisms that mediate adaptive behavior in invertebrate and vertebrate animals, using a series of well-studied examples to illustrate general principles.

EEB 5324. Evolution of Primate Social Behavior. (3 cr; prereq 3111 or #)

Ecological factors that influence variation in the demography, social structure and social behavior of non-human primates. Application of current evolutionary theory (e.g., kin selection, reciprocity) to the understanding of social behavior

EEB 5325. Behavioral Ecology. (4 cr; prereq 3111 or 5321 or Biol 3008 or Biol 5041 or Biol 5841 or #; offered when feasible)

Evolutionary principles applied to the study of aggressive competition, mating systems, cooperation, and parental investment. Optimization models used to examine foraging strategies, predator/prey interactions, and territoriality. Evolution of sex, sexual selection, and dispersal.

Limnology and Ecosystem Ecology

EEB 5601. Limnology. (4 cr, \$Geo 5601; prereq Chem 1052 or #)

Description and analysis of the events in lakes, reservoirs, and ponds, beginning with their origins and progressing through their physics, chemistry, and biology. Interrelationships of these parameters and effects of civilization on lakes.

EEB 5607. Ecology of Animal Plankton. (5 cr; prereq 5601 or #, Biol 3008 or Biol 5041 or Biol 5841; offered when feasible)

Biology of animal plankton, including distribution of zooplankton in lakes, ecosystem functions such as grazing and remineralization, determination of production, physiological responses to contaminated environments, and important aspects of behavior.

EEB 5608. Ecosystems: Form and Function. (4 cr; prereq 5601 or Biol 3008 or Biol 5041 or Biol 5841 or equiv, advanced writing course such as Comp 3015, 3027, 3033, 3085 or Rhet 3562, Δ)

Nature and development of terrestrial, wetland, and aquatic ecosystems. Analysis of energy flow and element cycling in relation to environmental controls, self-regulation, natural and human disturbances.

EEB 5621. Limnology Laboratory. (2 cr, \$Geo 5621; prereq 5601 or Geol 5601 or #; offered when feasible)

Techniques for obtaining information about environmental conditions in lakes and streams. Procedures for measuring the abundance and population dynamics of aquatic organisms, with special emphasis on plankton. Field instruments, sampling devices, chemical analysis, microscopy, and analysis of data. One Saturday field trip.

EEB 5652. Community and Ecosystem Processes. (4 cr; prereq 2 qtrs calc, Biol 3008 or Biol 5041 or equiv, 1 additional ecology course in populations or communities or ecosystems or #) Empirical and theoretical studies at the interface between community and ecosystem studies. Species-based approaches that focus on population dynamics combined with energy- and material-flux-based approaches.

Courses Offered at Lake Itasca Forestry and Biological Station

EEB 5814. Plant Community Ecology. (5 cr; prereq ecol course, Δ)

Communities represented in Itasca Park and vicinity, with emphasis on vegetation. Patterns of distribution of the communities, their interaction with the environment, and their dynamic relationships. Methods of community description and analysis.

EEB 5817. Vertebrate Ecology. (5 cr; prereq ecol course, Δ)

Field studies on vertebrate populations and their relationships to local environments; habitat analysis and ecological research methods. Students work individually and as teams investigating factors influencing distribution and abundance of selected vertebrates in various habitats. Research-oriented course supplemented by lectures and field trips.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

EEB 5832. Natural History of Vertebrates. (5 cr; prereq Biol 1106 or Biol 1806, Δ)
Taxonomic survey of local vertebrates, exclusive of birds, and study of morphological, physiological, and behavioral adaptations to different habitats.

EEB 5834. Field Ornithology. (5 cr; prereq general biol course incl study of zoology, Δ)
Emphasis on breeding season, biology, and behavioral ecology of birds in the Itasca Park region. Field trips to a variety of habitats to learn bird identification and to observe and practice techniques for conducting field studies. Lab sessions investigate family distinctions and species identification. Individual field projects.

EEB 5839. Field Studies in Mammalogy. (5 cr; prereq college-level biology course incl study of animals or #, Δ)
Field course emphasizing techniques in study of small mammals. Identification, distributions, community interactions, ecophysiology, population ecology.

Biol 5841. Ecology. (5 cr, \$Biol 5041; prereq 1103 or 1106 or 1806 or 3011 or 3012 or 3812, Math 1142 or 1251, Δ)
Growth, structure, and evolution of populations. Pairwise biotic interactions between species and their effect on diversity and structure of natural communities. Nutrient dynamics, function, productivity, and temporal stability of ecosystems. Field work at Itasca station.

Economics (Econ)

Staff—*Chair*, Craig Swan, 1035 Management and Economics Building; *Director of Undergraduate Programs*, Simran Sahi, 1035 Management and Economics Building

Regents' Professor Emeritus: Hurwicz

Regents' Professors: Chipman, Ruttan

Professors Emeriti: Coen, Mohring, Simler, Smith

Professors: Allen, Chari, Feldman, Foster, Geweke, Jordan, T. Kehoe, Prescott, Richter, Schuh, Swan

Associate Professors: Holmes, Keane, Kiyotaki, McLennan, Rogerson, Werner

Assistant Professors: Kitamura, Merlo, Ohanian, Sahi

Economics seeks to describe how the economy works, defines criteria for assessing its efficiency in providing goods and services, and evaluates alternative techniques of social control intended to increase economic efficiency and equity. A major in economics will be useful if you are

contemplating a career in business, law, government, or teaching. For professional work as an economist in government and for college teaching, graduate work is desirable.

Prospective public school teachers should consult the *College of Education and Human Development Bulletin*.

Because of their difficulty, instructor consent is required for admission to the following courses: 5151-5152, 5161-5162-5163, 5164-5165-5166.

General Education—All courses are open to nonmajors, but those with minimal prerequisites may be of special interest. Classes that require no prior coursework in economics are 1101, 1101H, and 1104. Those that require only 1101 and 1102 as prerequisites are 3315, 3501, 3601, 3701, 3801, 5301, 5307, 5311, 5401 and 5623.

Recommended Enrichment—The economics department encourages its majors and minors to take advantage of educational opportunities such as internships, undergraduate research, honors courses, and foreign study. Students are invited to incorporate study abroad into their major program and will receive appropriate credit on review of courses taken. For information on options and procedures, see Foreign Study.

B.A. and B.S. Majors—The Department of Economics offers four major sequences, two for the B.A. and two for the B.S. The B.S. is more quantitative in orientation than the B.A. The specialized tracks (B.A. quantitative emphasis major program and B.S. mathematics emphasis major program) emphasize particular supporting quantitative skills (calculus, linear algebra, and econometrics), while the two general tracks (B.A. and B.S. major programs) do not require such specific quantitative courses. The senior adviser for majors and premajors is the director of undergraduate programs.

B.A. Major Sequence

The B.A. major program gives students a solid background in economics without assuming they will pursue a career or graduate training in economics. The B.A. major program is the least quantitative of the four major options and offers considerable freedom in course selection from among many upper division electives.

Required Preparatory Courses—1101 or 1101H or 1104 or equiv; 1102 or 1102H or 1105 or equiv; Math 1142 or 1251 or equiv; Stat 1001 or equiv recommended

Major Requirements—*Part I: Stat 3011-3012 (no credit for Stat 5021)*

3101 or 3101H, 3102 or 3102H, 3103 or 3103H (3101 must be taken first; 3102 and 3103 may be taken simultaneously)

28 3xxx-5xxx cr; may include three courses from Acct 3101; AgEc 3040, 3070, 3500, 3610, any 3- or 4-cr AgEc 5xxx course; BFin 3000, 3300 (only if you have not taken Econ 3751-3752 respectively.) Economics courses reserved for nonmajors do not count toward the 28 cr.

Part II: Composition requirement: Upper-level writing course, Comp 3014—Writing for the Quantitative Social Sciences or 3027—Advanced Expository Writing (highly recommended)

Senior project: major paper (obtain guidelines from the department)

Two courses in the major requirements section may be taken S-N.

GPA requirement: C or better in all courses in the major requirements section.

4 cr of directed studies courses (3970, 5970) may be applied toward the major.

Supporting coursework in computer science, mathematics, and statistics is recommended.

B.A. Quantitative Emphasis Major Sequence

The B.A. quantitative emphasis major program adds basic quantitative training (in calculus, linear algebra, and econometrics) to the student's economics program. This major should be especially attractive to students considering graduate work in business administration or public affairs.

Required Preparatory Courses—1101 or 1101H or 1104 or equiv; 1102 or 1102H or 1105 or equiv; Math 1251-1252 or equiv

Major Requirements—*Part I: Math 1261 or equiv*

Stat 3011-3012 (no credit for Stat 5021)

3101 or 3101H, 3102 or 3102H, 3103 or 3103H (3101 must be taken first; 3102 and 3103 may be taken simultaneously); 5211

20 3xxx-5xxx cr; may include two courses from Acct 3101; AgEc 3040, 3070, 3500, 3610, any 3- or 4-cr AgEc 5xxx course; BFin 3000, 3300 (only if you have not taken Econ 3751-3752 respectively.). Economics courses reserved for nonmajors do not count toward the 20 cr.

Part II: Same as Part II for B.A. major program.

Supporting coursework in computer science and statistics is recommended.

B.S. Major Sequence

The B.S. major program emphasizes a strong quantitative component but is not specifically for students who plan to pursue a career or graduate training in economics. (The major would be suitable for those interested in graduate work in business administration.) The student is given significant freedom in course selection from three quantitative fields (computer science, mathematics, and statistics) as well as from economics.

Required Preparatory Courses—1101 or 1101H or 1104 or equiv; 1102 or 1102H or 1105 or equiv; Math 1251-1252-1261 or equiv; a minimum GPA of 2.50 in economics and mathematics

Major Requirements—*Part I: Stat 5121-5122 or 5131-5132-5133 (5131-5132-5133 are more difficult) (no credit for Stat 5021 or Stat 3011-3012).*

2 additional courses (at least 4 cr each) from any one area: computer science (at or above 31xx), math (any course at or above 31xx except Math 3142 and Math 5090), or statistics (any 5xxx course except Stat 5021). Courses must be approved by the economics department.

3101 or 3101H, 3102 or 3102H, 3103 or

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

3103H (3101 must be taken first; 3102 and 3103 may be taken simultaneously)

Two courses from: 5xxx honors courses; 5113; 5261-5262; 5733; and 5161-5162-5163, 5164-5165-5166. Courses in these last three sequences may be taken S-N.

Part II: 24 3xxx-5xxx cr; may include three courses selected from Acct 3101; AgEc 3040, 3070, 3500, 3610, any 3- or 4- cr AgEc 5xxx course; BFin 3000, 3300; Math 5081, 5242-5243, 5606-5607-5608. Economics courses reserved for nonmajors do not count toward the 24 cr.

Composition requirement: Upper-level writing course, Comp 3014—Writing for the Quantitative Social Sciences or 3027—Advanced Expository Writing (highly recommended)

Two courses in the major requirements section may be taken S-N (in addition to 5161-5162-5163 or 5164-5165-5166).

GPA requirement: C or better in all courses in the major requirements section.

4 cr of directed studies courses (3970, 5970) may be applied toward the major.

B.S. Mathematics Emphasis Major Sequence

The B.S. mathematics emphasis major program is specifically for students interested in graduate study of economics or a career as a professional economist in business, government, or college teaching. The major's strong quantitative component emphasizes particular quantitative skills such as multivariate calculus, linear algebra, and econometrics—essential in economics graduate training.

Required Preparatory Courses—1101 or 1101H or 1104 or equiv; 1102 or 1102H or 1105 or equiv; Math 1251-1252-1261 or equiv; Stat 3011 or equiv recommended; a minimum GPA of 2.50 in economics and mathematics

Major Requirements—*Part I:* Math 3251-3261 or equiv;

Stat 5121-5122 or 5131-5132-5133 (no credit for Stat 5021 or Stat 3011-3012)

3101 or 3101H, 3102 or 3102H, 3103 or 3103H (3101 must be taken first; 3102 and 3103 may be taken simultaneously); 5261

Two courses from: 5xxx honors courses; 5113; 5262-5263; 5733; and 5161-5162-5163,

5164-5165-5166. Courses in these last two sequences may be taken S-N.

Part II: Same as *Part II* for B.S. major program.

Supporting coursework in computer science is recommended.

Minor Sequence

For any of the following minor programs, no more than one course may be taken S-N; a grade of C or better is required in all courses in the minor requirements section.

General Economics

Required Preparatory Courses—1101 or 1101H or 1104; 1102 or 1102H or 1105; Math 1142 or 1251 or equiv

Minor Requirements—3101 or 3105 or equiv
16 additional 3xxx-5xxx cr (advance approval of courses by the economics department is needed)

Up to 4 cr of directed studies courses (3970, 5970) may be applied toward the minor.

Economic Theory

Required Preparatory Courses—1101 or 1101H or 1104 or equiv; 1102 or 1102H or 1105 or equiv; Math 1251-1252 or equiv

Minor Requirements—Math 1261-3251-3261 or equiv
3101, 3102, 3013 or equiv
2 courses from 5107H, 5113, 5733, 5741

Econometrics

Required Preparatory Courses—1101 or 1101H or 1104 or equiv; 1102 or 1102H or 1105 or equiv; Math 1251-1252 or equiv

Minor Requirements—Math 1261 or equiv
Stat 5121-5122 or 5131-5132-5133
3101, 3102 or equiv
5261-5262

4 cr directed studies (5970) for an econometrics research project

International Trade and Development

Required Preparatory Courses—1101 or 1101H or 1104; 1102 or 1102H or 1105; Math 1142 or 1251 or equiv

Minor Requirements—3101 or equiv

5331 (prereq 3102) or 5301
 5337 (prereq 3102) or 5307
 5431-5432 (prereq 3102, 3103) or 5401
 Any country study: 5313 or 3315 or 5315 or
 5421 or 3960 or 5311 or 5341

Applied Microeconomics

Required Preparatory Courses—1101 or
 1101H or 1104; 1102 or 1102H or 1105; Math
 1251 or equiv

Minor Requirements—3101 or equiv

5531 (prereq 3102) or 3501
 5631 (prereq 3103) or 3601
 5611 or 5621 or 5623
 5821 (prereq 3103) or 3801 or 5831 (prereq
 3103)

Recommended: 5211 (prereq Stat
 3011-3012 or equiv) and 3103

Monetary Economics

Required Preparatory Courses—1101 or
 1101H or 1104; 1102 or 1102H or 1105; Math
 1142 or 1251 or equiv

Minor Requirements—Stat 3011 or equiv

3101 or 3105, 3102 or equiv
 3751-3752
 5721 or 3701
 5731 or 5741

General

Econ 1101f,w,s. Principles of
 Microeconomics. (4 cr, \$1002, \$1005, \$1104; prereq
 knowledge of plane geometry and intermediate algebra
 at the level of GC 0623 and GC 0631)

Demand and supply; competition and monopoly; the
 distribution of income.

Econ 1101H. Honors Course: Principles of
 Microeconomics. (5 cr, \$1002, \$1005, \$1104;
 prereq knowledge of plane geometry and intermediate
 algebra at the level of GC 0623 and GC 0631)

Modelling of a basic economy including theory of the
 consumer and producer. Emphasis on algebra, geometry,
 and basic logic and proofs.

Econ 1102f,w,s. Principles of
 Macroeconomics. (4-5 cr, \$1001, \$1004, \$1105;
 prereq 1101 or equiv, knowledge of plane geometry
 and intermediate algebra at the level of GC 0623 and
 GC 0631; B avg recommended)
 National income; money and banking; business cycles;
 international trade.

Econ 1102H. Honors Course: Principles of
 Macroeconomics. (5 cr, \$1001, \$1004, \$1105;
 prereq 1101 or equiv, knowledge of plane geometry
 and intermediate algebra at the level of GC 0623 and
 GC 0631; B avg recommended)
 For description, see Econ 1102.

Econ 1104f,w,s. Principles of
 Microeconomics. (4 cr, \$1002, \$1005, \$1101; prereq
 1 qtr calculus)
 For description, see Econ 1101.

Econ 1105f,w,s. Principles of Macroeconomics.
 (4 cr, \$1001, \$1004, \$1102; prereq 1104 or equiv, 1 qtr
 calculus)
 For description, see Econ 1102.

Econ 1111H. Honors Course: Applied
 Microeconomics Principles. (5 cr, prereq 1101H
 or #)

Sequel to 1101H. Explanation of real-world phenomena
 using general equilibrium analysis. Monopoly,
 international trade, externalities, public goods, taxes.
 Emphasis on logic and proofs.

Economic Theory

Econ 3101f,w,s. Microeconomic Theory. (4 cr,
 \$3105; prereq 1101, 1102 or equiv, 1 qtr calculus)
 Behavior of households, firms, and industries under
 competitive and monopolistic conditions; factors
 influencing production, price, and other decisions of the
 firm; applications of the theory.

Econ 3101H. Honors Course: Microeconomic
 Theory. (5 cr; prereq 1101, 1102 or equiv, 1 qtr
 calculus; B avg recommended)
 For description, see Econ 3101.

Econ 3102f,w,s. Macroeconomic Theory. (4 cr;
 prereq 3101 or equiv)
 Determinants of national income, employment, and price
 level; effects of monetary and fiscal policies; emphasis
 on a general equilibrium approach.

Econ 3103f,w,s. Welfare Economics. (4 cr;
 prereq 3101 or equiv)
 Relationship among economic efficiency, markets, and
 society's goals for the distribution of well-being. Criteria
 for choosing among alternative distributions of well-
 being. Applications of the theory to public goods and
 other situations.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / **1011, 1012, 1013**—Series courses, separated by commas; may be entered any quarter / **1011-1012-1013**—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ¶—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Econ 3103H. Honors Course: Welfare Economics. (5 cr; prereq 3101 or equiv, 1 qtr calculus; B avg recommended)
For description, see Econ 3103.

Econ 3105. Managerial Economics. (4 cr, \$3101, \$BGS 3001; not open to Econ majors; prereq 1101, 1102 or equiv, 1 qtr calculus)
Theory of the firm; managerial decision problems. Demand theory. Production technology and cost concepts. Pricing and output decisions. Investment behavior.

Econ 5107H. Honors Course: Game Theory and Its Applications. (5 cr; prereq 3101, 3102, 3103 or equiv, Math 1251-1252-1261 or equiv)
Games; normal form and extensive form; wars of attrition; games of timing; bargaining applications in industrial organization, macroeconomics, and international economics.

Econ 5113. Introduction to Mathematical Economics. (4 cr; prereq 3101, 3102, 3103 or equiv, Math 1251-1252-1261-3251 or equiv)
Development in mathematical terms of selected models of economic behavior. Topics selected to illustrate the advantages of a mathematical formulation.

Econ 5151. Elements of Economic Analysis: Firm and Household. (3 cr; prereq 3101 or equiv, 1 qtr calculus, 1 qtr linear algebra, grad or #)
Decision making by households and firms under conditions of competition, monopoly, and monopolistic competition.

Econ 5152. Elements of Economic Analysis: Income and Employment. (3 cr; prereq 3101, 3102 or equiv, 1 qtr calculus, 1 qtr linear algebra, grad or #)
Determinants of national income, employment, and price level; aggregate consumption, investment, and asset holding.

Econ 5161-5162-5163. Microeconomic Theory. (5 cr per qtr [no grad cr]; prereq 3103, Math 3251-3252 or equiv, #; 5113 recommended)
Decision problems faced by the household and the firm; theories of choice under conditions of certainty and uncertainty. Partial equilibrium analysis of competition and monopoly. General equilibrium analysis. Welfare economics: economic efficiency of alternative market structures; social welfare functions. Dynamics: stability of markets; introduction to capital theory.

Econ 5164-5165-5166. Macroeconomic Theory. (5 cr per qtr [no grad cr]; prereq 3102, 3103, Math 3251-3252 or equiv, #; 5113 recommended)
Dynamic general equilibrium models: solving for paths of output, employment and prices. General equilibrium models with uncertainty, search and matching. Implications for measurement and data reporting. Overlapping generations and dynasty models with money and government debt.

Econ 5171. History of Economic Thought. (4 cr; prereq 3101, 3102, 3103 or equiv)
Primarily a critical reading course. Topics include Smith, Ricardo, Malthus, and Marx; neoclassicists, Keynes, the mercantilist and physiocratic doctrines; and modern theory.

Econometrics

Econ 5211. Principles of Econometrics. (4 cr, \$3231, \$5231; prereq 1101, 1102 or equiv, 1 qtr calculus, Stat 3011-3012 or equiv, familiarity with computers [MIS 1070 or equiv, ACSS short courses])
Data analysis and quantitative methods in economics; violation of classical regression model assumptions and consideration of modified estimation procedures that retain desirable properties; multi-equation models. Computer applications and interpretation of empirical results.

Econ 5261f-5262w-5263s. Introduction to Econometrics. (5 cr per qtr [no grad cr]; prereq 3101 or equiv, Stat 5121-5122 or Stat 5131-5132-5133, Math 1251-1252, Math 1261 or equiv or #)
Review of basic linear regression model and its variants; panel data, censored and truncated regression, discrete choice models; time series and simultaneous equation models.

Economic Development, Comparative Systems, Area Studies

Econ 3315. The Japanese Economy. (4 cr, \$5315; prereq 1101, 1102 or equiv; not open to Econ majors)
Economic development following contact with Western civilization. Current problems; population growth, capital formation, international economic relations.

Econ 5301. Economic Development. (4 cr, \$5331; prereq 1101, 1102 or equiv; not open to Econ majors)
Economic growth in low income countries. Theory of aggregate and per capita income growth. Population growth, productivity increases, and capital formation. Allocation of resources between consumption and investment and among sectors. International assistance and trade.

Econ 5307. Comparative Economic Systems. (4 cr, \$5337; prereq 1101, 1102 or equiv; not open to Econ majors)
Functions of economic systems; market economy vs. centrally planned economy. Post socialist transitions in Eastern Europe and reforms in China. Initial conditions and strategies for reforms; results of reforms in terms of key economic indicators.

Econ 5311. Economy of Latin America. (4 cr, \$5341; prereq 1101, 1102 or equiv; not for econ majors)
Economic evolution in Latin America since 1950. Issues discussed include trade liberalization, poverty, inflation, and development strategies in selected Latin American countries. Theory and applications of important issues.

Econ 5312. Technology and Development. (4 cr; prereq 3101, 3102 or equiv or #)
Economics of research and development; technical change and productivity growth; impact of technology on institutions; science and technology policy.

Econ 5313. The Russian Economy. (4 cr; prereq 3101, 3102 or equiv)
Main features of the Soviet economic system and its economic development from 1917 to 1980s. Collapse of the Soviet Union in 1991. Recent economic reforms adopted by Russia and the Commonwealth of Independent States.

Econ 5315. The Japanese Economy. (4 cr, \$3315; prereq 3101 or equiv)
For description, see Econ 3315.

Econ 5331. Economic Development. (4 cr, \$5301; prereq 3101, 3102 or equiv)
For description, see Econ 5301.

Econ 5337. Comparative Economic Systems. (4 cr, \$5307; prereq 3101, 3102 or equiv)
For description, see Econ 5307.

Econ 5341. Economy of Latin America. (4 cr, \$5311; prereq 3101, 3102, or equiv or #)
For description, see Econ 5311.

International Economics

Econ 5401. International Economics. (4 cr, \$5429, \$5431, \$5432; prereq 1101, 1102 or equiv; not open to Econ majors)
Explanations of trade patterns. Commercial policy, protection, factor mobility. Balance of payments, exchange rate determination, international monetary system.

Econ 5421. Economic Integration in the Americas. (4 cr; prereq 3101, 3102, 3103 or equiv or #)
Analysis of economic relationships among countries in the Western Hemisphere. Modeling the impact of NAFTA and similar regional trade accords. Prospects for further integration.

Econ 5431. International Trade. (4 cr, \$5401, \$5429; prereq 3101, 3102, 3103 or equiv)
Theories of trade and explanations of trade patterns. Trade restrictions and commercial policy. International factor movements. Economic growth and trade.

Econ 5431H. Honors Course: International Trade. (5 cr, \$5401, \$5429; prereq 3101, 3102, 3103 or equiv, 1 qtr calculus; B avg recommended)
For description, see Econ 5431.

Econ 5432. International Finance. (4 cr, \$5401; prereq 3101, 3102, 3103 or equiv; 5431 or equiv recommended)
Balance of payments, foreign exchange market, exchange rate determination. International monetary system.

Labor Economics

Econ 3501. Labor Economics. (4 cr, \$5531; prereq 1101, 1102 or equiv; not open to Econ majors)
Role of labor in economy; labor as a factor of production, population and the labor force; economics of labor markets; labor market institutions; theories of wages and employment; unions and collective bargaining; public policy.

Econ 5531. Labor Economics. (4 cr, \$3501; prereq 3101, 3102 or equiv)
For description, see Econ 3501.

Industrial Organization, Housing, Resource and Urban Economics

Econ 3601. Industrial Organization and Antitrust Policy. (4 cr, \$5631; prereq 1101, 1102 or equiv; not open to Econ majors)
Economic aspects of antitrust and related policies. Relations between market structure and economic efficiency and welfare. Economic origins of monopoly and other restraints on competition. Purposes and effects of antitrust and related legislation.

Econ 3611. Environmental Economics. (4 cr, \$5611; prereq 1101, 1102 or equiv; not for econ majors)
Renewable and non-renewable natural resources: fish, water, timber, minerals, petroleum. Environmental concerns versus trade and development. Cost-benefit analysis to measure environmental impact. Externalities and property rights. Pollution control.

Econ 5611. Resource and Environmental Economics. (4 cr; prereq 3101 or equiv, 1 qtr calculus)
Exhaustible resources and the theory of optimal depletion. Renewable resources and the theory of optimal use. Will resource scarcity limit growth? Natural resources and natural environments. Environmental pollution and economic efficiency.

Econ 5611H. Honors Course: Resource and Environmental Economics. (5 cr; prereq 3101 or equiv, 1 qtr calculus; B avg. recommended)
For description, see Econ 5611.

Econ 5621. Urban Economics. (4 cr; prereq 3101 or equiv)
Economics of urbanization. Location of economic activity and cities. Central place theory. Site rents and form of the city. Urban economic base and economic policy. Urban problems and economic policies: transportation, poverty and segregation, housing, public finance.

Econ 5623. Housing Markets and Public Policy. (4 cr; prereq 1101, 1102 or equiv)
Analysis of housing markets. Market failures, externalities and the case for government intervention. Relative efficiency of particular forms of intervention.

Econ 5631. Industrial Organization and Antitrust Policy. (4 cr, \$3601; prereq 3101, 3103)
For description, see Econ 3601.

Econ 5631H. Honors Course: Industrial Organization and Antitrust Policy. (5 cr; prereq 3101, 3103 or equiv, 1 qtr calculus; B avg recommended)
For description, see Econ 5631.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Monetary Economics and Macroeconomic Policy

Econ 3701. Money and Banking. (4 cr, §5701, §5721; prereq 1101, 1102 or equiv; not open to Econ majors)
Historical development, present characteristics, and economic role of financial institutions. Commercial banking, the Federal Reserve system, and monetary policy.

Econ 3751-3752. Financial Economics I and II. (4 cr per qtr; prereq 3101 or 3105, 1 qtr statistics, 1 qtr calculus)
Financial decisions of firms and investors. Determination of interest rates and asset prices. Role of risk and uncertainty. Emphasis on economic models rather than the details of financial institutions.

Econ 5721. Money and Banking. (4 cr, §3701, §5701; prereq 3101, 3102 or equiv)
Theories of money demand and money supply. Financial intermediation and banking, role of the Federal Reserve system. Monetary policy.

Econ 5721H. Honors Course: Money and Banking. (5 cr; prereq 3101, 3102 or equiv, 1 qtr calculus; B avg recommended)
For description, see Econ 5721.

Econ 5731. Macroeconomic Policy. (4 cr; prereq 3101, 3102 or equiv)
Monetary vs. fiscal policy debate in the context of the underlying macroeconomic theory controversy. Comparison of Keynesian, Monetarist, and Classical theories; rational expectations; policy ineffectiveness; time inconsistency; rules vs. discretion; budget deficits; unemployment and inflation.

Econ 5731H. Honors Course: Macroeconomic Policy. (5 cr; prereq 3101, 3102 or equiv, 1 qtr calculus; B avg recommended)
For description, see Econ 5731.

Econ 5733. Intertemporal Economics and Money. (4 cr per qtr; prereq 3101, 3103 or equiv, Math 1251-1252-1261 or equiv)
Real intertemporal economics: overlapping-generations models of interest rates; applications to social security and deficit finance. Representative agent model, Ricardian Equivalence, introduction to the neoclassical growth model.

Econ 5741. Business Cycles. (4 cr; prereq 3101, 3102, Stat 3011 or equiv)
Models of economic growth are developed and matched to U.S. data; review of business cycle facts; the growth model is used to examine the impact of changes in important growth factors including public finance and technology and for business fluctuations.

Econ 5741H. Honors Course: Business Cycles. (5 cr; prereq 3101, 3102, Stat 3011 or equiv, 1 qtr calculus; B avg recommended)
For description, see Econ 5741.

Econ 5752H. Honors Course: Financial Economics II. (5 cr, §3752; prereq 3751; B avg recommended)
Efficiency of financial markets. Includes theoretical concepts and empirical evidence.

Public Finance

Econ 3801. Elements of Public Economics. (4 cr, §5821; prereq 1101, 1102 or equiv; not open to Econ majors)

Competing views on the proper role of government in the economy. Effects of tax and spending policies, taking into account private agents' response to government actions and the ways government officials may use their powers; optimal policies. Applications primarily to U.S. federal government.

Econ 5821. Introduction to Public Economics. (4 cr, §3801; prereq 3101, 3103 or equiv)
For description, see Econ 3801.

Econ 5831. Cost-Benefit Analysis. (4 cr; prereq 3101, 3103 or equiv)
Principles for evaluation of benefits and costs of public projects or programs. Definition and measurement of benefits and costs. Rate of return and rate of discount. Treatment of market imperfections, risk, and uncertainty.

Econ 5831H. Honors Course: Cost-Benefit Analysis. (5 cr; prereq 3101, 3103 or equiv, 1 qtr calculus; B avg recommended)
For description, see Econ 5831.

Directed Study

Econ 3951. Major Project Seminar. (2 cr; prereq 3101, 3102, 3103 or equiv)

Econ 3960. Topics in Economics. (4 cr per qtr; prereq 1101, 1102 or equiv [others may be stated in *Class Schedule*])
Topics specified in *Class Schedule*.

Econ 3970. Directed Studies. (Cr ar; prereq #)
Guided individual reading or study in areas not available in regular course offerings.

Econ 5960. Topics in Economics. (4 cr per qtr; prereq 3101, 3102, 3103 or equiv [others may be stated in *Class Schedule*])
Topics specified in *Class Schedule*.

Econ 5970. Directed Studies. (Cr ar; prereq #)
For description, see Econ 3970.

College of Education and Human Development

Descriptions of degree programs and courses in the College of Education and Human Development (CEHD) can be found in the bulletin of that college. See also the summary of CEHD programs on page 287.

Credit for all courses listed in the *CLA Bulletin* and all courses approved for the Twin Cities campus liberal education curriculum (see current *Class Schedule*) may be applied toward CLA baccalaureate degrees and the CLA residency requirement.

In addition, CLA students may apply toward their degrees up to 28 credits of other UMTC courses that are not part of the liberal education curriculum.

English (Engl)

Staff—*Chair*, Shirley Garner, 207 Lind Hall; *Associate Chair*, Marty Roth, 207 Lind Hall; *Director of Undergraduate Studies*, Joel Weisheimer, 204 Lind Hall; *Undergraduate Adviser/Associate to Director*, Beverly Atkinson, 204 Lind Hall; *Director of Graduate Studies*, Rita Copeland, 209 Lind Hall; *Director of Program in Creative Writing*, Madelon Sprengnether, 209 Lind Hall

Professors: Anson, Bales, Bridwell-Bowles, Browne, Clayton, Escure, Firchow, Furia, Garner, Griffin, Haley, Hampl, Hancher, Hirsch, Kendall, McNaron, Miner, Rabinowitz, Reed, Ross, Roth, Solotaroff, Sprengnether, Stekert, Wallace, Weinsheimer

Associate Professors: Brown, Copeland, Damon, Elfenbein, Fitzgerald, Geffen, Leyasmeyer, Messer-Davidow, Mowitt, Sugnet, Watkins, J. Wright

Assistant Professors: Lee, Luke, Varadharajan

Courses in the English department focus on the study of the English language, literature written in English, and critical and theoretical approaches to language and literature. An undergraduate can study works written in English in the British Isles, North America, and around the world that cover time periods from the Anglo-Saxon era in Britain to the present. Such coursework offers students the opportunity to learn to read critically, to analyze literary, linguistic, and critical works, and to write persuasively and eloquently about them. The study of language and literature also provides the possibility for cross-disciplinary learning, since much of what is studied draws on other fields in the humanities, sciences, social sciences, and fine arts.

General Information—Course information is available in the Undergraduate Studies Office, 204 Lind Hall. Book lists for each course and descriptions of topics and figures courses in English and American literature are available in 207 Lind Hall.

See also literature courses taught in the original languages and the English language in other departments, including African and African American Studies, American Indian Studies, Chicano Studies, Chinese, Classical and Near Eastern Studies, Cultural Studies and Comparative Literature, French and Italian, German, Japanese, Russian, Scandinavian Studies, Spanish, and Women's Studies. For students interested in English language studies, see also linguistics courses taught in the Linguistics program as well as in other language departments.

Study Abroad—Students are encouraged to incorporate international study into an English major or minor. The University offers a number of exchange programs and other opportunities to study in regular classes at British or other international universities. The department sponsors a program, Literature and Theatre in London, offered in the spring of odd-numbered years. It includes courses centering on Shakespeare and other figures in British literature for whom the city and its surroundings were and are important. See also Foreign Study.

B. A. Major Sequence

Required Preparatory Courses—To be *considered* for acceptance into the major, all students must present the following: evidence of status as a College of Liberal Arts (CLA) student; a minimum of 60 degree credits; a minimum of 16 credits in English and/or English writing courses (not including composition courses); an English GPA of at least 2.50; and results of the SAT II Writing Test. (See the staff in 204 Lind Hall for a referral to take this test.) The prerequisite English courses must include at least one four-credit 3xxx literature course, preferably Engl 3008. Students are advised to maintain a portfolio of course papers, with instructors' comments, and to refer frequently to the *English Major Guidebook*, available at Copies on Campus, Coffman Union or on-line at sights indicated below. Acceptance to full major

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status is strongly recommended before registering in 5xxx courses and is *prerequisite* to requesting a place in the required senior seminar course, Engl 3960 or EngW 3960. Students should also pay particular attention to the *department residence requirement* stated below.

CLA students who declare English as their major objective will be classified as “*pre-Engl*” (by CLA and the department; students request *pre-Engl* status from the latter by filing a formal intention to major in English in the Undergraduate Studies Office, 204 Lind Hall) until they meet the above prerequisites, apply formally for major status following the written procedures available in the English Undergraduate Studies Office, and are accepted by the faculty admissions committee. Written procedures require applicants to submit a portfolio of two writing samples, including at least one paper written in a 3xxx English literature course. To request complete information, contact the Undergraduate Studies Office, 204 Lind Hall, (612) 625-4592. Address mail to Undergraduate Studies, Department of English, 207 Lind Hall, 207 Church St. S.E., Minneapolis, MN 55455. Information is also available at <http://www-engl.cla.umn.edu/UndergradProgram/Contents> on the World Wide Web. Address questions via e-mail to englmaj@maroon.tc.umn.edu.

Deadlines—for application are on the Friday of the first full week of each quarter (fall, winter, spring), annually. No applications are reviewed in the summer.

Application limits—Admission is not guaranteed. Students may apply to the major only *twice*, and are advised to consult with the CLA and department advisers before applying.

Upon admission, students will plan their programs in conference with a departmental major adviser.

Major Requirements—Twelve 4-cr courses in English, English writing, or composition (beyond those taken to satisfy the current CLA composition requirement) and Engl 3961 (1 cr) or Engl 3961H (1 cr); 11 of these courses must be numbered 3xxx or 5xxx, including at least three of 5xxx, and including the following distribution.

Foundation Courses (12 cr)—Engl 3008; and any two of Engl 3111, 3112, 3113

Shakespeare (4 cr)—Engl 3241 or 3242 or 3xxx Shakespeare in London (see “Global Campus”); or equiv transfer course

English language (4 cr)—Engl 3851, 3852, 3853, 3854, 3860, 5815, 5831, 5843, 5851, 5862, or 5860.

Cluster of six elective courses chosen according to an area of academic interest or career plan: Engl 1xxx or 3xxx or 5xxx (4 cr), Engl 3xxx or 5xxx (8 cr), and Engl 5xxx (12 cr). “Clusters” that have been developed (and are available in print form in the *English Major Guidebook*, available at Copies on Campus) include: American literature; women’s literature; language/linguistics; poetry; critical theory; drama; the novel; creative writing. Other possibilities include: folklore studies; the Middle Ages; the Renaissance; other historical period studies; post-colonial literature; pre-secondary education. Students may propose their own coherent “clusters.” It is important to note, however, that the possibilities for some “clusters” may be limited by the courses available.

Seminar or writing workshop—Engl 3960 (4 cr) or EngW 3960 (4 cr) or EngW 5xxx—Advanced Writing Workshop (4 cr). See prerequisites and application procedures mentioned in the course descriptions.

Senior Paper—Engl 3961—Senior Paper (1 cr), registered concurrently with the seminar or writing workshop; or Engl 3961H—Honors Senior Paper (1 cr), registered concurrently with the seminar or writing workshop, and prerequisite *cum laude* or *magna cum laude* candidacy; or Engl 3963H—Honors Thesis (4 cr), prerequisite *summa cum laude* candidacy and permission of the English honors adviser.

Grades—No courses for the major may be taken S-N, with the exception of Engl 3961. Courses in which D grades are earned may not be applied toward the major.

Independent Study—Independent Study credits are limited to 16, at any number level, including Engl 3970, 3980, and 5970, and Engl or EngW courses available through the *University of Minnesota Extension Independent Study Bulletin*.

Department Residence Requirement—Students must complete at least five courses (4 cr each) for the major (including Engl 3960 or EngW 3960) and the senior paper *after* admission to the major.

Honors—Students must apply for admission to the Honors Program (115 Johnston) and talk with the English director of undergraduate studies. English honors requirements ask students to satisfy three honors requirements in English: (1) any *one* of the 3xxx honors sections offered by the department (3009H, 3111H, 3112H, 3113H, 3241H, 3242H, 3411H, 3412H, 3413H, 3651H, 3671H, or others except for 3963H); (2) an *honors* senior paper—Engl 3961H (1 cr) or Engl 3963H (4 cr); (3) one of the following, some with printed criteria available in the Undergraduate Studies Office: an honors directed studies project, an honors contract for a 3xxx or 5xxx English course, an 8xxx English course, a second English honors section, an honors course in another department as agreed upon by the English honors adviser, or others as agreed upon.

Minor Sequence

Minor Requirements—Six 4-credit 3xxx or 5xxx courses in English or composition (beyond those taken to satisfy the CLA composition requirement). The minor program must be approved by the English undergraduate adviser. One 4-credit course may be taken S-N. One 4-credit course may be taken in Directed Study or Independent Study. Courses in which D grades are earned may not be applied toward the minor. Transfer students must complete at least two 4-credit courses for the minor at the University of Minnesota. Courses must be distributed as follows:

- 1 Engl 3008.
2. One course in Shakespeare: 3241 or 3242; or 3xxx, Shakespeare, Literature in London Program, Global Campus; or equivalent transfer course.
3. One course, Engl 3111 or 3112 or 3113.
4. One course in British or U.S. American literature after 1900: 3121, 3355, 3356, 3357, 3410, 3413, 3455, 3591, 3592, 3621, 3671, 3671H, 5134, 5153, 5174, 5175, 5363, 5364, 5414, 5432, 5433, 5452, 5471,

- 5593, 5595, 5596, 5597, 5620, and any topics or figures course or seminar when the literature to be studied was written after 1900 (3931 or 3932, Literature in London Program, Global Campus; 3910, 3920, 3940, 3950, 5910, 5920, 5940, 5950).
5. One course in the English language or literary theory: *English Language*: 3851, 3852, 3853, 3854, 3860, 5211, 5815, 5831, 5843, 5851, 5862. *Literary Theory*: 3009, 3481, 5481, 5482, 5483, 5651, 5671, 5711, 5712, 5714. Note: Courses in critical or literary theory taught in Cultural Studies and Comparative Literature may fulfill the English major requirement for one course in literary theory.
 6. One elective course.

Minor programs must be approved by the undergraduate adviser, 204 Lind Hall. Call (612) 625-4592, after completing two English courses, to schedule an appointment.

Engl 1005. Introduction to Literature. (4 cr)
Understanding and enjoying literature. Readings of novels, short stories, poems, and plays.

Engl 1005H. Honors Course: Introduction to Literature. (4 cr; prereq honors regis or Δ)
For description, see Engl 1005.

Engl 1013. Famous English and American Poems. (4 cr)
Shorter poems by English and American poets, ranging from the Renaissance to the present. Reading of poetry; introduction to poems traditionally thought basic to English and American literature.

Engl 1016. Introduction to American Literature. (4 cr)
Critical discussion of and writing about selected works of American literature. Typical authors: Poe, Hawthorne, Whitman, Dickinson, Twain, Frost, Fitzgerald, Hurston.

Engl 1017. Introduction to Modern Poetry. (4 cr)
Critical discussion of and writing about selected modern poems. Typical authors: Thomas, Frost, Moore, Yeats, Hardy, Cummings.

Engl 1017H. Introduction to Modern Poetry. (4 cr; prereq honors regis or Δ)
For description, see Engl 1017.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

- Engl 1018. Introduction to Modern Fiction. (4 cr)
Critical discussion of and writing about selected modern novels and stories. Works selected each quarter from authors such as Atwood, Cather, Drabble, Ellison, Hemingway, Joyce, Kingston, Lawrence, Morrison, Murdoch, Silko, and Wolfe.
- Engl 1019. Introduction to Modern Drama. (4 cr)
Critical discussion of and writing about selected modern plays. Typical authors: Ibsen, Shaw, Synge, Chekhov, O'Neill, Williams, Beckett.
- Engl 1069. Great Plays. (4 cr)
Some of the world's great plays, from ancient Greece to our own culture. Plays represent a variety of countries, periods, and theatrical modes.
- Engl 1241. Introduction to Shakespeare. (4 cr)
Lecture survey of Shakespeare's work, treating approximately 10 plays. For students in all colleges of the University.
- Engl 1241H. Honors Course: Introduction to Shakespeare. (4 cr; prereq honors regis or Δ)
For description, see Engl 1241.
- Engl 1591. Literature of American Minorities. (4 cr)
Representative works by African American, American Indian, Asian American, and Chicano/Chicana writers. Relevant social factors.
- Engl 1591H. Honors Course: Literature of American Minorities. (4 cr; prereq honors regis or Δ)
For description, see Engl 1591.
- Engl 1595. Introduction to "Third World" Literatures in English. (4 cr)
Overview of work produced in English outside the United States and Britain. Works represent different cultures, but treat concerns from common (post) colonial legacy: politics of language, psychology of colonization, implication of colonial education, culture as resistance to domination. Typical artists include novelists Chinua Achebe (Nigeria), Tsitsi Dangarembga (Zimbabwe), Fadia Faqir (Palestine), Salman Rushdie (India), filmmaker Kidlat Tahimik (Philippines), and "dub" poets Mutabaruka and Jena Binta Breeze (Jamaica).
- Engl 1621. Introduction to Women Writers. (4 cr)
Works by several major women writers writing in English.
- Engl 1621H. Honors Course: Introduction to Women Writers. (4 cr; prereq honors regis or Δ)
For description, see Engl 1621.
- Engl 1671. The Short Story. (4 cr)
Lecture introduction to short stories, with some emphasis on the history and diversity of the form. Typical authors: Poe, Chekhov, Lawrence, Joyce, Kafka, Porter, Welty, Faulkner.
- Engl 3008. Techniques of Literary Study. (4 cr; prereq Engl major or minor or premajor)
Training and practice in the analysis of various literary forms, with a special emphasis on poetry. Use of argument, evidence, and documentation in literary papers; introduction to major developments in contemporary criticism.
- Engl 3009. Modern Literary Theory. (4 cr; prereq Engl major or minor, 3008, 16 cr literature or Δ)
Problems of interpretation and criticism. Questions of meaning, form, authority, literary history, social significance.
- Engl 3009H. Honors Course: Modern Literary Theory. (4 cr; prereq Engl major or minor, 3008, 16 cr literature, honors regis or Δ)
For description, see Engl 3009.
- Engl 3111, 3112, 3113. Survey of English Literature. (4 cr per qtr; prereq 46 or more cr)
Historical survey of major figures, movements, and trends in English literature. *3111*: Chaucer to Marvell, including Spenser, Shakespeare, and Donne. *3112*: Milton to Johnson, including Dryden, Swift, and Pope. *3113*: Blake to Yeats, including Wordsworth, Coleridge, Keats, Tennyson, and the Brownings.
- Engl 3111H, 3112H, 3113H. Honors Course: Survey of English Literature. (4 cr per qtr; prereq 46 or more cr, honors regis or Δ)
For description, see Engl 3111, Engl 3112, Engl 3113.
- Engl 3115. The Middle Ages. (4 cr)
Major and representative works of the Middle Ages (650-1485). Typical readings: *Beowulf*, Chaucer, ballads, *Sir Gawain and the Green Knight*, *Everyman*.
- Engl 3116. The Renaissance. (4 cr)
Major and representative works of the Renaissance (1485-1660). Typical authors: More, Sidney, Spenser, Shakespeare, Donne, Milton.
- Engl 3117. The Restoration and 18th Century. (4 cr)
Major and representative works of the Restoration and 18th century (1660-1798). Typical authors: Dryden, Pope, Swift, Johnson, Boswell, Fielding.
- Engl 3118. The Romantic Age. (4 cr)
Major and representative works of the romantic period (1798-1832). Typical authors: Blake, Wordsworth, Coleridge, Byron, Shelley, Keats.
- Engl 3119. The Victorian Age. (4 cr)
Major and representative works of the Victorian period (1832-1901). Typical authors: Tennyson, the Brownings, Hopkins, Arnold, Dickens, the Brontës.
- Engl 3241, 3242. Shakespeare. (4 cr per qtr, \$3243)
3241: Plays from Shakespeare's early and middle periods. All sections read *A Midsummer Night's Dream*, *Hamlet*, a history play, and two or three others. *3242*: Plays from the middle and late periods. All sections read *King Lear*, *Macbeth*, *The Tempest*, and two or three others.
- Engl 3241H, 3242H. Honors Course: Shakespeare. (4 cr per qtr; prereq honors regis or Δ)
For description, see Engl 3241, Engl 3242.

Engl 3251, 3252. The King James Bible as Literature. (4 cr per qtr)
Narrative art, poetry, and prophecy in the Jewish Bible (the “Old Testament”); gospels, narrative, and letters in the New Testament. 3251: Pentateuch, historical narratives, and the Writings (including Psalms, Proverbs, Job, Song of Solomon, Ruth, Lamentations, Ecclesiastes, Esther, and Daniel) 3252: Prophets, Apocrypha, and New Testament.

Engl 3355, 3356, 3357. Modern British Literature. (4 cr per qtr)
Historical survey of writers, intellectual currents, movements, conventions, genres, and themes. 3355: 1900-1925: Authors: Conrad, Ford, Wells, Bennett, Forster, Mansfield, Lawrence, Joyce, Woolf. Playwrights: Shaw, Synge. Poets: Hardy, Yeats, Eliot, Kipling, Imagists, Georgians, war poets. 3356: 1920-1950: Authors: Joyce, Woolf, Huxley, Waugh, Rhys, Compton-Burnett, Greene, Isherwood, Orwell, Bowen. Playwrights: O’Casey, Coward, Auden, Isherwood. Poets: T.S. Eliot, Yeats, Auden, Spender, Thomas. 3357: 1950-1990: Authors: Cary, Greene, Murdoch, Fowles. Playwrights: Beckett, Osborne, Pinter, Stoppard. Poets: Larkin, Hughes.

Engl 3411, 3412, 3413. Survey of American Literature. (4 cr per qtr)
Historical survey of important writers, intellectual currents, movements, conventions, genres, and themes. Lecture course, with wide reading; recitation section, with discussion and writing. 3411: Beginnings through Hawthorne (to 1850). 3412: Thoreau and Melville through James (1850-1900). 3413: Stephen Crane through World War II (1900-1945).

Engl 3411H, 3412H, 3413H. Honors Course: Survey of American Literature. (4 cr per qtr; prereq 46 or more cr, honors regis or Δ)
For description, see Engl 3411, Engl 3412, Engl 3413.

Engl 3455. American Short Story. (4 cr)
Typical authors: Irving, Poe, Hawthorne, Twain, Crane, Wright, Jewett, Cather, Faulkner, Welty, Bellow, Oates.

Engl 3481. American Folklore. (4 cr)
Regional, occupational, and ethnic traditions found in the United States. An exploration of the diversity and “American” qualities of expressive traditional folk behavior.

Engl 3591. Introduction to African American Literature. (4 cr, \$Afro 3591)
African American prose, poetry, and drama from the late 18th to the mid-20th century.

Engl 3592. Introduction to African American Women Writers. (4 cr, \$Afro 3592)
Literary tradition of African American women writers explored in novels, short stories, poetry, essays, autobiography, and drama from the 18th to the 20th century.

Engl 3621. British and American Women Writers. (4 cr)
Reading and discussion of major works by 19th- and early 20th-century British and American women writers, such as Shelley, Austen, Alcott, the Brontës, Stowe, G. Eliot, Gaskell, Jewett.

Engl 3651. Poetry. (4 cr)
Historical development of poetry from the Renaissance to the present.

Engl 3651H. Honors Course: Poetry. (4 cr; prereq honors regis or Δ)
For description, see Engl 3651.

Engl 3671. The Novel. (4 cr)
The novel as a literary form. Readings of selected works of fiction from the 18th century to the present.

Engl 3671H. Honors Course: The Novel. (4 cr; prereq honors regis or Δ)
For description, see Engl 3671.

Engl 3851. The English Language. (4 cr, \$5851)
The English language: its structure (phonetics, phonology, morphology, syntax, semantics) and its use (pragmatics, dialect variation, and first language acquisition).

Engl 3852. Aspects of the English Language. (4 cr)
English grammar, phonetics and phonology, regional and social dialects. The application of these aspects of English linguistics to the analysis of specific literary texts.

Engl 3853. Gender and the English Language. (4 cr)
Connections between gender and the English language, including sexist language, feminist theories of language, and the language and style of women writers.

Engl. 3854. American Literacy and Cultural Diversity. (4 cr)
Links academic study of literacy in the U.S. with service learning through an arrangement with local community agencies. Nature, acquisition, and present state of literacy in the U.S. focusing on issues of culturally diverse and disadvantaged members of society. Development of literacy as a function of culture; the nature of dialect communities and their relationship to American schooling; bilingualism, and language policy; gender issues; and the politics of language relative to the institution of education. Students must tutor young children or adult GED seekers or nonnative speakers for at least two hours a week at a community service agency.

Engl 3860. Topics in the English Language. (4 cr per qtr)
Topics specified in *Class Schedule*.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Engl 3910. Topics in English and North American Literature. (4 cr)
Topics specified in *Class Schedule*.

Engl 3920. Topics in Anglophone Literature. (4 cr)
Topics specified in *Class Schedule*.

Engl 3931, 3932. English Quarter. (1-8 cr per course [both courses taken during same quarter]; prereq completion of 3xxx composition requirement; Comp 3011 or 3012 or 3013 highly recommended, Δ)
Broad topic of literary investigation crossing and integrating several areas of study. Team taught. "Literature in London" program courses.

Engl 3940. Figures in English and North American Literature. (4 cr)
Figures specified in *Class Schedule*.

Engl 3950. Figures in Anglophone Literature. (4 cr)
Figures specified in *Class Schedule*.

Engl 3960. Junior-Senior Seminar. (4 cr per qtr; prereq Engl major, jr or sr, completion of 3xxx composition requirement, Δ; Comp 3011 or Comp 3012 or Comp 3013 highly recommended)
Intensive study of a major literary topic, figure, period, or genre, or of an English language topic. For majors and honors candidates in English. Topics specified in *Class Schedule*. (Request admission at least two quarters before graduation. Descriptions and forms available in 204 Lind Hall.)

Engl 3961. Senior Paper. (1 cr; prereq Engl major, sr, ¶|Engl 3960 or EngW 3960, major adviser permission; S-N only)
Required of English majors, usually taken in the senior year. Critical analysis or research or creative writing paper usually in conjunction with either Engl or EngW 3960.

Engl 3961H. Honors Senior Paper. (1 cr; prereq honors candidacy Engl major, sr, ¶|3960 or EngW 3960, Engl honors adviser permission; S-N only)
Required of English majors, usually taken in senior year. Critical analysis or research or creative writing paper usually in conjunction with Engl 3960 or EngW 3960. For English *cum laude* and *magna cum laude* degree candidates.

Engl 3963H. Honors Thesis. (4 cr; prereq honors candidacy in Engl and consent of Engl honors adviser)
Required of English *summa cum laude* degree candidates, usually taken in sr yr and completed with a min of 2 qtrs of study.

Engl 3970. Directed Studies. (1-15 cr per qtr; prereq #, Δ, □)
Guided individual reading or study.

Engl 3980. Directed Instruction. (Cr ar; prereq #, Δ, □)

Engl 5131. Renaissance Poetry. (4 cr)
Major figures; historical and intellectual background; poetic theory. Authors such as Wyatt, Sidney, Spenser, Donne, Herbert, Jonson.

Engl 5133. 19th-Century British Poetry. (4 cr)
Major figures; historical and intellectual background; poetic theory. Authors such as Wordsworth, Coleridge, Keats, R. Browning, E. B. Browning, C. Rossetti, Tennyson, Arnold.

Engl 5134. 20th Century British Poetry. (4 cr)
Major figures; historical and intellectual background; poetic theory. Authors such as Hardy, Housman, Hopkins, Yeats, T.S. Eliot, S. Smith, Thomas, Larkin, and Hughes.

Engl 5151. 18th-Century English Novel. (4 cr)
Novels by authors such as Defoe, Richardson, Fielding, Smollett, Sterne, Austen.

Engl 5152. 19th-Century English Novel. (4 cr)
Novels by authors such as Scott, Dickens, the Brontës, Thackeray, G. Eliot, Hardy.

Engl 5153. 20th-Century English Novel. (4 cr)
Novels by authors such as Conrad, Ford, Joyce, Woolf, Lawrence, Forster, Cary, Waugh, Murdoch.

Engl 5171. English Drama to the Time of Shakespeare. (4 cr; prereq 3241 or 3242)
Mystery plays, moralities, interludes, academic and court plays; plays of Kyd, Marlowe, Lyly, Greene, Peele.

Engl 5173. Restoration and 18th-Century Drama. (4 cr; prereq 3241 or 3242)
The heroic play, tragedy, comedy of manners, sentimental comedy.

Engl 5175. Modern Drama Since 1920. (4 cr)
Survey of chief dramatists, English, American, and continental.

Engl 5211. Old English (Anglo-Saxon). (5 cr)
Introductory study of the language to A.D. 1150. Selected readings in prose and poetry. Some attention to the culture of the Anglo-Saxons.

Engl 5212. Readings in Old English Prose and Verse. (4 cr; prereq 5211)
Critical reading of texts; introduction to versification.

Engl 5213. Beowulf. (4 cr; prereq 5211)
Reading of considerable portions of the text.

Engl 5215. Major Types of Middle English Literature. (4 cr; prereq 5221 or Δ)
Readings in Middle English romance, lyric, allegory, and devotional prose.

Engl 5221. Chaucer. (5 cr)
Reading of Chaucer's works and introduction to Chaucer's language. Prerequisite for all courses in Middle English literature (Engl 5215-5222).

Engl 5261. Milton. (4 cr)
Paradise Lost, *Samson Agonistes*, minor poems, *Areopagitica*, and often *Paradise Regained*.

Engl 5363, 5364. James Joyce. (4 cr per qtr)
5363: Life and early works, particularly *Dubliners*, *A Portrait of the Artist as a Young Man*, and the first four episodes of *Ulysses*. 5364: *Ulysses* and *Finnegan's Wake*.

Engl 5414. Contemporary American Literature. (4 cr)

Important authors, intellectual currents, movements, conventions, genres, and themes since 1940.

Engl 5431, 5432, 5433. American Poetry. (4 cr per qtr)

Major figures; historical and intellectual background; poetic theory. *5431*: Beginnings to 1890. Typical authors: Bradstreet, Taylor, Poe, Whitman, Bryant, Dickinson. *5432*: 1890-1940. Typical authors: Frost, Stevens, Pound, Moore, Hughes, Williams, Stein. *5433*: Since 1940. Typical authors: Lowell, Ginsberg, Plath, Rich, Kaufmann, Baraka, Brooks.

Engl 5451, 5452. American Novel. (4 cr per qtr)

5451: Through the 19th century. Typical authors: Cooper, Hawthorne, Melville, Stowe, Twain, Chopin, James. *5452*: Late 19th and 20th centuries. Typical authors: James, Dreiser, Cather, Hemingway, Fitzgerald, Faulkner, Ellison, Morrison.

Engl 5471. American Drama. (4 cr)

American drama from 19124 to present. Typical playwrights: O'Neill, Rice, Hellman, Wilder, Miller, Williams, Odets, Wilson.

Engl 5481, 5482, 5483. Folklore. (4 cr per qtr; prereq 5481 or 5482 or # for 5483)

5481: Folklore genres such as proverbs, prose narratives (tales and legends), foodways, and games. Outline of the history of folklore. *5482*: The manner in which folklore is transmitted and changed, with emphasis on how folklore functions in literature, the mass media, and everyday activity. Emphasis on folk customs, festivals, heroes, humor and medicine. *5483*: Training in collection of folklore materials.

Engl 5593. The African American Novel. (4 cr, \$Afro 5593)

Contextual readings of 19th- and 20th-century black novelists such as Chesnut, J.W. Johnson, Hurston, Wright, Himes, Petry, Baldwin, J. Williams, Morrison, Reed.

Engl 5620. British and American Women Writers. (4 cr per qtr [16 cr max])

Readings in works of one or more women writers, perhaps examining various times within various forms. Writers specified in *Class Schedule*.

Engl 5651. Techniques of Poetry. (4 cr)

Poetry analysis. Form and sound: meter, stanza, euphony, free verse.

Engl 5711. Classics of Literary Criticism. (4 cr, \$3711, \$CICv 3711, \$CICv 5711; prereq grad or Engl major or Δ)

Principles of criticism as expressed and employed in major works in the classic critical tradition, with emphasis on Aristotle and Coleridge. May include Plato, Horace, Longinus, Sidney, Dryden, Johnson, Hume, Eliot.

Engl 5714. Modern and Contemporary Critical Theory. (4 cr)

Readings in modern and postmodern literary criticism; emphasis on contemporary movements, theory, and practice.

Engl 5815. History of English Language. (4 cr)

Development of the English language from Old to Early Modern English: phonology, morphology, and syntax.

Engl 5831. Development of American English. (4 cr)

History of the English language in the United States; significant regional variation.

Engl 5843. American Social Dialects. (4 cr)

Methods for and results of investigating social and class variation in American English; urban dialects.

Engl 5852, 5853, 5854. Modern Irish Language. (5 cr per qtr; prereq 5852 for 5853, 5853 for 5854)

Surveys grammatical structures of modern Irish dialect of Connemara, Co. Galway; develops skills in oral and written language: vocabulary, manipulation of grammatical structures, speaking, listening, reading, and writing practice; modern Gaelic culture.

Engl 5862. World Englishes. (4 cr)

Examines development, significance, and linguistic characteristics of varieties of English spoken in non-western countries (Caribbean, Central America, Africa, Asia). Pidgins, creoles, and local standards with reference to cultural identity and language nativization.

Engl 5910. Topics in English and North American Literature. (4 cr)

Topics specified in *Class Schedule*.

Engl 5920. Topics in Anglophone Literature. (4 cr)

Topics specified in *Class Schedule*.

Engl 5940. Figures in English and North American Literature. (4 cr)

Figures specified in *Class Schedule*.

Engl 5950. Figures in Anglophone Literature. (4 cr)

Figures specified in *Class Schedule*.

Engl 5970. Directed Studies. (1-4 cr)

Creative Writing (EngW)

The Program in Creative Writing is a part of the English department and is partially supported by funds from the Edelstein-Keller Endowment for Creative Writing. The program offers courses for students in all majors and provides special undergraduate sections for English majors. It also offers a M.F.A. degree in writing.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

EngW 1101. Introduction to Creative Writing. (4 cr)

Writing poetry and prose. Class format: combination of small-group workshops and lecture presentations by visiting writers. For those who want to try creative writing, improve reading skills, and learn more about the creative process.

EngW 1102. Introduction to Fiction Writing. (4 cr)
Beginning instruction in the art of fiction: characterization, plot, dialogue, and style. Writing exercises to help students generate ideas. Students read and discuss published fiction as well as their own writing.

EngW 1103. Introduction to Poetry Writing. (4 cr)
Beginning instruction in the art of poetry. Discussion of student poems and contemporary poetry, ideas for generating material, and writing exercises both in and out of class.

EngW 1104. Introduction to Literary Nonfiction Writing. (4 cr)

Beginning instruction in the art of literary nonfiction, including the memoir. Discussion of student work and contemporary creative nonfiction, ideas for generating material, and writing exercises.

EngW 3102. Intermediate Fiction Writing. (4 cr; prereq EngW 1102 or equiv)

For students with experience in writing fiction. Exercises, experiments, assigned readings, and discussion of students' work.

EngW 3103. Intermediate Poetry Writing. (4 cr; prereq EngW 1103 or equiv)

For students with experience in writing poetry. Exercises, experiments, assigned readings, and discussion of students' work.

EngW 3104. Intermediate Literary Nonfiction Writing. (4 cr; prereq 1101, 1104 or equiv)

For students with experience in writing memoir/creative nonfiction. Exercises, experiments, assigned readings, and discussion of students' work.

EngW 3110. Topics in Creative Writing. (4 cr; prereq 1101, 1102, 1103 or equiv)

Special topics for students with experience in creative writing. See *Class Schedule* for details of particular topics.

EngW 3960. Writing Workshop for Majors. (4 cr; prereq Engl major, 8 cr of EngW, jr or sr, completion of 3xxx composition requirement, major adviser permission, Δ: Comp 3011 or 3012 or 3013 highly recommended)
Writing workshop for English majors, usually taken during the senior year. Topic specified in *Class Schedule*.

EngW 3970. Directed Study in Writing. (1-4 cr; prereq #)

Projects in writing poetry, fiction, drama, and nonfiction, or study of ways to improve writing.

Note: Admission to most 5xxx and 8xxx courses is granted on the basis of writing samples submitted. To obtain written directions about how to apply for admission to those courses, contact the program office in 209 Lind Hall (612/625-6366).

Courses requiring department permission

Note: Admission to the following 5xxx English writing courses that require permission to register (Δ) can be obtained only from the Creative Writing office. Students interested in these courses must submit an application, a letter of introduction to the instructor, and (in most cases) a manuscript of about 10 pages, preferably in the genre of the course for which they are applying, to the Creative Writing office, 209 Lind Hall. Applications are due by the end of the ninth week of the quarter before the one in which the course is offered (with the exception of fall quarter courses, when the application deadline is usually mid-September). If you register without permission from the program office, you will forfeit your place in the class and will have to return to the Registration Center to cancel the class. If you have questions or would like more information, please call the office at (612) 625-6366. Full course descriptions are available in the Creative Writing office on a quarterly basis.

EngW 5101, 5102, 5103. Advanced Fiction Writing. (4 cr per qtr; prereq English grad or Δ)
Advanced workshop for students with considerable experience in writing fiction.

EngW 5105, 5106, 5107. Advanced Poetry Writing. (4 cr per qtr; prereq English grad or Δ)
Advanced workshop for students with considerable experience in writing poetry. Gives students an opportunity to explore new poetic possibilities and to read widely in contemporary poetry and poetics.

EngW 5110. Topics in Advanced Fiction Writing. (4 cr; prereq English major [creative writing cluster], grad or Δ)
Special topics in fiction writing. See *Class Schedule* for details of particular topics.

EngW 5120. Topics in Advanced Poetry Writing. (4 cr; prereq English major [creative writing cluster], grad or Δ)
Special topics in poetry writing. See *Class Schedule* for details of particular topics.

EngW 5130. Topics in Advanced Creative Writing. (4 cr; prereq English major [creative writing cluster], grad or Δ)
Advanced workshop that might include work in more than one genre.

EngW 5204, 5205. Playwriting/Screenwriting. (4 cr per qtr; prereq English or theatre grad or Δ)
Advanced workshop for students with experience in creative writing and an interest in writing for stage or screen. Contact creative writing program for specific descriptions.

EngW 5210. Topics in Advanced Nonfiction Writing. (4 cr; prereq English major [creative writing cluster], grad or Δ)
Special topics in nonfiction writing. See *Class Schedule* for details of particular topics.

EngW 5310, 5320. Reading as Writers. (4 cr per qtr; prereq English major [creative writing cluster], grad or Δ)
Special topics in reading fiction, literary nonfiction, and poetry. See *Class Schedule* for details.

EngW 5401. Introduction to Professional Editing. (4 cr; UC only)
Beginning editing, from the nature of the editor-writer relationship to manuscript reading, author querying, rewriting, and style. Some discussion of copy editing. Students develop editing skills by working on varied writing samples.

EngW 5402. Advanced Professional Editing. (4 cr; prereq EngW 5401, Δ; UC only)
Workshop/seminar for students with basic editing competence. Provides opportunity to edit a long text and exposure to other types of editing such as fiction, children's literature, and translations.

EngW 5970. Directed Study in Writing. (1-4 cr; prereq #)
Projects in writing poetry, fiction, drama, and literary nonfiction.

Composition and Communication (Comp)

Staff—*Director*, Christopher M. Anson,
306 Lind Hall

Professors: Anson, Bridwell-Bowles, Ross

Associate Professor: Brown

CLA and most other colleges of the University require students to satisfy the writing practice requirement and to complete a 3xxx course in their junior or senior years.

Writing Practice Requirement—Students fulfill this requirement through successful completion of Comp 1011. Students whose work does not meet an acceptable standard in their first course will receive a continuation grade (X) and will take Comp 1013 to complete the requirement.

Placement in Writing Practice—As an incoming freshman, you will be given a Student Admission Profile that assigns each student a composition placement index score. The index

is based on high school GPA in English classes and test scores. The following is a description of the four placement categories.

Classification 1—Exempt from the writing practice requirement and eligible to take any course for which exemption from or completion of the requirement is a prerequisite. Students must still complete the 3xxx requirement.

Classification 2—Must take Comp 1011 or 1011H.

Classification 3—Must take Comp 1011.

Classification 4—Must complete a basic writing course or equivalent before taking Comp 1011. Students must see their adviser for correct placement.

Concurrent Registration—Concurrent registration in a writing practice and an intermediate or advanced composition course is not permitted.

Transfer Students—Transfer students should consult their advisers about the application of transferred composition coursework toward the freshman Writing Practice Requirement, about selecting appropriate courses, or referral for testing.

Students exempted from a freshman composition requirement at another college should consult the Composition Office, 306 Lind Hall, for evaluation.

Upper-Level Writing Course (3011-3085, with the exception of 3022)—Students in most colleges and CLA departments must complete one 3xxx composition course that focuses on writing in the context of their major area of concentration. Most colleges and CLA departments have specified which course or courses are most appropriate for their majors. Approval to take a course is given by the major department, not the Composition Program.

Students not adequately prepared for an upper-level composition course may be advised to take an intermediate-level course or to go to the Writing Lab to gain additional experience.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Students absent the first day will lose their places in class. Permission of the instructor is required to register after the first class. Instructors do not keep waiting lists.

Creative writing or journalism courses may not be used to fulfill either the writing practice or the upper-level requirement.

International Students—Special sections of composition for international students are listed in *Class Schedule* under Composition with the designation “non-native speakers only.” Questions regarding English placement should be directed to the coordinator of composition for non-native speakers of English, 127 Klaeber Court.

Writing Lab—The Composition Program offers individual instruction without charge to all undergraduate University students. Students who wish to develop their writing skills are invited to consult the Lab; faculty members in any department may advise their students to do so. Further information is available in the Composition Office, 306 Lind Hall.

Creative Writing—The English department offers a full selection of creative writing courses for beginning, intermediate, and advanced writers. See descriptions listed under Creative Writing in the English section. See also Engl 5970.

Comp 0011. Preparation for Writing Practice. (No cr; prereq assignment to Category 4; S-N only) Extensive practice in expository writing: organizing information, defining paragraphs, providing sufficient detail, analyzing audience needs, and revising. Sentence combining, grammar, and mechanics. Work on individual problems in a workshop environment.

Comp 1011H. Writing Practice I. (5 cr, §1101; prereq assignment to Category 2 or 3, honors student) Essentially the same as 1011, with increased emphasis on critical readings.

Comp 1013. Writing Practice II. (1-4 cr; prereq grade of X in 1011 or 1011H) Intensive work on individual writing problems. Number of credits and curriculum determined by assessment. Students should register for four credits.

Comp 1014. Writing Practice I and Cultural Diversity. (5 cr) Solving writing problems through recitation, workshops, and conferences. Concentrating on cultural diversity issues, writing assignments help students define purpose, organize and develop content, analyze audiences, draft texts, and revise and edit.

Comp 1027. Intermediate Expository Writing. (4 cr; prereq fulfillment of writing practice requirement) Focuses on the range of choices writers make based on audience, purpose, and context. Relies on critical reading and a variety of written assignments to improve students' control over their writing and the effect it will have on their intended audiences.

Comp 3011. Writing About Literature. (4 cr; prereq fulfillment of writing practice requirement, jr) Primary focus on presenting the active reading of literary works (poems, plays, fiction) in literary commentary and criticism, primarily for academic audiences. Use of secondary sources, with attention to various theoretical and critical approaches.

Comp 3012. Writing in the Humanities. (4 cr; prereq fulfillment of writing practice requirement, jr) Writing on topics in which historical and multicultural perspectives are brought together in the context of these disciplines. Assignments involve integrating primary texts with critical commentary. Frequent practice in presenting primary materials through paraphrase and summary.

Comp 3013. Writing for the Arts. (4 cr; prereq fulfillment of writing practice requirement, jr) Writing in the roles of artist, audience member, and critic to balance subjective responses and academic analysis. Emphasis on the importance of writing to create and maintain the arts communities through grants, reviews, and formal criticism.

Comp 3014. Writing in the Social Sciences. (4 cr; prereq fulfillment of writing practice requirement, jr) Emphasizes writing as a way to communicate knowledge about individual and collective human behavior. Multidisciplinary perspectives on common social issues, description and analysis of quantitative data. Assignments may include the literature review, research proposal, case study, and theoretical argument.

Comp 3015. Writing About Science. (4 cr; prereq fulfillment of writing practice requirement, jr) Emphasizes close connection between writing and the practice of science. Through description papers, scientific papers, grant proposals, literature reviews, response papers, and other projects, students will learn how language functions in a variety of scientific contexts.

Comp 3022. Critical Reading and Writing for Management. (4 cr; prereq fulfillment of writing practice requirement, mgmt or premgmt student with more than 60 cr; does not fulfill CLA upper div writing requirement) Strategies and conventions for writing in management and related fields. Improving communication skills by incorporating narrative, descriptive, analytical, and persuasive techniques into writing on current business topics, with an emphasis on critical reading, thinking, and writing. Strategies for communicating among varied audiences in business settings.

Comp 3027. Advanced Expository Writing. (4 cr; prereq fulfillment of writing practice requirement, jr) For already competent writers; the production of polished writing within and beyond the university setting. Effective argumentation through critical reading and awareness of context and audience.

Comp 3031. Technical Writing for Engineers. (4 cr; prereq fulfillment of writing practice requirement, jr, IT student)
Presenting technical information accurately and clearly with attention to the rhetorical and organizational writing contexts. Analysis of writing situations, style and form of technical reports, and collaborative written and spoken presentations.

Comp 3032. Preprofessional Writing for Business. (4 cr; prereq fulfillment of writing practice requirement, mgmt student, jr)
Writing for a wide variety of situations and audiences found in business. Form and style of business writing in collaborative and individual assignments. Examples and assignments related as much as possible to students' major fields.

Comp 3033. Writing for the Health Sciences. (4 cr; prereq fulfillment of writing practice requirement, student with more than 60 cr)
Addresses writing needs of health sciences students. Primary emphasis on practicing and achieving verbal clarity in a variety of situations ranging from precise description of a clinical procedure to balanced discussion of ethical contexts.

Comp 3050. Topics in Advanced Composition. (4 cr per qtr [12 cr max]; prereq fulfillment of writing practice requirement, jr, permission of major adviser, Δ)
Nonfiction topics such as description or narration, writing for special audiences, or writing to solve special problems. Topics announced in *Class Schedule*.

Comp 3051. Feminist Expository Writing. (4 cr, §WoSt 3104; prereq fulfillment of writing practice requirement, jr)
Covers stages of composing process; explores similarities and differences between feminist and traditional expository language and structure; improves skills as analytical and critical readers.

Comp 3085. Conference Course in Advanced Composition. (4 cr; prereq fulfillment of writing practice requirement, jr, permission of major adviser, Δ)
Writing instruction for individual students may be held in cooperation with students' major departments.

English as a Second Language (ESL)

See Institute of Linguistics and Asian and Slavic Languages and Literatures.

European Studies

See Area Studies Programs.

Center for European Studies

Staff—*Director*, Roger Miller, 309 Social Sciences Building (612/625-1557)

The Center serves as a curricular and research service unit for faculty and students in the humanities, the social sciences, and the professional schools. It is one of seven U.S. European centers to have received U.S. Department of Education Title VI funding for the establishment of a national resource center on Western Europe, and has helped fund a number of diverse travel and research projects in Europe.

CES also recently obtained funding from the U.S. Department of Education's Fund for the Improvement of Postsecondary Education to develop, implement, and evaluate over two years, a year-long series of interdisciplinary courses on immigration issues, refugee policies, and ethnic identities as they relate to Europe and the United States. One component of the project is a student exchange program among six participating institutions in the United States and Europe. For information on this program, please call the Center for European Studies (612/625-1557). For information on a major or minor in European Studies, please call Area Studies (612/624-8543).

Film Studies

Staff—*Chair of Film Studies Committee*, Rob Silberman (Art History), 12 Jones Hall

Film Studies Committee: Conley (French and Italian), McCormick (German, Scandinavian, and Dutch), Mishler (German, Scandinavian, and Dutch), Schwartz (Journalism and Mass Communication)

Film studies offers students the opportunity to examine film from aesthetic, historical, political, social, technical, and theoretical perspectives.

B.A. Major Sequence

Required Preparatory Course—ArtH/CSCL 1921

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Major Requirements—ArH 3921-3922, CLit 5221/CSCL 5751, Jour 5615, and eight additional 4 cr courses of 3xxx or 5xxx selected from approved electives, including one director course, one genre course, and one national cinema course. The eight courses must include at least one 5xxx course and one 3xxx course designated as a junior-senior film studies seminar. The major paper will be written in conjunction with the seminar. The major program must be approved by a member of the film studies committee.

Minor Sequence

Required Preparatory Course—ArH/CSCL 1921

Minor Requirements—ArH 3921-3922, CLit 5221/CSCL 5751, Jour 5615, and two additional 3xxx or 5xxx courses selected from approved electives. The minor program must be approved by a member of the film studies committee.

Finnish

See German, Scandinavian, and Dutch.

Foreign Language Across the Curriculum (FLAC)

This program provides students the opportunity to apply their knowledge of a second language to the study of a particular discipline. Courses include one-credit sections offered in geography, history, political science, and sociology; two-credit international news coverage seminars in international relations; and four-credit courses offered in area studies, French, German, history, international relations, political science, and Spanish. Additional courses are being developed. One-credit sections have been offered in Chinese, French, German, Italian, Japanese, Russian, Spanish, and Scandinavian languages. Two- and four-credit courses are offered in French, German, and Spanish. Students may take as many as four courses offered in French, German, or Spanish during spring quarter; this immersion in FLAC courses is referred to as the Foreign Language Immersion Program (FLIP) (see below).

Foreign Language Immersion Program (FLIP)

This program provides students the opportunity to become proficient in French, German, or Spanish by taking a full load (15 credits) of two- and four-credit FLAC courses in one of

these languages during spring quarter. This immersion program benefits students who want to use their knowledge of a second language in their academic programs and to further enhance their knowledge of and skills in that language. FLIP is especially beneficial for students planning to study overseas or returning from study abroad, but all students with adequate fluency are encouraged to participate in this program. Students not prepared for or able to take advantage of the full immersion program may enroll in individual FLAC courses offered as a part of the FLIP program.

FLIP programs typically include courses in anthropology, area studies, cultural studies, history, and international relations, as well as courses offered by the three language departments.

To be eligible for FLIP, students must have completed at least nine quarters of college-level study of one of the three languages or have attained equivalent proficiency levels. Students unsure if they qualify for program admission should contact the FLIP coordinator in the Institute of International Studies, 214 Social Sciences Building.

After participating in FLIP, students may qualify for a minor in German, French, or Spanish.

Students not majoring in a foreign language who successfully complete the FLIP program may request a special designation on their transcripts that reads “Language Achievement in [language].” This designation recognizes students’ achievement in applying their foreign language competence to the study of the social sciences or humanities and may be of interest to graduate schools and potential employers.

Students receive a certificate for their successful participation in the program.

In spring quarter 1996, the following courses were offered as part of the FLIP program.

Courses taught in French

Area 3920—France and the Remnants of Empire: Three Case Studies (Algeria, Martinique, Senegal). (4 cr) Knutson
Brief historical survey of the breakup of the French Empire from Haiti (1804) to Indochina (1954); view the film *Indochine*. The Negritude movement with texts by Leopold Senghor of Senegal and Aimé Césaire of Martinique and the film *Xala* by Sembene Ousmane. Discussion of the situation in Algeria using works by Frantz Fanon and Assia Djebar.

Area 3920—Cinema, Identity, and the Politics of Representation in the Francophone World. (4 cr) Chateau

Overview of French cinema today. View recent films such as *Une Monde Sans Pitié*, *Les Nuits Sauvages*, and *Sans Tio Ni Loi*. Analysis of the cultural representation in contemporary cinema along with political and sociological commentaries of the French identity crisis. Discussion of the fabrication of national identity.

Fren 3020—Advanced Communication Skills. (5 cr)

Language support course that enhances understanding and use of material presented in other FLIP French courses.

Intr 3620—Foreign Language News Coverage of International Events. (2 cr) Garbaye
Comparative analysis of news coverage of international events by the French and American press. Background on structural differences.

Courses taught in German

Area 3920—A Look at the 60s: West Germany's Student Movement. (4 cr) Zinn
Parallels and differences between the 1960s student movement and 1990s youth. Is today's youth counterreacting to the leftist stand of their parents? A critical analysis of the coverage in *Die Zeit*.

Area 3920—Germany 1945-1995: From Capitulation to Reunification. (4 cr) Schissler
Economic, political, and social developments within the two Germanys as well as the events that led to German reunification in 1990. How the Germans deal with the National Socialist past and the Communist past in former East Germany.

Ger 3020—Advanced Communication Skills. (5 cr)

Language support course that enhances understanding and use of material presented in other FLIP German courses.

Intr 3620—Foreign Language News Coverage of International Events. (2 cr) Langbehn
Comparative analysis of news coverage of international events by the German and American press. Background on structural differences.

Courses taught in Spanish

Area 3930—Spanish Colonialism: Ethnography and Transculturation. (4 cr) Carrillo
Ethnographic cases that portray key aspects of Spanish colonialism around the world (Spanish America, Spanish Morocco, the Philippines). Conversations as a methodology for ethnographic fieldwork; thinking in conversation while learning about cultural environments.

Area 3930—History of Disease in Latin America. (4 cr) McCaa

The history of death and epidemics from prehistoric times to the present in Latin America (with special emphasis on Mexico) through contemporary texts and interpretative essays written in Spanish.

Intr 3620—Foreign Language News Coverage of International Events. (2 cr) Guerra
Comparative analysis of news coverage of international events by the Spanish and American press. Background on structural differences.

Span 3021—Advanced Communication Skills. (5 cr)

Language support course that enhances understanding and use of material presented in other FLIP Spanish courses.

Foreign Study (FoSt)

Coordinator, Chip Peterson, Global Campus, 106 Nicholson Hall (612/625-3379)

You can earn academic credit applicable toward a University degree, or toward a foreign studies minor, for many different types of study abroad. The University operates a number of programs and cosponsors others, and non-University options are also available if these do not meet your needs.

Advising—The Global Campus (106 Nicholson Hall, 612/625-3379) and the International Study and Travel Center (ISTC, 102 Nicholson Hall, 612/626-9000) together form a study abroad advising and service center. ISTC can help you identify study, work, or travel abroad options and select a specific study abroad opportunity. The University of Minnesota Study Abroad Catalog summarizes the various programs sponsored or cosponsored by the University. You may also wish to consult the large collection of brochures and catalogs in the ISTC library.

Once you have selected a program, an adviser helps you apply and can give you advice concerning academic and administrative aspects of study abroad (e.g., obtaining credit, relating foreign study to your University program of study, consulting with appropriate faculty, retaining financial aid eligibility while abroad, or completing a foreign studies minor). You are

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encouraged to plan your experience as far in advance as possible to avoid problems in meeting application deadlines, financial aid timetables, or pre-departure course requirements.

Minor Sequence

Minor Requirements—Minimum of 10 weeks of study for academic credit in a foreign country
Spch 3451 (before departure) and 3452 (after return)

23 cr (majority before departure) in a foreign language appropriate to the country of study

15 3xxx or 5xxx cr in coursework focusing on the country of study. At least one (preferably two) courses must be taken before your departure and one after your return. At least one course must be in the humanities (e.g., literature, art history), at least one in history, and at least one in the social sciences (e.g., geography, political science).

The foreign studies minor helps students integrate their study abroad with supporting University coursework. Because several of the required courses must be taken before departure, careful advance planning is essential. A more detailed explanation of requirements, guidance concerning course selection, and minor application forms are available in 106 Nicholson Hall (612/624-4525).

Study Abroad Options

The study abroad opportunities available to CLA students are many and varied. The college's particular emphasis for lower division students is on Liberal Education programs and Short-Term Intensive Language programs, and for upper division students, on Integrated Classroom Study in Foreign Universities and on Academic Field Study Abroad; however, options are not limited to these categories. An intermediate set of options is listed under Area Studies and Theme programs.

Credit for the programs listed below applies to the CLA residence requirement (except for the exchange programs, which yield transfer credit) and most financial aid can be applied to these programs. Some of the programs are operated by the University of Minnesota, particularly through the Global Campus, and others by consortia to which the University belongs.

To receive the comprehensive University of Minnesota *Study Abroad* catalog, call (612) 625-3379.

Foreign Languages Across the Curriculum (FLAC)

Students are encouraged to include courses conducted in a language other than English as part of their undergraduate career, whether they are offered on campus or abroad. The Foreign Languages Across the Curriculum (FLAC) program offers students a number of opportunities to take two- or four-credit courses in French, German, and Spanish, while one-credit FLAC sections are offered in conjunction with some four-credit courses taught in English. These one-credit sections have been offered in French, German, Italian, Russian, Scandinavian languages, and Spanish. In spring quarter, FLAC courses offered in French, German, and Spanish provide students the opportunity to do all their coursework in one of these languages as participants in the Foreign Language Immersion Program (FLIP). To date, FLAC courses have been taught in area studies, geography, history, international relations, political science, and sociology.

Liberal Education Program

This introductory-level program permits students to fulfill Twin Cities campus liberal education requirements while being immersed in another culture.

Summer Liberal Education in England. (10 cr; prereq Δ)

Six-week summer program in Nottingham and London, England, sponsored by Global Campus. Courses include Global Environment; Europe Today; Citizenship in Britain; and a course on U.S. cultural diversity. Field study, excursions, dormitory and homestay housing. Satisfies one diversified core and five designated themes requirements.

Short-Term Intensive Language Programs

The following programs develop or improve language skills substantially during a quarter or summer abroad. They emphasize first-, second-, and/or third-year language instruction, often supplemented by one or two courses about the host country. Students are encouraged to view them as stepping stones toward additional study abroad later in their undergraduate career. Graduation proficiency tests (required for completion of the CLA language requirement) are available for all the languages taught in the following programs.

Summer Chinese in Tianjin. (12-17 cr; prereq Δ)
 Nine weeks' summer study at Nankai University, Tianjin, China, sponsored by Global Campus and Institute of Linguistics and Asian and Slavic Languages and Literatures. Students take the entire first-, second-, or third-year Chinese language sequence (12-15 cr), plus optional 2-credit course on Chinese performing arts taught in English. Optional tour follows program.

Russian in St. Petersburg. (16-24 cr; prereq Δ)
 Spring quarter or semester in St. Petersburg, Russia, sponsored by the Institute of Linguistics and Asian and Slavic Languages and Literatures and Global Campus. Intensive second- or third-year Russian language supplemented by culture courses. Instruction by Russian faculty. Homestay or dormitory housing available.

Summer Polish in Lublin. (7.5 cr; prereq Δ)
 Five-weeks summer language/culture study in Lublin, southern Poland. Dormitory housing.

Summer Beginning German in Freiburg. (15 cr; prereq Δ)
 Eight-week summer program in Freiburg, Germany, sponsored by Global Campus and the Department of German, Scandinavian, and Dutch. All students take full first-year German sequence (Ger 1101-1102-1103). Excursions and field assignments complement classroom instruction by German faculty. Dormitory housing.

German and Austrian Studies in Graz—Language Option. (16 cr; prereq Δ)
 Spring quarter in Graz, Austria, sponsored by the Department of German, Scandinavian, and Dutch and Global Campus. Intensive language instruction plus courses in history, literature, and international relations, all taught in German. Homestay, field trip.

Summer Beginning French in Nantes. (15 cr; prereq Δ)
 Eight-week summer program in Nantes, France, sponsored by the Department of French and Italian and Global Campus. All students take full first-year French sequence (Fren 1101-1102-1103). Taught by French faculty and department teaching assistant. Homestays, excursions, field study.

Study Abroad in Montpellier—Language Option. (12-16 cr; prereq Δ)
 Fall quarter or spring semester or quarter in Montpellier, France, sponsored by Global Campus and the Department of French and Italian. Intensive language instruction supplemented by courses in French on culture, literature, and international relations. Homestays, field trips.

Summer French in Quebec. (9-10 cr; prereq Δ)
 Six-week summer intensive French language program at Laval University, Quebec City, Canada, under auspices of CIC. Language courses at any of seven levels, supplemented at upper levels by Quebec studies courses taught in French.

Summer Portuguese in Florianópolis. (12 cr; prereq Δ)
 Five weeks intensive second- or third-year language study in Florianópolis, Santa Catarina, southern Brazil, followed by 12-day study tour to other parts of Brazil. Instruction by Brazilian faculty. Housing with Brazilian families.

Spanish in Cuernavaca, Mexico. (14-15 cr; prereq Δ)
 Fall, winter, and/or spring quarters in Cuernavaca, Mexico, sponsored by Department of Spanish and Portuguese and Global Campus; led by University of Minnesota instructors. Intensive language instruction at the beginning and/or intermediate level, culture study in English, field trips, homestay. Class size of 2-5 students each.

Integrated Classroom Study in Foreign Institutions

The following programs, mostly for juniors and seniors with strong academic records, permit students to take regular courses for a year in any of a hundred foreign universities. Some also allow semester study. Coursework from such programs can be applied toward many CLA majors and minors. Strong language skills are needed for those universities whose language of instruction is not English. Because of the wide variety of options, most students will be able to find a university appropriate to their particular language/discipline combination.

Many of the opportunities for such study are through multilateral exchanges (such as the International Student Exchange Program), which permit students to pay University of Minnesota room, board, and tuition/fees to study in a foreign university. A number of bilateral exchanges function the same way and at similar costs. Others are part of the scholarship-supported International Reciprocal Student Exchange Program (IRSEP) for which selected students pay only airfare and incidental expenses but are obligated to contribute work to the program's administration in the Twin Cities during the year following their study abroad.

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Exchanges in Africa. (1-54 transfer cr; prereq Δ)
Semester or academic year's study in regular classes, in some cases with semester options, through IRSEP at the Bourghiba Institute in Tunisia (language study only) and the University of Dar es Salaam in Tanzania; and through multilateral exchanges at universities in Ghana, Ivory Coast, Kenya, Réunion, Tanzania, Togo, Zambia.

Exchanges in East/Southeast Asia and Oceania. (1-54 transfer cr; prereq Δ)
Semester or academic year's study in regular classes, in some cases with semester options, through IRSEP at Nankai University in China and the Universiti Sains Malaysia; through multilateral exchanges in Australia, Fiji, Guam, Hong Kong, Japan, Korea, Philippines, and Thailand; and through bilateral exchanges in Japan (Sophia University, Tokyo, and Hiroshima University) and Australia (the Royal Melbourne Institute of Technology).

Exchanges in the Americas. (1-54 transfer cr; prereq Δ)
Semester or academic year's study in regular classes, in some cases with semester options, through IRSEP at Uruguay's Universidad de la República; and through multicultural exchanges at universities in Argentina, Brazil, Canada, Chile, Colombia, Costa Rica, Dominican Republic, Honduras, Mexico, Puerto Rico, Uruguay, Virgin Islands.

Exchanges in Europe. (1-54 transfer cr; prereq Δ)
Semester or academic year's study through IRSEP in Hungary, Iceland, Norway, and Germany; through multilateral exchanges in Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Hungary, Italy, Malta, Netherlands, Russia, Spain, Sweden, Switzerland, and the United Kingdom; and through bilateral exchanges in Austria (Karl Franzens University in Graz, University of Salzburg), Netherlands (University of Amsterdam), and United Kingdom (Universities of Essex and Lancaster).

Bologna Cooperative Studies Program, Italy. (36-45 cr; prereq Δ)

Academic year's study in broad range of disciplines at University of Bologna, Italy, partly in regular courses and partly in special program-sponsored courses, preceded by six-week orientation program to improve Italian language skills and general cultural knowledge. All instruction in Italian by Bologna faculty.

German and Austrian Studies in Graz—Integrated Option. (1-22 cr; prereq Δ)
Spring semester at Karl Franzens Universität in Graz, Austria, sponsored by the Department of German, Scandinavian, and Dutch and Global Campus. Courses in many disciplines from regular university curriculum, plus internship and research opportunities and special courses for foreigners. Instruction in German by Karl Franzens faculty.

Study Abroad in Montpellier—Integrated Option. (18-45 cr; prereq Δ)
Fall or spring semester or academic year at Paul Valéry University, Montpellier, France, sponsored by Department of French and Italian and Global Campus. Courses in a variety of disciplines from regular curriculum plus special curriculum for foreign students. All instruction in French by French faculty. Homestay, dormitory, or apartment options available.

Latin American Health/Nutrition Semester in the Dominican Republic. (22-27 cr; prereq Δ)
Fall semester at Pontificia Universidad Católica Madre y Maestra, Santiago, Dominican Republic. Health courses from regular PUCMM curriculum, plus special area studies courses and advanced Spanish for health sciences. All instruction in Spanish by Madre y Maestra faculty.

Other Programs of Integrated Classroom Study. (18-54 cr; prereq Δ)
The University cosponsors programs of semester- and year-long integrated classroom study in Brazil (São Paulo; second semester can be in Salvador da Bahia), Costa Rica (San José), Germany (Freiburg), and Singapore.

Academic Field Study Programs

A number of programs make extensive use of structured field study in conjunction with preparatory and/or overseas classroom work. The Student Project for Amity among Nations (SPAN) provides opportunities for undergraduate or graduate research projects, Minnesota Studies in International Development (MSID) for development-related internships in the Third World, and others for intensive individual and group field study integrated with overseas classroom study.

Architecture Study Abroad. (12-14 cr; prereq wtr qtr planning seminar, Δ)
Spring quarter in locations that vary yearly, usually one in Europe, often another elsewhere. Sponsored by the College of Architecture and Landscape Architecture in collaboration with Global Campus; led by University of Minnesota faculty. Field study in analytical and architectural design. Graduate credit available.

Ecology of the Rain Forest in Costa Rica. (15-24 cr; prereq Δ)

Summer or semester at Monteverde Institute, located in a cloud forest in northwestern Costa Rica. Courses in English on tropical biology and ecology, Spanish language instruction, and field research project.

South American Urban Semester. (24 cr; prereq Δ)
Study of urbanization and development problems, plus Colombian studies and independent study project. Based in Bogotá, Colombia, with field trips to Colombian cities and to Guatemala and Ecuador. Lectures, readings, discussions, structured field projects. Fall semester.

Culture and Society in Latin America. (24 cr; prereq Δ)
Literary, artistic perspectives on ideology, social change. Based in Bogotá, Colombia. Additional field study in Guatemala and a third country permits comparative approach. Lectures, readings, discussion—mainly in Spanish—integrated with structured fieldwork. Coursework includes advanced Spanish or, by permission, research project. Spring semester.

Scandinavian Urban Studies Term. (24 cr; prereq Δ)
Contemporary Scandinavian societies using the city as field site and analytical unit. Based in Oslo, Norway. Field trips to Norwegian towns, other European cities. Lectures, readings, discussions, structured fieldwork, all focusing on issues of social justice in the Scandinavian welfare state.

Summer Latin American Health/Nutrition Program in the Dominican Republic. (12 cr; prereq Δ)
Eight-week summer study in Santo Domingo, Dominican Republic. Field/classroom seminar on Latin American health and nutrition, plus Spanish instruction at all levels. One year prior Spanish required.

Australian Internship Program. (10-24 cr; prereq Δ)
Australian internship/seminar combinations for a variety of majors. Two enrollment options: fall or spring semester combining internship/seminar with related courses in an Australian university, or 8- to 12-week full-time internship/seminar beginning June, August, or February. Internship settings include Parliament, state legislatures, government agencies, businesses, nonprofits.

Minnesota Archaeological Research Program in Greece (MARP). (3-6 cr; prereq Δ)
Summer fieldwork in Bronze Age and medieval archaeology in Pylos and Morea, Greece. Sponsored by MARP and the Department of Classical and Near Eastern Studies in collaboration with Global Campus; led by University of Minnesota faculty. Graduate credit available.

Design in Europe. (8 cr; prereq Δ; offered even yrs)
Three-week summer program examining interior design, architecture, and decorative arts in London, Paris, Luxembourg, Trier (Germany), and Florence. Sponsored by the Department of Design, Housing, and Apparel in collaboration with the Global Campus; led by University of Minnesota faculty. Graduate credit available.

Art in China. (6 cr; prereq Δ; offered even yrs)
Six-week summer program in Hangzhou, China. Courses include essentials of Chinese art and either Chinese painting or woodblock printing. Travel including Beijing and Guilin.

Minnesota Studies in International Development (MSID). (26-38 cr per qtr; prereq Δ)
Five-month (January-June) development-related internships with institutions in Third World countries. Before departure, participants take two or three required fall quarter courses and work with University faculty to develop a contract for crediting overseas academic work related to the internship. Internship is with a development agency or a research program or both. Interns may also engage in directed research for additional credit. *Note:* Program format will change starting with 1997-98 academic year. The following describes the individual country programs.

MSID Ecuador Internship. (8-12 cr per qtr; prereq Spanish, Δ)
Five-month internship beginning in January. Interns work with Ecuadorian nongovernmental development agencies in Quito or nearby sites in Ecuador. Housing with Ecuadorian families.

MSID India Internship. (8-12 cr per qtr; prereq Δ)
Five-month internship beginning in January. Interns work and study at University of Pune, in Pune, Maharashtra, India. All students take introductory Maharathi in fall. Housing with Indian families.

MSID Kenya Internship. (8-12 cr per qtr; prereq Δ)
Five-month internship beginning in January. Interns work in development programs in various parts of Kenya. In-country staff coordinate internships and housing placements. Housing with Kenyan families. All students take Swahili during fall quarter.

MSID Senegal Internship. (8-12 cr per qtr; prereq French, Δ)
Five-month internship beginning in January. Interns work with ENDA-TM, a Senegalese agency that engages directly in projects and research of benefit to poor people. Housing with Senegalese families. All students take introductory Wolof in fall.

SPAN Program—*Administrative Official*, Theofanis Stavrou; *Coordinator*, Kimberly Wick, 107 Nicholson Hall (612/626-1083)

The Student Project for Amity among Nations (SPAN) program involves intensive advance study of a foreign culture (including language when appropriate), a summer abroad to gather information on an individual project, and completion of a research project upon return to the campus. Four different countries are chosen for each year's program. For each site, a faculty adviser directs the year of predeparture preparation, provides on-site guidance to the students while in the foreign country, and supervises the post-return project.

FSSP 5960. Preparatory Seminar for SPAN Overseas Research. (6 cr; prereq admission to SPAN program 1 yr before summer abroad)
Academic-year seminar preceding the SPAN summer abroad. Intensive study of the culture and society to be visited, intercultural communication training, and development of the research project. Usually meets on Saturdays. Credit not granted until completion of 5970.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

FSSP 5970. SPAN Overseas Research Project. (6 cr; prereq 5960)

Summer directed field study in selected foreign countries under the guidance of a SPAN faculty adviser accompanying each country group. Each student completes a comprehensive research project upon return.

Area Studies and Theme Programs

In addition to the above three categories, a number of other programs also grant CLA residence credit. Most of the following offer a broad area studies/ language curriculum, many with an option of taking integrated courses in a cooperating host-country's university. Others focus on a particular theme or discipline. Students in most courses are Americans. The Toledo program, with substantial numbers of Latin American, Japanese, and other international students, is an exception.

Programs Taught in a Language Other Than English—Instruction in the following programs is entirely or almost entirely in a language other than English. Eligibility requirements generally include at least five or six quarters of language study or equivalent knowledge.

Chinese Universities Exchange Program. (15-25 cr; prereq Δ)

Bilateral exchanges permitting academic year study in courses for foreigners at any of three Chinese universities: Peking University (Beijing), Fudan University (Shanghai), Nankai University (Tianjin). Courses are taught in Chinese by Chinese faculty. Emphasis on Mandarin Chinese language study and directed study projects. Students with advanced language skills may take regular university courses in other disciplines.

Critical Studies in Paris. (24-54 cr; prereq Δ)

Semester or year at University of Paris III. Theoretical trends in French critical thought concerning literature, philosophy, film analysis, and art history. Instruction in French by faculty from Paris universities. Students with advanced language skills may also take regular courses in Paris universities.

Study Abroad in Venezuela. (9-45 cr; prereq 2 yrs prior Spanish for wtr qtr, Δ)

Winter quarter, fall or spring semester, academic year, or summer in Mérida, in the Venezuelan Andes, sponsored by Department of Spanish and Portuguese, Global Campus, and VENUSA. Spanish language, Venezuelan and Latin American studies. Instruction in Spanish by Venezuelan faculty, except a few courses in English. Housing with Venezuelan families.

Legislative/Policy Semester in Chile. (22-27 cr; prereq Δ)

Spring semester in Valparaíso, Chile. Special courses on Chilean politics and economics, regular courses at Universidad Católica de Valparaíso, and major research internship with a Chilean policymaker. Instruction in Spanish by Chilean faculty. Homestay.

Summer Area Studies Program in Guanajuato, Mexico. (9-15 cr; prereq Δ)

Eight-week summer language and area studies program in Guanajuato, Mexico. Instruction in Spanish by University of Guanajuato faculty. Advanced Spanish, Mexican, and Latin American studies courses in history, art history, civilization/culture, and literature.

Seville Business and Society, Spain. (18-27 cr; prereq Δ)

Semester at Menéndez Pelayo University, Seville, Spain. Spanish business practices in cultural context. Courses in economics, finance, business, marketing history, and advanced language. Extensive use of visits to Spanish corporations. Instruction in Spanish by Seville faculty.

International Program in Toledo, Spain. (9-54 cr; prereq Δ)

Semester, year, or summer study in Toledo, Spain. Sponsored jointly by Global Campus and José Ortega y Gasset Foundation, a research institution in the humanities and social sciences. Spanish instruction plus broad curriculum of courses on both Spain and Latin America, all taught in Spanish by faculty from Spanish and Latin American universities.

Summer Madrid Program for Teachers of Spanish. (9 cr; prereq Δ)

One-month summer professional development program in Madrid, Spain, for Spanish language educators. Sponsored by the University of Minnesota and the José Ortega y Gasset Foundation. Focus on contemporary Spain. Instruction in Spanish at graduate level. Open to exceptional advanced undergraduates. Partial fellowships available.

Other Area Studies Programs Requiring Language Competency. (9-54 cr; prereq Δ)

The Global Campus cosponsors area studies programs taught in German (Berlin or Freiburg), Italian (Milan), Russian (Moscow), and Spanish (Santiago, Dominican Republic). All offer semester and year options.

Programs Taught in English—Most or all instruction in the following programs is in English, except that those in non-English speaking countries also include language courses.

Agricultural Development Programs. (15 cr; prereq Δ)

Winter quarter in Santiago, Dominican Republic; spring quarter in Beijing, China; or summer in Prague, Czech Republic. Classroom/field courses in agriculture, rural sociology, and culture/society.

Summer Performing Arts in India. (9-14 cr; prereq Δ)

Ten-week summer program in Thiruvananthapuram, Kerala, southern India. Introduction to Kerala's culture plus immersion in one or two performing arts (dance/theatre, martial arts, vocal or instrumental music).

DIS Architecture/Design and Marine Environmental Studies Programs in Denmark. (15-54 cr; prereq Δ)

Semester or year in Copenhagen studying marine environmental issues or architecture, or summer studying architecture and design. Instruction in English by Danish faculty. Both tracks also offer Danish language courses.

European Union Program in Freiburg. (22-27 cr; prereq Δ)

Semester study in Freiburg, Germany, focusing on economics and politics of contemporary Europe and the European Union (EU). Related visits to EU and enterprises affected by EU policies. All students also study German language.

Literature/Theatre in London. (12-14 cr; prereq Δ; offered odd yrs)

Spring quarter in London, England, sponsored by Departments of English and Theatre Arts/Dance; led by CLA faculty. Study of English literature and theatre in historical, geographical, and cultural context. Theatre internships available. Excursions included. Open to students from all disciplines. Graduate credit available.

Area Studies Programs Taught in English. (9-54 cr; prereq Δ)

The University cosponsors area studies programs taught in English, many with substantial foreign language instruction coursework included, in Austria (Vienna, summer/semester/year options), China (Beijing, semester/year), the Czech Republic (Prague, semester), Denmark (Copenhagen, semester/year), Greece (Athens, spring semester), Indonesia (Malang, semester), Italy (Milan, semester/year), Japan (Nagoya, semester/year), Nepal (Kathmandu Valley, calendar year), Poland (Warsaw, semester), Russia (Moscow, semester/year), Thailand (Khon Laen, summer/semester; Chiang Mai, calendar year), Turkey (Istanbul, summer), Vietnam (Hanoi, semester).

Theme Programs in Business Taught in English. (22-54 cr; prereq Δ)

The University cosponsors business study programs, taught in English, in Denmark (International Business program in Copenhagen, semester/year/summer) and France (International Business Management Semester in Dijon). Both include language instruction and field study in addition to business and related liberal arts courses.

Individualized Study Abroad

You may earn credit for study abroad outside the auspices of University programs through several mechanisms (consult the academic adviser, Global Campus for details):

1. Participation in a study abroad program sponsored by an accredited U.S. college or university usually is accepted for transfer credit after review of the official transcript.
2. Study at an accredited foreign university, whether as a regular student or in a special program for foreigners, similarly can earn transfer credit. The Office of Admissions often requests evaluation of course materials by a consultant in an appropriate CLA academic department.
3. Study at a foreign institution from which credit is not accepted for transfer (such as a language institute) can earn credit through special examinations offered by appropriate University academic departments.
4. Directed Study options are also available. These require approval of and evaluation by an appropriate University faculty member and should be arranged before departure for study abroad.

All students who select a program of individualized study should complete a Foreign Study Checklist, available in 106 Nicholson Hall. This checklist records planning, preparation, and agreements with appropriate instructors in order to ensure that students' expectations regarding credit are realistic. Students can maintain their status in the University while abroad by registering for FoSt 0010, or, if they wish to continue receiving student financial aid or deferring loan repayments, by registering for FoSt 3000. For more information, call (612) 625-3379.

0010. Study Abroad. (0 cr; prereq Δ)

This no-credit registration allows students to maintain their University of Minnesota status while studying abroad.

3000. Study Abroad. (1-15 cr per qtr; prereq Δ)

Temporary registration used by students who are studying abroad for post-return transfer credit or credit by exam and who are eligible for student financial aid or loan deferments.

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French and Italian

Staff—*Chair*, Maria Paganini, 260A Folwell Hall; *Director of Undergraduate Studies*, Peter Robinson, 236 Folwell Hall; *Director of Graduate Studies*, Maria Brewer, 351-E Folwell Hall; *Director of Lower Division (French)*, Betsy Barnes, 237 Folwell Hall; *Director of Lower Division (Italian)*, Ornella Lavecchia, 255-C Folwell Hall

Professors: Akehurst, Conley, Noakes, Paganini, Waldauer

Associate Professors: Barnes, D. Brewer, M. Brewer, Martinez, Preckshot, Robinson, Sivert

Assistant Professors: Ferlito, Liu

The study of French embraces the French language, the culture and literature of French-speaking countries, and the interrelationships among these phenomena.

Italian studies focus on the language of Italy as well as the country's literature, from the early love sonnets to contemporary works. A broad cultural framework is provided through courses on civilization, literary tradition, and cross-disciplinary studies.

General Education—Fren 3601, 3602, 3603, Ital 5411, 5609 and FrIt 3604, 3608 are open to all undergraduates and have no prerequisites.

Study Abroad—The department strongly encourages students to improve their language skills and cultural understanding by incorporating one or more overseas study experiences into their major or minor. The University offers a number of relevant programs in Europe and francophone Africa, including five cosponsored by this department: 1) a summer-intensive, first-year language program in Nantes, France; 2) a summer language program in Quebec, Canada; 3) a spring quarter language and culture program in Montpellier, France; 4) semester and year programs, also in Montpellier, combining regular courses with special courses for foreigners; 5) semester and year-long critical studies programs in Paris; 6) semester and year-long area studies programs in Milan, Italy; and 7) a year-long multidisciplinary program at Italy's University of Bologna. For further information on options and procedures, see Foreign Study.

Foreign Languages Across the Curriculum (FLAC)

Students are encouraged to include courses in other disciplines taught in French or Italian on campus as part of their undergraduate program. The Foreign Languages Across the Curriculum (FLAC) program offers students a number of opportunities to take two- or four-credit courses in French in area studies, history, international relations, and sociology, while one-credit FLAC sections in French and Italian are offered in conjunction with some four-credit courses taught in English. In spring quarter, FLAC courses offered in French provide students the opportunity to do all their coursework in French (some of the courses offered by the Department of French and Italian, some by other departments) as participants in the Foreign Language Immersion Program (FLIP). For more information, consult the department advisers in 260 Folwell Hall.

B.A. Major Sequence—French

Required Preparatory Courses—1101-1102-1103; 1104-1105-1106; 3015

Major Requirements—3016, 3017 or 3020, 3101, 3103 or course selected from 3209 to 3289

Two courses selected from: 3511, 3512, 3513, 3550

Four upper division courses chosen from any 4-credit 3xxx or 5xxx course except 3020, 5105 or 5505

Courses 3590, 3599, 3601, 3602, 3603, 3607, 3650, and 5607 may not be applied toward the French major.

D grades in major courses will be accepted if offset by an equivalent number of A or B grades in major courses.

For requirements for a teacher's license, see the *College of Education and Human Development Bulletin*.

Minor Sequence—French

Minor Requirements—Minimum of six courses:

1. Fren 3016, 3017
2. Two courses from 3511, 3512, 3513
3. 3101, 3103

B.A. Major Sequence—Italian

Required Preparatory Courses—

1101-1102-1103; 1104-1105-1106; 3015

Major Requirements—3016, 3201, 3501, 3502

Eight literature courses chosen from 3209-5402

Courses 3555, 3590, 5601, 5602, 5603, and 5609 may not be applied toward the Italian major.

Minor Sequence—Italian

Minor Requirements—Minimum of six courses:

1. 3016
2. 3501, 3502
3. Two courses chosen from Ital 3209 through 5402

The minor program must be approved by the director of undergraduate studies.

B.A. Major Sequence—French and Italian

Required Preparatory Courses—

Ital 1101-1102-1103; 1104-1105-1106; 3015; Fren 1101-1102-1103; 1104-1105-1106; 3015

Major Requirements—Fren 3101, 3103, 5105 or 5505; Ital 3201; three 3xxx French literature courses; four Italian literature courses; FrIt 3604 or 3608

French (Fren)

Fren 1101-1102-1103f,w,s. Beginning French. (5 cr per qtr)

Basic listening, speaking, reading, and writing skills. Emphasis on communicative competence. Some cultural readings.

Fren 1104-1105-1106f,w,s. Intermediate French. (5 cr per qtr; prereq 1103 or 3 yrs high school French)

Development of listening, reading, writing, and speaking skills, in the context of cultural themes related to the Francophone world. Grammar review and elaboration.

Fren 3014. French Phonetics. (4 cr; prereq 1106) For non-native speakers of French who want to improve their pronunciation and knowledge of the French sound system.

Fren 3015. French Composition and Communication. (4 cr; prereq 1106) Emphasis on writing, development of communication skills. Based on a consolidation of grammar.

Fren 3016. Advanced French Composition and Communication. (4 cr; prereq 3015 or #) Builds on 3015, with emphasis on aspects of expression and writing. Readings and discussions with attention to different cultural contexts.

Fren 3017. Stylistics Through Translation. (4 cr; prereq 3016 or superior achievement in 3015 or #) Organized around various perspectives: the arts, economics, ecology, politics, sociology.

Fren 3020. French Communication. (4 cr; prereq 3015) Intensive work in oral expression and listening comprehension in French, incorporating a wide variety of cultural topics.

Fren 3101. Introduction to French Literary Texts: Poetry. (4 cr; prereq 3015 or equiv) Approaches to literary analysis and techniques examined through critical reading. Aims beyond, but focuses on, poetry.

Fren 3103. French Literary Texts: Novel. (4 cr; prereq 3101 or above) Approaches to literary analysis and techniques examined through critical reading.

Fren 3219. Topics in 16th-Century French Literature. (4 cr; prereq 3101, 3103) Selected texts. Taught in French.

Fren 3239. Topics in 17th-Century French Literature. (4 cr; prereq 3101, 3103) Selected texts. Taught in French.

Fren 3259. Topics in 18th-Century French Literature. (4 cr; prereq 3101, 3103) Selected texts. Taught in French.

Fren 3269. Topics in 19th-Century French Literature. (4 cr; prereq 3101, 3103) Selected texts. Taught in French.

Fren 3279. Francophone Writers of the African Diaspora. (4 cr; prereq 3101, 3103) A survey of writers from francophone North Africa, Africa, and the Caribbean. Reading selections may include texts by immigrant or exiled writers in France.

Fren 3289. Topics in 20th-Century French Literature. (4 cr; prereq 3101, 3103) Selected texts. Taught in French.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Fren 3511, 3512, 3513. French Civilization and Culture. (4 cr per qtr; prereq 3015)
French culture; contrasts between French and North American cultures. *3511*: Middle Ages to the Renaissance. *3512*: 17th and 18th centuries. *3513*: 19th and 20th centuries since the 1789 Revolution.

Fren 3550. Topics in Francophone Cultures. (4 cr; prereq 3015)
Focused on aspects of French and/or francophone cultures in various historical, social, political, and geographical contexts.

Fren 3601. French Literature in English Translation. (4 cr per qtr; knowledge of French helpful but not necessary)
Representative works from Middle Ages through the 18th century; movements, genres, themes.

Fren 3603. 20th-Century French Theatre in Translation. (4 cr; knowledge of French helpful but not necessary)
Plays of 20th-century French dramatists and theorists, including Artaud, Cocteau, Anouilh, Sartre, Camus, Beckett, Genet, Ionesco, Duras, Benmussa, Cixous, Mnouchkine, and others.

Fren 3701. The Development of the French Language. (4 cr; prereq 3015 or #)
Origins and development of the French language from Latin to contemporary French. Selected texts. Present stage and development.

Fren 3970. Directed Studies. (1-5 cr per qtr; prereq Δ)
Guided individual reading or study.

Fren 3980. Directed Instruction. (1-5 cr per qtr; prereq 3015, #, Δ)

Fren 5017. Composition et Stylistique. (4 cr; prereq 3017 or #)
Translation, imitation, and composition of fiction and nonfiction, prose and poetry, using English and French texts.

Fren 5105. Topics in Criticism. (4 cr; prereq 3202 or above)
Current issues in critical theory for undergraduate majors in French literature.

Fren 5207. Old French. (4 cr; prereq 3209 or above) Akehurst
Preparation for reading medieval French texts in the original.

Fren 5281. Early 20th-Century Poetry. (4 cr; prereq 3209 or above) Preckshot
Poetry as it emerged out of the experiments undertaken at the end of the 19th century that led to a revolution in poetic form and theory; readings from Apollinaire, Jacob, Péret, Breton, Eluard, Aragon.

Fren 5289. Topics in African Literature. (4 cr; prereq 3209 or above) Preckshot
Francophone African and Afro-Caribbean literature examined in its historical, cultural or ideological contexts.

Fren 5355. Novel of the 18th Century. (4 cr; prereq 3209 or above) Waldauer
Emphasis on novels of Marivaux, Diderot, and Laclos.

Fren 5368. Short Stories of the 19th Century. (4 cr; prereq 3209 or above) Sivert
From Charles Nodier to Villiers de l'Isle-Adam. (See 5467 for Flaubert.)

Fren 5380. The French Novel in the 20th Century. (4 cr per qtr; prereq 3209 or above) M. Brewer, Paganini
Includes prose texts. Novel, essay, short story, philosophical récit, autobiography.

Fren 5434. Baroque Tragedy: Corneille. (4 cr; prereq 3209 or above)

Fren 5457. Rousseau. (4 cr; prereq 3209 or above) Waldauer

Fren 5459. Diderot. (4 cr; prereq 3209 or above) Waldauer

Fren 5461. Baudelaire. (4 cr; prereq 3209 or above) Robinson

Fren 5467. Flaubert. (4 cr; prereq 3209 or above) Paganini, Sivert

Fren 5471. Mallarmé. (4 cr; prereq 3209 or above) Robinson

Fren 5475. Zola and the Naturalistic Novel. (4 cr; prereq 3209 or above) Sivert

Fren 5505. Topics in Culture. (4 cr; prereq 3201 or above, knowledge of French)
Comprehensive seminar on contemporary continental theories of discourse and culture. Analysis of conceptions of language, ideology, and culture as symbolic systems.

Fren 5701. Structure of French: Phonology. (4 cr; prereq 3016 or #; 3014 recommended) Barnes
Advanced study of sound system of contemporary French.

Fren 5702. Structure of French: Morphology and Syntax I. (4 cr; prereq 3016; 5701 and Ling 3001 or Ling 5001 recommended) Barnes
Linguistic study of contemporary French word forms (derivational and inflectional morphology); introduction to French syntax (linguistic study of grammar).

Fren 5710. Topics in French Sociolinguistics. (4 cr; prereq 3016; 3014 or 5701 recommended)
Explores variation in pronunciation, vocabulary, and grammar of French, according to geographic region, situational factors, and register (formal/informal style).

Fren 5900. Topics in French Literature. (3-5 cr per qtr [15 cr max]; prereq 3209 or above)

Fren 5999. Foreign Language Teaching: Theory and Practice. (4 cr; prereq grad or #) Barnes
Theoretical and practical aspects of language learning and teaching applied to French and Italian.

Italian (Ital)

Ital 1101-1102-1103. Beginning Italian. (5 cr per qtr) Speaking, reading, and cultural studies based on audiolingual approach. Emphasis on communicative competence. Some cultural readings.

Ital 1104. Intermediate Italian. (5 cr; prereq 1103 or equiv) Consolidation of basic structures and development of oral fluency through readings and discussions.

Ital 1105. Intermediate Italian. (5 cr; prereq 1104) Literary and cultural readings, leading to introductory knowledge of Italian literature and civilization.

Ital 1106. Intermediate Italian. (5 cr; prereq 1105) Further development of reading, writing, listening, and speaking skills through the study of contemporary Italian culture.

Ital 3015. Intermediate Italian Composition and Conversation. (4 cr; prereq 1105 or 1104 with grade of A and recommendation of instructor) Conversation and composition practice to achieve command of Italian in speaking and writing. Conversation based on readings and discussions.

Ital 3016. Advanced Italian Composition and Conversation. (4 cr; prereq 3015 or #) Techniques of expression and writing. Reading and discussion with attention to cultural texts.

Ital 3201. Italian Literary Tradition. (4 cr; prereq 3015 or #) Tradition and innovation in Italian literature; specific masterpieces. Taught in Italian.

Ital 3209. Medieval Italian Literature. (4 cr; prereq 3015) Selected texts. Taught in Italian.

Ital 3219. Renaissance and Post-Renaissance Italian Literature. (4 cr; prereq 3015) Selected texts. Taught in Italian.

Ital 3289. Modern Italian Literature. (4 cr; prereq 3015) Selected texts. Taught in Italian.

Ital 3303. Italian Drama. (4 cr; prereq 3015) Selected texts; development of notions of convention and genre. Taught in Italian.

Ital 3305. Italian Novel. (4 cr; prereq 3015) Selected texts; study of genres. Taught in Italian.

Ital 3501. Italian Civilization and Culture. (4 cr; prereq 1105) Aspects of Italian culture from the Middle Ages to the Renaissance. Taught in Italian.

Ital 3502. Italian Civilization and Culture. (4 cr; prereq 1105) Aspects of Italian culture from the Baroque period to the Enlightenment. Taught in Italian.

Ital 3970. Directed Studies. (1-5 cr per qtr; prereq #, Δ) Guided individual reading or study.

Ital 5321. Chivalric Poetry: Boiardo, Ariosto, Tasso. (4 cr; prereq 3015) Martinez

Ital 5328. Renaissance Prose Writers: Machiavelli, Castiglione. (4 cr; prereq 3015) Martinez

Ital 5385. 20th-Century Narrative. (4 cr; prereq 3015) Evolution and analysis of the modern novel and novella. Authors studied include Calvino, Svevo, Vittorini, others. Taught in Italian.

Ital 5401-5402. Dante. (4 cr per qtr; prereq 3015) Martinez, staff
The *Divina Commedia*; Dante's minor works.

Ital 5411. Petrarch. (4 cr; prereq 3015) Martinez Readings in English (for nonmajors) and Italian (for majors). Taught in English.

Ital 5609. Dante (in English). (4 cr; prereq #) Martinez

French and Italian (FrIt)

FrIt 3604. Cinemas of the Real. (4 cr; knowledge of French and Italian helpful but not necessary) Conley Film work of major vanguards: surrealism; Vigo, Renoir, Wells, Visconti, Rossellini, DeSica. Course varies in structure.

FrIt 3608. New Wave Cinemas. (4 cr; knowledge of French and Italian helpful but not necessary) Conley Film work of directors recasting classical traditions of Europe and America. Filmic theories of the Western, B-genre; political cinema: Godard, Resnais, Rivette, Pasolini, Antonioni, Bertolucci. Course varies in structure.

Genetics and Cell Biology (GCB)

College of Biological Sciences

Staff—Head, Ross G. Johnson, 248a Biological Sciences Center; *Acting Director of Undergraduate Studies*, Ross G. Johnson

Professor Emeritus: Enfield

Professors: Cunningham, Fan, Hackett, R. Herman, W. Herman, Hooper, Johnson, Kerr,

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

King (Medicine), Lefebvre, Magee, McKinnell, Rodell, Silflow

Associate Professors: Blumenfeld, Brooker, Goldstein, Hays, Iwanij, Shaw

Assistant Professors: Marks, Rougvie, Simon

Genetics is the study of inheritance, including molecular mechanisms of gene organization and expression, human genetics, and the behavior of genes in populations of organisms. Study in cell and developmental biology seeks to answer basic questions regarding organization, composition, function, and assembly of cells and cellular components, and their regulation during the processes of cellular growth and differentiation.

The Department of Genetics and Cell Biology offers a B.S. degree through the College of Biological Sciences. The courses listed here may be taken by CLA students and frequently are taken by students who are seeking a B.A. degree in biology through CLA.

General Education—Courses especially appropriate for nonmajors include Biol 1051, 1101, 3051; GCB 3002, 3008, 3022

GCB 3002. Human Genetics, Social Affairs. (3 cr [4 cr with term paper], §3022, §Biol 1101, §Biol 5003; for students in programs not directly related to biological sciences; UC only)

Heredity and basic genetic mechanisms with emphasis on humans. Relationship between human genetics and disease, family planning, gender, behavior, and race. Ethical/societal issues concerning human genetics and modern genetic technologies.

GCB 3008. The Biology of Cancer. (3 cr; prereq Biol 1009 or 1202)

Biological aspects of etiology, phylogeny, and cellular processes involved in neoplasia. Growth and differentiation of normal and cancer cells. History of cancer research.

GCB 3022. Genetics. (4 cr, §Biol 5003; not intended for biology majors; prereq Biol 1009 or 1202) Mechanisms of heredity, their implications for biological populations, and applications to practical problems.

GCB 3960. Research Topics. (1 cr; prereq 15 cr in biology; S-N only)

Description of ongoing research in the laboratories of department faculty. Introduces sophomores and juniors who are potential majors to department faculty, the diversity of research activities, and opportunities for undergraduate research in genetics and cell biology.

GCB 5015. Histology: Cell and Tissue Organization. (5 cr; prereq Biol 5004 or #) Structure and function of vertebrate tissues and organs. Lectures combine electron microscopy, light microscopy, physiology, and cell biology of higher animals. Lab concentrates on light microscopy of mammalian tissues.

GCB 5024. The Genetics of Development. (4 cr; prereq Biol 5003 or #)

Current concepts and experimental approaches concerning the genetic basis of morphogenesis and metazoan development. Concentrates on organisms amenable to genetic analysis, including certain prokaryotes and single-celled eucaryotes, a nematode, and *Drosophila*.

GCB 5030. Laboratory: Genetics. (2 cr; prereq 3022 or Biol 5003 or BioC 5333)

Investigative approaches to analysis of genetic problems. Focus on a given organism or related group of organisms may vary quarterly.

GCB 5034. Intermediate Molecular Genetics. (4 cr; prereq Biol 5003, Biol 5004)

Molecular genetics of prokaryotes and eucaryotes, concentrating on the characterization and regulation of expression of genes; techniques used to study gene expression. For advanced bioscience undergraduates and graduate students not in CBS programs.

GCB 5035. Intermediate Cell Biology. (4 cr; prereq Biol 5004 or #)

Current literature in cell biology. Selected scientific papers will illustrate new concepts and new experimental approaches to basic questions of cell organization and function. Topics vary but include membranes, secretions, endocytosis, the cytoskeleton, and the nucleus.

GCB 5061. Developmental Biology. (4 cr, prereq Biol 3011 or Biol 3111, Biol 5004)

Animal embryology; morphogenesis and cellular differentiation, with an emphasis on vertebrates and on pattern formation. The control mechanisms of development.

GCB 5073. Advanced Human Genetics. (4 cr; prereq 5034 or #)

Application of molecular, biochemical, chromosomal, and population genetics to human variation and disease. Abnormal chromosome number and structure; abnormal enzyme, structural protein, receptor, and transport; analysis of inheritance patterns; behavioral genetics; genetic basis of common disease.

GCB 5114. General Physiology. (3 cr; prereq Biol 3011 or Biol 3111, Biol 5001 or BioC 3021 or BioC 5331, Phys 1109 or Phys 1295 or Phys 1253)

Quantitative approach to the study of cell function, with emphasis on application of physical and chemical principles. Transport, electrical activity of cell membranes, cell contractility.

GCB 5134. Endocrinology. (4 cr; prereq Biol 3011 or Biol 3111, Biol 5001 or BioC 3021 or BioC 5331 or #)

Survey of structure and function of invertebrate and vertebrate endocrine systems.

GCB 5605. Cell Biology Laboratory. (2 cr; prereq Biol 5004 or ¶Biol 5004 or #) Experimental approaches to cell structure, function, and replication, including microscopy, autoradiography, cell fractionation, and molecular and chemical analyses.

GCB 5970f. Directed Studies. (Cr ar; prereq #, Δ; S-N only; a max of 10 cr of 5970 or 5990 may be counted toward the major requirements) Individual study on selected topics or problems, with emphasis on selected readings and use of scientific literature.

GCB 5990. Directed Research. (Cr ar; prereq #, Δ; S-N only; a max of 10 cr of 5970 or 5990 may be counted toward the major requirements) Individual projects on selected topics and problems.

Geography (Geog)

Staff—Chair, Mei-Ling Hsu, 414 Social Sciences Building; *Director of Undergraduate Studies,* Roderick H. Squires, 548 Social Sciences Building

Professors Emeriti: Lukermann, Mather

Regents' Professor Emeritus: Borchert

Professors: J. Adams, Barrett, Brown, Gersmehl, Hart, Hsu, Leitner, Lukermann, Porter, Rice, Schwartzberg, Scott, Sheppard, Skaggs

Associate Professors: Martin, McMaster, Miller, Samatar, Squires, Weil

Assistant Professors: Klink, Veregin

Geography describes and explains the past, present, and future locations and spatial patterns of humans and their settlements, cultural and economic traits, and natural resources. The language of maps is a distinctive language of geography and an ability to use and interpret maps is fundamental to the study and practice of geography. Geography offers students an integrative perspective on the relations among social, political, economic, and physical phenomena in space.

General Education—Geography is essential to any liberal or general education program. Beginning courses in geography introduce students to the content and methods of the social sciences (human geography) and the natural sciences (physical geography) and to the art and

science of symbolic communication (language of maps). Regional courses examine different parts of the earth, enhancing one's knowledge of the world (world studies) and its diversity (cultural pluralism). Topical courses examine in detail specific human and physical phenomena from the geographical viewpoint. For students wishing to go beyond the general education opportunities, the department offers B.A. and B.S. degrees, a minor, honors, and independent study.

Study Abroad—Study outside of the United States is a useful and important adjunct to any degree program in geography. Appropriately selected courses will satisfy the major requirements including the field study requirement. See also Foreign Study.

Foreign Languages Across the Curriculum (FLAC)

Students are encouraged to include courses conducted in a language other than English as part of their undergraduate career, whether they are offered on campus or abroad. The Foreign Languages Across the Curriculum (FLAC) program offers students a number of opportunities to take two- or four-credit courses in French, German, and Spanish, while one-credit FLAC sections are offered in conjunction with some four-credit courses taught in English. These one-credit sections have been offered in German and Spanish. In spring quarter, FLAC courses offered in French, German, and Spanish provide students the opportunity to do all their coursework in one of these languages as participants in the Foreign Language Immersion Program (FLIP). For more information, consult the geography advisers in 414 Social Sciences Building.

B.A. Major Sequence

Required Preparatory Courses—Two courses selected from 1301, 1302, 1401, 1402, 1501, 3001

Major Requirements—Minimum of 36 credits with a grade of C or better in courses above 3001 selected from the following groups, with at least one course coming from each group:

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

1. Regional studies (5xxx)
2. Topical studies
3. History and philosophy of geography
4. Geographical techniques (includes FR 5262)
Senior project: 2 cr written report as part of X Registration in conjunction with any 3xxx or 5xxx geography course, or 3970, 3985, or 3990. It must be supervised by a department faculty member and submitted at least one quarter before graduation.

One upper-level writing course in English.

All prospective majors must take two required introductory courses before filing their programs; a minimum of 24 geography credits must be taken in this department after declaring the major.

All majors must file a program plan made in consultation with a faculty adviser, within one quarter of declaring the major.

B.S. Major Sequence

All majors must file a program, constructed in consultation with a faculty adviser, within one quarter of declaring the major.

Major Requirements—Minimum of 56 credits with a grade of C or better in courses above 3001 to include

- a minimum of 36 credits in geography specified individually, including a minimum of:
 - two courses in geographic techniques (includes Forestry 5262)
 - one course in history and philosophy of geography
 - one course in regional geography, exclusive of courses on North America and Europe
 - one geography course that satisfies the CLA cultural pluralism requirement or the CLE cultural diversity requirement
 - 2 credits for senior project through 3970, 3985, 3990, or X registration in a 3xxx or 5xxx geography course
- a minimum of 12 credits in supporting fields specified individually
- senior project supervised by a geography department faculty member and submitted at least one quarter before graduation.
- one upper-level writing course in composition
- Math 1251-1252-1261 or Math 1611-1621 or CSci 3105-3106 or CSci 5101-5102 or Stats through 3012
- demonstrated proficiency that is usually attained after 6 quarters of college study in a language specified on the major requirement form.

Minor Sequence—Minimum of 20 credits above 3001 with a grad of C or better, including one course from three of the following groups: regional studies, topical studies, geographical techniques, history, and philosophy.

Introductory

Geog 1301. Human Geography. (5 cr, §1302) Hart, Miller, Schwartzberg, Scott, Weil
Geography of population and principal ways of life; capacity of earth for future population.

Geog 1302. The World Around Us. (5 cr)
Examination of the ways in which the regional differentiation of our planet (in terms of resource endowment, culture, type of economy, and political systems) bears on the well being of various societies, with case studies of specific problem regions.

Geog 1401. Introduction to Physical Geography. (5 cr, §NSci 1501) Barrett, Brown, Gersmehl, Skaggs, Squires
Distribution patterns of climate, relief, vegetation, and soils; regional differences in problems of physical development.

Geog 1402. Geography of Environmental Systems. (5 cr, §Geog 1401) Brown, Skaggs, Squires
Examination of geographic patterns, dynamics, and interactions of atmospheric, hydrospheric, geomorphic, pedologic, and biologic systems as the context for human population, development, and resource use patterns.

Geog 1425. Introduction to Meteorology. (4 cr, §Soil 1425) Baker, Klink, Skaggs
The atmosphere and its behavior. Atmospheric composition, structure, stability, and motion; precipitation processes, air masses, fronts, cyclones, and anticyclones; general weather patterns; meteorological instruments and observation; plotting and analysis of maps; forecasting.

Geog 1501. The Language of Maps. (5 cr) Gersmehl, Veregin
Maps of many kinds; symbolic vocabulary of spatial communication; analysis of location, distance, direction, shape, area, gradient, trend, and association of features; spatial patterns, inferred causes, and exceptions; perception, meaning, and distortion.

Geog 1503. Visualizing Geographical Data. (4 cr) McMaster
Familiarizes introductory nonmajor students to the array of methods for representing and understanding spatial and aspatial statistical data, including charts, graphs, images, and maps. Creation of graphics in support of textual material, such as media information graphics and media cartography. Exposure to an array of spreadsheet, graphics statistics, and mapping software, including Excel, Exstatix, MapInfo, and MacDraw, in solving a series of data analysis/representation problems. A significant component spent on logical text/graphic/map interaction, and in the analysis/interpretation of graphics. One of two recitations will be reserved for Martin Luther King (MLK) students.

Geog 1973. Geography of the Twin Cities. (4 cr, §3973) J Adams, Martin
Social and physical characteristics of the Twin Cities. Their place in the urban network of the United States.

Geog 3001. Introduction to Geographic Inquiry. (4 cr) Porter, Sheppard
Fundamental geographical concepts (distance, direction, location, hierarchy, scale, circulation, and connection). Physical and human geography treated within the framework of actual and hypothetical worlds.

Regional Studies

Geog 3101. Geography of United States and Canada. (4 cr) Gersmehl, Hart
Interaction of the aspirations and abilities of different groups of people with the complexities of the natural environment to produce regional differentiation of the United States and Canada.

Geog 3111. Minnesota. (4 cr)
Physical resources, population, and commercial production.

Geog 3121. Latin America. (4 cr) Barrett, Weil
Physical and human geography of Latin America.

Geog 3131. Middle America. (4 cr) Barrett
Physical and human geography of Mexico, Central America, and the Antilles. Internal and external areal relationships.

Geog 3141. Africa. (4 cr) Porter, Samatar, Scott
Regional differentiation of human groups and environments; culture contact and problems of underdeveloped countries south of the Sahara.

Geog 3161. Europe. (4 cr) Leitner, Rice
Roots and distinctiveness of the European culture realm; the diversity of ethnic groups, languages, religions, and the physical environment; the political landscape; the changing nature of urban and rural Europe on both sides of the Iron Curtain; regional differences in levels of economic development and well being; European integration.

Geog 3162. The Changing Map of Europe. (1 cr; prereq Ger 1105 or #; course can only be taken in conjunction with Geog 3161) Leitner
Offered as German language section to Geog 3161—The Geography of Europe. Examines texts in German pertaining to recent events in Europe, concentrating on their geographic implications.

Geog 3211. East Asia. (4 cr, §5211) Hsu
Physical and human geography of China, Korea, and Japan; population pressure, economic development, and international relations.

Geog 3212. South Asia. (4 cr, §5212) Schwartzberg
Physical and human geography of India, Pakistan, Bangladesh, Sri Lanka, Afghanistan, and Nepal; geographic aspects of social structure, population growth, economic development, and international relations.

Geog 3221f. Australia-New Zealand-Oceania. (4 cr) Barrett
Physical and human geography of Australia, New Zealand, Polynesia, and Melanesia; modification of aboriginal use after European contact, current land use trends in non-European societies, and use and modification of environment by Europeans.

Geog 5111. Selected Regions of the Eastern United States. (4 cr) Hart
Intensive analysis of regions east of the Great Plains. Regions selected vary yearly.

Geog 5131. Colonial Mexico and the Caribbean. (4 cr) Barrett
Exploration, discovery, settlement, livelihood, and circulation to about 1800.

Geog 5132. South America. (4 cr) Weil
Physical resources, population, agriculture, manufacturing, and transportation in countries of South America.

Geog 5143. Geography of West Africa. (4 cr) Scott
West Africa from Senegal to Cameroon: social geography of resource use, population, settlement, economic development, and international relations.

Geog 5145. Development in Africa. (4 cr, §Afro 5145, §IntR 5145) Samatar, Scott
Economic, political, and social development in Africa from independence to the present, with emphasis on reordering colonial landscapes, bases for North-South relations, big power interventions, and participation in the world economy.

Geog 5173. Norden. (4 cr) Rice
Physical and human geography of Sweden, Finland, Denmark, Norway, and Iceland, with emphasis on population change and settlement patterns.

Geog 5176. Scandinavia in the 19th and 20th Centuries. (4 cr, §Hist 3273)
Team-taught interdisciplinary examination of the social and economic transformation of Scandinavia 1800 to the present; from agrarian periphery to European integration; impact of demographic, economic, and social change; social democracy and the politics of consensus.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Geog 5177. Scandinavia in the Early Modern Period. (4 cr, §Hist 3272)

Team-taught in interdisciplinary examination of the social and economic transformation of Scandinavia 1500-1800; centralization of state power and the Reformation; struggle for commercial and political control of the Baltic; absolutism in the North; political and agrarian reforms.

Geog 5178. Scandinavia in the Middle Ages. (4 cr, §Hist 5118) Rice

Team-taught, interdisciplinary examination of the economic, political, and social history of Scandinavia from the late Viking period until about 1500. Agrarian and urban societies; peasant and elite perspectives; growth of economic, political, religious, and social institutions.

Geog 5211. East Asia: Regional Analysis. (4 cr, §3211) Hsu

Aspects of East Asian life. The effects, within a traditional context, of population growth and modern technology on the transformation of society and reorganization of space.

Geog 5212. South Asia. (4 cr, §3212)

Schwartzberg

For description, see Geog 3212.

Topical Studies

Geog 3321. Political Geography. (4 cr)

Schwartzberg

Scope and methods; selected concepts, problems, and areas.

Geog 3331. Economic Geography. (4 cr) Leitner, Scott, Sheppard

World patterns of economic activity; levels of development; appraisal of resources, production, circulation, and consumption; principles, models, and planning of economic behavior.

Geog 3361. Land Use and the Federal Government. (4 cr) Squires

Statutory and regulatory framework in which individuals choose to use land in the United States; federal role in creating framework.

Geog 3362. Land Use and State Government. (4 cr) Squires

Statutory and regulatory framework in which individuals choose to use land in the United States; state's role in creating framework.

Geog 3371. Introduction to Urban

Geography. (4 cr) J Adams, Leitner, Miller, Sheppard
Character, distribution, and development of cities in present-day world. Internal and external locational relationships.

Geog 3373. The Changing Form of the City. (4 cr; prereq 1973 or 3371 or Hist 3901 or Hist 3902 or UrbS 3104 or #) Miller

Urban origins, ancient cultures and cities, the medieval city, the rediscovery of planning, colonial cities, industrialization and urban expansion, speculative cities, utopian cities, planning triumphs and disasters, cities as reflections of society, culture, and the past.

Geog 3378. Third World Underdevelopment and Modernization. (4 cr) Porter, Samatar, Scott, Sheppard, Weil

Processes underlying socioeconomic change in the Third World. Evolving global economy and internal spatial and socioeconomic conditions. Theories of modernization, development, and underdevelopment.

Geog 3379. Environment and Development in Third World. (3 cr; prereq soph standing)

Basic concepts for analyzing the relations between capitalist development and environment in the Third World. The course is divided into three parts: *Part one*, basic analytical concepts about historical geography of capitalist development in the Third World; *Part two*, geographically and historically specific case studies dealing with poverty, environmental degradation and social transformation; *Part three*, the likelihood, in the highly integrated international context, of social and environmental sustainability in the Third World.

Geog 3381. Population Geography. (4 cr)

Leitner, Rice, Weil

Characteristics of human populations that relate to the nature of places and regions. Differential growth of populations, with consideration of spatial variations in fertility, mortality, and migration. Regional variations in relationship of population and material welfare.

Geog 3421. Climatology. (4 cr; prereq 1401 or 1425 or Soil 1262 or Phys 1071 or #) Klink, Skaggs

Radiation and energy budgets; the hydrologic cycle; general circulation; climatic classifications and world distribution of climatic types; climatic change and climatic fluctuations.

Geog 3973. Geography of the Twin Cities. (4 cr, §1973) J Adams, Martin

For description, see Geog 1973.

Geog 5361. Land in America. (4 cr; prereq #)

Squires

Land ownership in the United States.

Geog 5371. North American Cities. (4 cr; prereq 1301 or 1501 or 1973 or 3973 or 3371 or 5001 or #)

J Adams

Emergence of towns and cities in North America; urban economy and its locational requirements, past and present; central place theory; comparisons of city systems in capitalist, socialist, and developing areas; land used inside urban areas, structure, and change.

Geog 5372. Metro Analysis I: Population and Housing. (4 cr) J Adams

Metro housing stocks, supply of housing services; demand for housing, population and households; housing price structure, changes, intra-urban migration; spatial submarkets and housing in metro areas. Emphasis on linking theory, method, and case studies.

Geog 5373. Metro Analysis II: Urban Economic Geography. (4 cr) J Adams
Urban economic base analysis, shift-share analysis, and inter-metro competition; input-output analysis with ecological multipliers; central place theory and urban structure, functional regions within the city center; the services economy and metro land development; locational conflict within the city. Emphasis on linking theory, method, and case studies.

Geog 5393. The Look of the Land. (4 cr) Hart
Major components of landscapes; interaction between structures created by people and distinctive rural landscapes in North America and northwestern Europe.

Geog 5411. Medical Geography. (4 cr) Weil
Concepts and methods in medical geography, including the distribution and diffusion of disease; the impact of environmental, population, and social change on health; the distribution, accessibility, and use of health practitioners and facilities.

Geog 5423. Climate Models and Modeling. (4 cr; prereq 3421 or #) Klink, Skaggs
Survey of the development of, and research with, one-, two-, and three-dimensional climate models. Overview of environmental processes and their numerical representation in models; evaluation of model sensitivity and accuracy; coupling between the atmosphere, biosphere, hydrosphere, and cryosphere; and assessment of model predictions for climate change.

Geog 5426. Climatic Variations. (4 cr; prereq 3421 or #) Skaggs
Theories of climate fluctuation and change at decadal to centuries time scales; analysis of temporal and spatial patterns; climate fluctuations especially during the period of instrumental records.

Geog 5441. Quaternary Landscape Evolution. (4 cr; prereq 1401 or #) Brown
Examines roles of geomorphic history, climate change, soil development, and vegetation change in evolution of landscape patterns during Quaternary, with emphasis in North America.

Geog 5444. Water Resources, Individuals, and Institutions. (4 cr; prereq two courses in physical geog or #) Brown
Examines how water resources are controlled by natural system functions, user actions, and the influence of social and political institutions. Explores how these three levels of control vary in space and in time, paying particular attention to the complexities of each of these controls and the feedbacks among them.

Geog 5601. Introduction to Land Use Planning. (4 cr, \$PA 5601) Lukermann
The context of planning within the changing geographic patterns of land use. The nature of land use plans; purpose and process of land use planning.

Geog 5605, 5606. Geographical Perspectives on Urban Planning I, II. (4 cr per qtr) Miller
Comparative examination of planning concepts and practices in reshaping the geography of 19th- and 20th-century cities in different national settings (Europe, North America, selected Third World countries). History and ideologies of planning. Planning as a response to societal (economic, political, social) change and problems. Interest groups and power relations in the planning process. Planning the geography of the livable city. 5605: Systematic critical overview of the historical evolutions of planning. 5606: Case studies. Students must complete 5605 and 5606 in order to participate in a summer planning field study course (5701), which will be offered when feasible.

Geog 5775. Geographical Education. (4 cr; prereq at least three courses in geog, background in social studies of history of education, or #) Gersmehl
Teaching geography from middle school up; pedagogical use of geographical themes; methods for effective teaching of multiple cognitive domains—fact, theories, analytical skills, and evaluations; designing audio-visual aids, independent projects, simulations, etc. to meet National Standards in geography.

Geog 5856. The Meanings of Place. (4 cr, \$AmSt 3920, \$AmSt 5920, \$Arch 5956, #) Martin
Analysis of messages and meanings of our surroundings. Considers Twin Cities central districts, neighborhoods, and selected settings elsewhere. Direct experience.

History and Philosophy of Geography

Geog 5001. Modes of Geographic Inquiry. (4 cr) Sheppard
Different ways of knowing the world and their application to explaining and interpreting geography since 1960. Empirical approaches and geographical hypotheses; structural approaches and socio-spatial systems; interpretive approaches and the meaning of geographical phenomena. Application to city systems; integration and diffusion.

Geog 5801. Development of Geographic Thought. (4 cr, \$3801; prereq three courses in geography, sr) Lukermann
Concepts and methods of geography; differing schools of thought as expressed in contemporary geographic literature.

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Geographical Techniques

Geog 3511. Introduction to Cartography. (5 cr; prereq 5 cr in geography or #) Brown, Hsu, McMaster, Porter
Principles of map design, compilation, specification, and drafting. Map symbols. History of cartography. Projections—analysis of construction, properties, and uses.

Geog 3530. Cartography Internship. (2-5 cr per qtr [10 cr max, incl combined cr of 3xxx and 5xxx]; prereq #) Hsu, McMaster
Internship with institution, government agency, or private company arranged through and supervised by the department.

Geog 3531. Quantitative Methods in Geography. (4 cr) Klink, McMaster, Sheppard, Skaggs
Basic descriptive statistics. Introductory spatial statistics. Graphical methods of analysis. Probability theory. Frequency distributions. Geographical sampling. Hypotheses testing and inferential statistics. Simple linear regression.

Geog 5511. Cartographic Analysis. (4 cr; prereq 3511 or basic course in statistics) Hsu, McMaster, Porter
Cartographic-quantitative analysis and mapping of geographic data; classification, areal sampling, generalization including the scale problem. Analysis of cartographic communication.

Geog 5512. Cartography: Topics. (4 cr; prereq 3511, 3531 or #) Brown, Hsu, McMaster, Porter
Selected topics: the system of cartographic communication, map design, map reading, map analysis, history of cartography.

Geog 5523. Elements of Digital Cartography. (4 cr; prereq 3511, 3531 or 5522, one programming language or #) McMaster, Veregin
Fundamental issues of digital cartography. UNIX operating system and programming on workstations. FORTRAN programming and SUNPHIGS. Vector encoding and error. Generalization models and techniques. Geographical data structures. Computational geometry. Cartometric analysis. Computer-generated cartographic symbolization.

Geog 5530. Cartography Internship. (2-5 cr per qtr [10 cr max, incl combined cr of 3xxx and 5xxx]; prereq #) Hsu, McMaster
For description, see Geog 3530.

Geog 5531. Quantitative Research Design. (4 cr; prereq at least one course in basic statistics) Klink, McMaster, Sheppard
Advanced statistical methods for handling geographic data. Topics may include multivariate methods, regionalization, spatial autocorrelation, spatial pattern analysis.

Geog 5562. Introduction to Geographic Information Systems. (4 cr; prereq jr or sr geography major or grad or landscape architecture major or #) Brown, McMaster, Veregin
Basic concepts of geographic information systems structure. Theory and applications for geographic research, location and resource analysis, and regional planning. Location principles, data structure, variable attributes.

Geog 5563. Advanced Geographic Information Systems. (4 cr; prereq Geog 5562/LA 5562 or #) Brown, McMaster, Veregin
Advanced concepts and theories in geographic information systems. Sources of geographical data including image processing. Geographic data structures, including hierarchial, relational, quadtree, and vaster methods. Techniques of spatial analysis. Error modeling in geographic data bases. Spatial interpolation and classification. Visualization of GIS processes and spatial modeling.

Geog 5564. Urban Geographic Information Systems and Analysis. (4 cr; prereq 5562, PA 5601 or #) McMaster

Geog 5565. Geographical Analysis of Environmental Systems and Global Change. (4 cr; prereq 5562, FR 5130, senior or grad or #) Brown
Applications of geographic information systems and other spatial analysis tools to the analysis of environmental systems patterns, dynamics, and interactions. Attention will focus on global to landscape data bases developed for analysis of atmospheric, hydrospheric, geomorphic, pedologic, biologic, and human land use systems.

Directed and Special Studies

Geog 3940. Directed Field Study. (2-4 cr; prereq #)
Guided individual field study.

Geog 3970. Directed Studies. (1-15 cr per qtr)
Guided individual reading or study.

Geog 3985. Senior Project Seminar. (4 cr; prereq geography major, Comp 3014 or equiv)
Students select a topic; perform the research; and, at least, write a first draft of their senior projects.

Geog 3990. Directed Research. (1-15 cr per qtr)

Geog 5701. Field Research. (4 cr; prereq 12 cr in geography, #)
Field investigation in physical, cultural, and economic geography; techniques of analysis and presentation; reconstruction of environments.

Geog 5710. Field Internship. (1-8 per qtr, \$IntR 5701; prereq IntR 5930)
Requirements and credits vary with nature of internship. MSID will normally carry 8 credits per quarter for up to two quarters. All internships will be carried out off-campus and require contact with departmental supervisor specifying work to be accomplished and means of reporting achievement.

Geog 5900. Topics in Geography. (4 cr per qtr; prereq sr or grad, Δ)
Special topics and regions. Course offered by visiting professors in their research fields.

Geology and Geophysics (Geo)

*Newton Horace Winchell School of Earth Sciences
Institute of Technology*

Staff—Head, William E. Seyfried, Jr., 106 Pillsbury Hall; *Director of Undergraduate Studies,* Chris Paola, 30B Pillsbury Hall; *Director of Graduate Studies,* Christian Teysier, 210B Pillsbury Hall

Regents' Professor Emeritus: Wright

Professors Emeriti: Shapiro, Swain, Walton, Zoltai

Professors: Alexander, Banerjee, Hooke, Hudleston, Karato, Kelts, D. Kohlstedt, S. Kohlstedt, Morey, Murthy, Pfannkuch, Seyfried, Sloan, Southwick, Stout, Weiblen, Yuen

Associate Professors: Edwards, Ito, Kleinspehn, Moskowitz, Paola, Teysier

Assistant Professors: Person

Lecturer: Kirkby

Adjunct Faculty—Chandler (Minn. Geological Survey), Engstrom (Sci. Mus. MN), Goldich (U.S. Geological Survey, Denver, Colorado), R. Johnson (Honeywell), T. Johnson (Large Lake Observatory), Keen (Summit Envirosolutions), Watts (Trinity College, Dublin, Ireland)

Geology is concerned with the physical, chemical, and biological processes that continuously restructure and redistribute the material on and within the Earth, and with the historical development of the Earth through these shaping processes.

Careers in geology could involve work on environmental problems, resource exploration, or research in any aspect of the dynamics of the Earth and history.

B.A. Major Sequence

Required Preparatory Courses—Chem 1051-1052, Math 1251-1252-1261, 3251 (sequences to be started fr yr); Phys

1251-1252-1253; upper-level writing course, Comp 3015 or 3031 highly recommended (to be taken jr yr or no later than 1st qtr of sr yr)

Major Requirements—Core courses: soph yr, 3201f, 3202w, 3401w, 3301s, 3111su; jr yr, 5651f, 5101w, 3402s, 5201s, 5631s, 5111 or 5112su, 2 workshop courses (5010, 5020, 5030)

Minor Sequence

Required Preparatory Courses—1001

Minor Requirements—20-25 cr of 3xxx or 5xxx geology courses

The department offers two B.S. degree programs in the Institute of Technology, in geology and in geophysics. You should consult the department director of undergraduate studies about selection of a program and coursework if you are considering a scientific career.

Geo 1001f,w,s. The Dynamic Earth: An Introduction to Geology. (4 cr; 4 lect hrs, one 2-hr lab per wk)

Emphasizes the physical processes that shape the Earth: volcanoes, earthquakes, plate tectonics, glaciers, and rivers. Through lectures and 10 labs, students gain a better understanding of our planet in the context of current environmental issues and global change.

Geo 1002w,s. Historical Geology. (4 cr; 3 lect hrs, one 2-hr lab per wk) Sloan
Evolution of Earth from its origin; succession of physical and biological events of past 600 million years.

Geo 1003. Introduction to the Mesozoic: Evolution, Ecology and Extinction of Dinosaurs. (4 cr) Kirkby
Dinosaurs and the Mesozoic Earth are used to introduce evolution, plate tectonics, climate change and Earth systems. An overview of the history of dinosaur interpretations illustrates the principles and social aspects of scientific investigation.

Geo 1004. Physical and Historical Geology of Minnesota. (3 cr [4 cr with field trips]) Southwick, MGS staff
Fundamentals of geology emphasizing Minnesota's geological setting. Minnesota examples and four local, weekend field trips. Geologic components of environment, resource-management, and economic issues.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / **1011, 1012, 1013**—Series courses, separated by commas; may be entered any quarter / **1011-1012-1013**—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ‡—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Geo 1005w. Geologic Perspectives on Energy. (4 cr; 4 lect hrs per wk) Alexander
Geologic aspects of energy resources, conventional and nonconventional. History of energy use, distribution and amounts of known and potential reserves, environmental aspects, and implications of U.S. consumption patterns.

Geo 1011w. Volcanoes of the Earth. (4 cr; 4 lect hrs per wk) Stout
Nonmathematical introduction to volcanoes, their origin and distribution on Earth and through time; theory of plate tectonics, origin of magmas and the Earth's interior; the products of volcanoes, types of eruptions and hazards, and impact on climate, vegetation, and society.

Geo 1012f. Planet Earth. (4 cr; 3 lect hrs per wk) Murthy
Nonmathematical introduction to planet Earth. Emphasizes relationships between earth systems: solid earth, hydrosphere and atmosphere; natural cycles that control the way the planet works; how human interactions perturb natural cycles and their rates.

Geo 1019. Our Changing Planet. (4 cr, \$Ast 1019, \$EEB 1019)
The interrelationships among Earth's subsystems—solid earth, oceans, atmosphere and biosphere, and solar and galactic super-systems. Interactions of natural cycles, their rates, feedback, and human impacts.

Geo 1031. Earth System Science from the Perspective of Minnesota Geology. (4 cr) Weiblen
An introductory geology course with three field trips. The basic principles of geology are explained and used to explore the dynamic interactions of the solid Earth, the hydrosphere, biosphere, and atmosphere and the increasing significance of human activity in geological processes.

Geo 1601w. Oceanography. (4 cr; 3 lect, 1 lab hrs per wk) Barnwell, Paola, Shapiro
How various processes in the ocean interact; analogies between the oceans and Lake Superior and smaller lakes in Minnesota. Topics include marine biology, waves, tides, chemical oceanography, marine geology, and human interaction with the sea. Lab work includes study of live marine invertebrates and manipulation of oceanographic data.

Geo 1602. All About Lakes: Their Origins, Behavior, and Management. (4 cr)
The origin of lakes, their response to solar radiation and wind, the unique flora and fauna that exist in lakes, and the effects of these organisms on the chemistry of the lake waters and vice versa. Effects of human impact on lakes. Current methods of lake restoration and management.

Geo 1701. Faces of the Earth. (4 cr) Banerjee
History of pre-17th century ideas of geology in China, Middle-East, and Europe. Evolution of modern geology from travelers' tales, cosmology, mapmaking, minerals, volcanoes, earthquakes. Relations between humans and nature.

Geo 3111su. Introductory Field Geology. (4 cr; prereq 3202, #)
Geologic mapping on topographic maps and aerial photos, field identification of igneous, sedimentary and metamorphic rocks, measurement of stratigraphic sections, study of structural and geomorphic features.

Geo 3201f. Geodynamics I: The Solid Earth. (4 cr; prereq Phys 1251, Phys 1252)
Dynamics of the solid Earth, particularly the tectonic system.

Geo 3202w. Geodynamics II: The Fluid Earth. (4 cr; prereq 3201)
Dynamics of the fluid Earth, mainly surface processes and convection.

Geo 3211s. Honors Earth Science. (4 cr, \$1001; prereq selection for IT honors curriculum or consent of IT honors office; 4 lect hrs, 1 rec hr per wk)
Application of physics and chemistry to the structure and dynamics of the Earth.

Geo 3301s. Geochemical Principles. (4 cr; prereq Chem 1051, Chem 1052)
Origin of the elements (nucleosynthesis, elemental abundances), geochemical classifications, isotopes (radioactive and stable), phase equilibria, and models of the Earth's geochemical evolution. The basic geochemical processes that produced the Earth's lithosphere, hydrosphere, and atmosphere.

Geo 3401w. Introductory Mineralogy. (4 cr, \$5004; prereq 1001, Chem 1051, Math 1252 or #; 3 lect, 4 lab hrs per wk)
Crystallography, crystal chemistry, and crystal physics. Physical and chemical properties, crystal structures, and chemical equilibria of the major mineral groups. Lab includes crystallographic, polarizing microscope, X-ray powder diffraction exercises, hand specimen mineral identification.

Geo 3402s. Petrology. (4 cr; prereq 3401 or #) Weiblen
The lithologic character and genesis of igneous and metamorphic rocks.

Geo 3990f,w,s. Problems in Geology and Geophysics. (1-6 cr; prereq #, Δ)
Research or problems selected on the basis of individual interests and background.

Geo 5004w. Mineralogy. (4 cr, \$3401; prereq Chem 1051, Math 1252, #; not open to geology, geophysics, and geological, mineral, and metallurgical engineering majors; 3 lect, 4 lab hrs per wk)
For description, see Geo 3401.

Geo 5010. Field Workshop. (2 cr; prereq Geo, Geophys, or GeoEng major or #)
Geologic or geophysical field study.

Geo 5020. Laboratory Workshop. (2 cr; prereq Geo, Geophys, or GeoEng major or #)
Geologic or geophysical lab study.

Geo 5030. Modeling Workshop. (2 cr; prereq Geo, Geophys, or GeoEng major or #) Modeling of geologic or geophysical systems.

Geo 5051su. Physical Geology for Teachers. (4 cr, §1001; prereq 1 qtr college chemistry or physics, degree in education) For description, see Geo 1001. Students will be required to complete a project designed to enhance their ability to teach Earth science to K-12 students.

Geo 5052. Historical Geology for Teachers. (4 cr, §1002; prereq 1001 or 5051 or #, degree in education; day and UC) For description, see Geo 1002.

Geo 5053. All About Lakes for Teachers. (4 cr, §1602; prereq degree in education) The origin of lakes, their response to solar radiation and wind, the unique flora and fauna that exist in lakes, and the effects of these organisms on the chemistry of the lake waters and vice versa. Effects of human impact on lakes. Current methods of lake restoration and management.

Geo 5054. Introduction to the Mesozoic for Teachers. (4 cr, §1003; prereq degree in education) Kirkby Introduction to dinosaurs and the Mesozoic Era; concepts of plate tectonics, evolution, extinction, and global change. Students will design modules to present the course material to elementary or secondary school students.

Geo 5061. Earth System Science from the Perspective of Minnesota Geology for Teachers. (4 cr, §1031; prereq education major or education degree or #) Weiblen An introductory geology course combined with three field trips. The basic principles of geology are explained and used to explore the dynamic interactions of the solid Earth, the hydrosphere, biosphere, and atmosphere and the increasing significance of human activity in geological processes. Special reading assignments will cover pedagogic approaches to teaching Earth System Science, organization of field trips and laboratory exercises.

Geo 5101f. Geochronology and Stratigraphy. (4 cr; prereq 3301) Methods for measuring geologic time and dating rocks; correlation and other stratigraphic techniques.

Geo 5108w. Advanced Environmental Geology. (4 cr; prereq geology core curriculum through 5201 for majors or equiv or #) Pfannkuch Human impact on the geological environment and the effect of geology/geologic processes on human life from the point of view of ecosystems and bio-geochemical cycles. Geologic limits to resources and carrying capacity of the Earth. Land use planning, environmental impact assessment, ecogeologic world models. Field project.

Geo 5111su. Advanced Field Geology. (4 cr; prereq 3111, #) Geologic mapping, study of igneous, metamorphic and sedimentary rocks, structures and surficial features, problem solving. Paper required.

Geo 5112su. Field Hydrogeology. (4 cr; prereq 5641, #) Aquifer, vadose zone, and surface water hydrology field techniques. Shallow soil boring and sampling. Well installation. Single and multiple well aquifer testing. Ground water sampling for chemical analysis. Weather data collection, hydrogeologic mapping, water balance calculation.

Geo 5121f. History of the Earth. (3 cr; prereq Geo major or #) Sloan A dynamic analysis of the mutual interrelationships between plate tectonics, atmospheric composition, sea level, the stratigraphic record and the evolution of organisms. Causes and reasons for mass extinctions and adaptive radiations.

Geo 5151f. Introduction to Paleontology. (5 cr; prereq 1002 or #) Sloan Morphology, classification, and ecology of selected major fossil groups.

Geo 5154w. Vertebrate Paleontology I. (5 cr; prereq 5151 or EEB 5114) Sloan Morphology, evolution, and stratigraphic distribution of fossil fish, amphibians, reptiles, and birds.

Geo 5155s. Vertebrate Paleontology II. (5 cr; prereq 5154 or EEB 5114) Sloan Morphology, evolution, and stratigraphic distribution of fossil mammals.

Geo 5201s. Structural Geology. (4 cr; prereq 3402, 5101 or #) Teyssier Fundamental concepts related to deformation of the Earth's crust; fundamental processes associated with deformation, faulting, folding, and fabric development; labs and recitations include solving problems and conducting physical and numerical experiments; field trips offered.

Geo 5202s. Tectonic Styles. (3 cr; prereq 5201 or #; 3 lect hrs per wk; offered alt yrs) Hudleston Origin and nature of major types of disturbances affecting continental crust, including analysis of form and development of individual structural components.

Geo 5203w. Geotectonics. (3 cr; prereq 5201 or #; offered alt yrs) Teyssier Problems associated with global tectonics; structure and evolution of the Earth's crust and lithosphere; study of active compressional, extensional, and wrench tectonic regimes, with numerous examples from various parts of the world; interpretation of older tectonic systems.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Geo 5251s. Geomorphology. (4 cr [5 cr with term project]; prereq 1001, Math 1031; 3 lect, 2 lab hrs per wk; lab often used for field trips) Hooke

The origin, development, and continuing evolution of landforms in various environments. Weathering, slope and shore processes, fluvial erosion, and deposition, wind action, tectonics, and impact phenomena.

Geo 5252w. Regional Geomorphology. (3 cr; prereq 5201 or #; offered alt yrs) Hooke

The geology of a particular region of the country and its geomorphology. One-week field trip to the area late in the quarter. May be taken for credit more than once if regions are different.

Geo 5255w. Glaciology. (4 cr [5 cr with term project]; prereq Math 3261 or equiv or #; offered alt yrs) Hooke

Theories of glacier flow. Internal structures and heat flow in glaciers and ice sheets. Reading assignments and problems.

Geo 5261f. Glacial Geology. (4 cr [5 cr with field trips]; prereq 1002 or #)

Formation and characteristics of modern glaciers; erosional and depositional features of Pleistocene glaciers, history of Quaternary environmental changes in glaciated and nonglaciated areas. Field trips.

Geo 5311f. General Geochemistry. (4 cr; prereq 3301, Chem 5520 or #) Ito, Seyfried

Processes pertaining to the distribution and control (structural, thermodynamic, kinetic) of chemical species in the Earth and its hydrosphere.

Geo 5313s. Aqueous Geochemistry. (4 cr; prereq 5311, Chem 5520 or #) Seyfried

General principles of solution chemistry with application to geology, including solution-mineral equilibria, redox processes in natural waters, and geochemistry of hydrothermal fluids.

Geo 5321w. Isotope Geology. (4 cr; prereq 3301 or #) Edwards, Ito

Theory and uses of radioactive, radiogenic, and stable isotopes in geology. Radioactive dating, geothermometry, and tracer techniques in geological processes.

Geo 5405. Optical Mineralogy. (2 cr; prereq 3401 or ¶3401)

Optical properties of minerals; symmetry and crystal optics; identification of minerals using the polarizing microscope.

Geo 5452s. Igneous and Metamorphic Petrology. (5 cr; prereq 3402, Chem 5520, Math 3261 or #) Stout

Basic thermodynamic tools and chemographic analysis for interpretation of chemical processes in igneous and metamorphic rocks. Lab, field trip, problem sets, and term paper.

Geo 5454. Electron Microprobe Theory and Practice. (2-4 cr; prereq 3401, 1 yr chemistry and physics or #)

Theory and practice of characterizing solid materials with electron beam instrumentation, including the reduction of x-ray data to chemical compositions.

Geo 5505f. Solid Earth Geophysics I. (4 cr; prereq 3201, Phys 1253)

Basic elasticity, basic seismology, and physical structure of the earth's crust and deep interior.

Geo 5506w. Solid Earth Geophysics II. (4 cr; prereq 3201, Phys 1253 or #)

Gravity fields of the earth, mantle viscosity, paleomagnetism, seismic tomography, and basic mantle convection and thermal history.

Geo 5507. Solid Earth Geophysics III. (4 cr; prereq 3201, Phys 1253) D Kohlstedt

Mechanical properties and transport processes in Earth materials, with emphasis on their importance to a range of geophysical phenomena.

Geo 5508. Mineral and Rock Rheology. (4 cr; prereq 3201, Phys 1253) Karato

Elastic, anelastic, and viscous deformation of minerals and rocks. Materials science fundamentals and geological/geophysical applications.

Geo 5515w. Principles of Geophysical Exploration. (4 cr; prereq Phys 1253)

Seismic exploration (reflection and refraction), potential techniques (gravity and magnetics), and electrical techniques of geophysical exploration.

Geo 5522. Time-Series Analysis of Geological Phenomena. (4 cr; prereq Math 3221 or #) Yuen

Time-series analysis of linear and nonlinear geological and geophysical phenomena. Examples will be drawn from ice age cycles, earthquakes, climatic fluctuations, volcanic eruptions, atmospheric phenomena, thermal convection and other time-dependent natural phenomena. Modern concepts of nonlinear dynamics and complexity theory will be applied to geological phenomena.

Geo 5535f. Geological Thermomechanical Modeling. (4 cr; prereq Math 3261 or #) Yuen

Concept of heat and mass transfer processes in Earth's crust and mantle. Quantitative study of thermomechanical phenomena. Emphasis on both analytical and modern numerical techniques.

Geo 5536s. Applications of Fluid Mechanics to Geological Problems. (4 cr; prereq 1 yr calculus, AEM 3200 or CE 3400 or #) Yuen

Scaling of equations for geological approximations, applications to geological situations, rheology.

Geo 5541. Geomagnetism. (4 cr; prereq 3201, Math 1251, Phys 1251 or #; offered alt yrs) Banerjee

Present geomagnetic field at the Earth's surface and at the core-mantle boundary, secular variation, paleointensity variation, geomagnetic field reversal, models for field transition.

Geo 5543. Paleomagnetism. (4 cr; prereq 3201, Math 1251, Phys 1251 or #; offered alt yrs) Moskowitz

The physical and chemical basis of paleomagnetism. Origin of natural remanent magnetization and its stability, mineralogy of magnetic minerals, paleomagnetic measurement techniques, statistics of paleomagnetic data, magnetic polarity stratigraphy, apparent polar wander, and environmental magnetism.

Geo 5561. Magnetism: Physics, Geophysics, and Engineering. (3 cr, §Phys 5561, §EE 5561; prereq Phys 1251) Moskowitz, staff

Fundamentals of magnetism, including elementary statistical mechanics, rock magnetism, and micromagnetic modeling. Applications of magnetism in geophysics, biomagnetism, magnetic sensors, and recording.

Geo 5601f. Limnology. (4 cr, §EEB 5601; prereq Chem 1052 or equiv)

Events occurring in lakes, reservoirs, and ponds; their origins; their physics, chemistry, and biology. Interrelationships of these parameters; effects of civilization on lakes.

Geo 5603w. Geological Limnology. (4 cr; prereq 5601 or EEB 5601)

Tectonic and climatic setting of lakes; physical, chemical, and biological processes of sedimentation in lakes.

Geo 5613. Karst Hydrogeology and Tracer Applications. (4 cr; prereq 5641, #) Alexander
Karst hydrogeology and the application of tracers in hydrogeology to determine the source, age, and mixing parameters of water in various natural reservoirs.

Physical and chemical principles and processes operating in karst hydrogeology and the use of natural and synthetic chemical and isotopic labels or tracers to follow the movement and mixing of water through the hydrologic cycle.

Geo 5621s. Limnology Laboratory. (2 cr, §EEB 5621; prereq 5601 or EEB 5601 or #) Megard

Lab to accompany 5601 (EEB 5601). Techniques for obtaining information about conditions in lakes and streams. Procedures for measuring abundance and population dynamics of aquatic organisms, with special emphasis on plankton. Field instruments, sampling devices, chemical analyses, microscopy, and analysis of data. One Saturday field trip.

Geo 5631. Earth System: Geosphere/Biosphere Interactions. (4 cr, §EEB 5004; prereq 3202, 3301 or #) Davis, Kelts

Interdisciplinary study of global change forcing mechanisms, feedbacks and dynamics on various time scales, using paleorecord to illustrate processes.

Geo 5641. General and Physical Hydrogeology. (4 cr; prereq 1001, Chem 1052, Math 1252, Phys 1105; Geo majors; core curriculum through 3402; or #) Pfannkuch

Theory of groundwater geology, hydrologic cycle, watershed hydrology, Darcy's law, governing equations of groundwater motion, flow net analysis, analog models, and groundwater resource evaluation and development.

Geo 5642. Quantitative Hydrogeology. (4 cr; prereq 1001, Chem 1052, Math 1252, Phys 1105; Geo majors; core curriculum through 3402; or #) Person
Applied analysis of steady and transient equations of groundwater motion and chemical transport using analytical and numerical methods. Topics include numerical flow net analysis, well hydraulics, salt-water intrusion problems, and unsaturated flow.

Geo 5643. Chemical Hydrogeology. (4 cr; prereq 1001, Chem 1052, Math 1252, Phys 1105; Geo majors; core curriculum through 3402; or #) Alexander
Chemistry of natural waters, acid-base and redox reactions, carbonate equilibria, contaminant hydrology, isotope hydrology, and chemical modeling.

Geo 5651f. Sedimentology. (4 cr; prereq 3402; open only to IT upper div majors in geology, geophysics, geo-engineering, mining engineering, or CLA jr or sr majors in geology or #) Paola
Interpretation of the origin of sedimentary rocks through application of basic physical and chemical principles; understanding of modern depositional environments; petrologic microscopy.

Geo 5652w. Sedimentary Petrology and Processes. (5 cr; prereq 3402, 5651 or #; offered alt yrs) Kleinspehn, Paola
Analysis of hand-specimen scale and microscopic features of carbonate and clastic sedimentary rock and their associated chemical, biological, and physical processes. Topics include primary structures, petrographic microscopy, diagenesis, and new analytical techniques in sandstone petrology.

Geo 5653w. Stratigraphy and Basin Analysis. (4 cr [6 cr with lab]; prereq 5651 or #; offered alt yrs) Kleinspehn

Modern techniques and principles of stratigraphic analysis of sedimentary basins in various tectonic settings. Topics include seismic stratigraphy, correlation techniques, paleocurrent analysis, and geochronology of sedimentary basins.

Geo 5654w. Marine and Lucastrine Sedimentary Environments. (4 cr; prereq 5651 or #; offered alt yrs) Kleinspehn

Principles of facies analysis of modern and ancient depositional systems including deltas, fan deltas, barrier islands, beaches, storms, and turbidity currents in lakes and marine settings. Interpretations of marine tidal systems, carbonate platforms, reefs, continental shelves and abyssal-plain processes.

Geo 5655w. Continental Sedimentary Environments. (4 cr; prereq 5651 or #; offered alt yrs) Kleinspehn

Principles of facies analysis of modern and ancient nonmarine depositional systems.

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Geo 5656w. Depositional Mechanics. (4 cr; prereq 5651, Math 3261 or #; offered alt yrs) Paola Elementary mechanics of sediment transport applied to the quantitative interpretation of sedimentary rocks.

Geo 5701. Scientific Visualization. (4 cr; prereq CSci 3101, CSci 3102 or CSci 3113 or #) Scientific visualization and its application to the evaluation of data from diverse fields including geology, geophysics, engineering, and medicine. Course designed with practical application of visualization.

Geo 5980. Seminar: Current Topics in Geology and Geophysics. (1-6 cr; prereq #)

Geo 5990f,w,s. Senior Thesis. (2 cr per qtr [6 cr max]; prereq geology or geophysics major with 4th-yr standing, #)

A nonstructured research course to enable senior-level majors to engage in independent research with faculty supervision. Problems selected according to individual interests by consultation with faculty committee. Thesis and oral defense.

German, Scandinavian, and Dutch

Staff—*Chair*, Jack Zipes, 205 Folwell Hall; *Director of Graduate Studies*, James Parente, 216 Folwell Hall; *Director of Language Instruction*, Charlotte Melin, 213 Folwell Hall

German and Dutch

Staff—*Director of Undergraduate Studies*, Richard McCormick, 221 Folwell Hall

Professors Emeriti: Hirschbach, Taraba

Professors: Firchow (on leave winter '97), Joeres (on leave fall '96), Liberman, Parente, Schulte-Sasse, Weiss, Zipes

Associate Professors: Duroche, Fullerton, McCormick, Teraoka, Wakefield (on sabbatical '96-7)

Education Specialists: Melin, Metcalf

Assistant Education Specialist: Van der Sanden

The German program offers a major and minor in German and a minor in Dutch. German and Dutch include the study of the spoken language, literature, philology, culture, and civilization.

General Education—German literature and film courses in translation (3604, 3610, 3641), Dutch literature in translation (3610), and topics in Dutch culture (3510) have no prerequisites and offer a sound introduction to major trends and aspects in German or Dutch literature and culture.

Placement—There are two first-year German options: German 1101-1102-1103 is the standard classroom sequence; German 1110 (offered only through UC) uses an individualized approach for the equivalent of the first three quarters of German. To enroll for second-year courses, CLA students must pass 1103, the 15th credit of 1110, or the entrance proficiency test. Consult the department for further information on placement and testing.

Study Abroad—The department recommends study abroad in a German-speaking country for at least six months in order to acquire cultural familiarity and language fluency. Students may apply appropriate coursework to a German major or minor. The department sponsors a beginning summer language program in Freiburg, Germany, and more advanced spring quarter and spring semester programs in Graz, Austria. Semester and year programs in German are available in Berlin and Freiburg, and student exchange programs provide access to many additional Austrian, German, and Swiss universities. For further information on options and procedures, see Foreign Study.

Foreign Languages Across the Curriculum (FLAC)

Students are encouraged to include courses in other disciplines taught in German on campus as part of their undergraduate program. The Foreign Languages Across the Curriculum (FLAC) program offers students a number of opportunities to take two- or four-credit courses in German in area studies, history, international relations, and sociology, while one-credit FLAC sections in German are offered in conjunction with some four-credit courses taught in English. In spring quarter, FLAC courses offered in German provide students the opportunity to do all their coursework in German (some of the courses offered by the Department of German, Scandinavian, and Dutch, some by other departments) as participants in the Foreign Language Immersion Program (FLIP). For more information, consult the department advisers in 205 Folwell Hall.

B. A. Major Sequence—German

Required Preparatory Courses—1106 or the graduation proficiency test

Major Requirements—3011, 3012, 3104 or 3104H, 3105 or 3105H, 3342 or 3342H; one of the following sequences:

Literature Emphasis—One course from each of the following groups (a course may be applied to only one group):

1. Early German literature through the baroque: 3401, 3411
2. Enlightenment, *Sturm und Drang*, and Classicism: 3301, 3311, 3421, 3422, 3423, 3424
3. 19th-century literature: 3302, 3312, 3431, 3432
4. 20th-century literature: 3303, 3313, 3441, 3442, 3443, 5371
5. Civilization and culture: 3501, 3502, 3503, 3510, 3511, 3512, 3513, 3590, 3604, 5331, 5510
6. Philology: 3701, 3702, 3703, 3704, 3705
Plus one 3xxx or 5xxx elective German course

German Studies Emphasis—Two courses from 3013, 3014, 3015, 3016, 3021, 5011, 5016

Four courses from 35xx, 5331, 5510. Up to two of the following courses may be substituted: 3311, 3312, 3313, 3401, 3411, 3421, 3422, 3423, 3441, 3442, 3443, 3604, 562x, 5630

One 3xxx or 5xxx elective German course
Three courses in art history, economics, geography, history, humanities, international relations, music, or political science that concentrate on German-speaking areas

German Linguistics Emphasis—One course from 3013, 3014, 3015, 3016, 5011, 5016

Two courses in Linguistics: Ling 3001 or 5001; 3601 or 5601

Six courses in History and Structure of the German Language: 3702-3703-3705; 3704; 5101; 5102

Courses taught in translation, except 3604 and 5xxx film classes, do not count toward the major, nor do courses taken S-N. No more than two courses graded D can count toward the major; these courses must be offset by the same number of A or B grades in the major.

The major program must be approved by the director of undergraduate studies.

For teacher's licensure requirements, see the *College of Education and Human Development Bulletin*.

Minor Sequence—German

Required Preparatory Courses—1106 or the Graduation Proficiency Test

Minor Requirements—3011, 3012, 3104, 3105; 8 cr of 3xxx-5xxx elective German courses

All courses must be taken A-F. No more than one course may be in directed or independent study. Courses taught in translation, except 3604 and 5xxx film classes, do not count toward the minor.

The minor program must be approved by the director of undergraduate studies.

Minor Sequence—Dutch

Required Preparatory Course—1106 or the Graduation Proficiency Test

Minor Requirements—3011, 3310, 3510, 3610, two additional courses to be chosen with the adviser

German (Ger)

Ger 1101-1102-1103. Beginning German. (5 cr per qtr, \$1000 for 1101, \$1110 for 1102-1103)
Emphasis on proficiency according to the national ACTFL system. All four language modalities (listening, reading, speaking, writing): sequential emphasis beginning with the reception modalities, listening and reading, followed by the production modalities, speaking and writing.

Ger 1104-1105-1106. Intermediate German. (5 cr per qtr; prereq 1103 or satisfactory completion of entrance standard proficiency test at 1103 level)
Emphasis on proficiency according to the national ACTFL system. All four language modalities (listening, reading, speaking, writing) at the Intermediate and Advanced levels on ACTFL scale.

Ger 3011-3012-3013. Conversation and Composition. (4 cr per qtr; prereq graduation proficiency test for 3011, 3011 for 3012, 3012 for 3013)
Spoken German; composition; development of vocabulary; grammar review.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

- Ger 3014. German Media. (4 cr; prereq 3012)
Focus on the media. Reading and analysis of German newspapers and journals; exercises using German-language radio and video broadcasts.
- Ger 3015. German for the Social Sciences. (4 cr; prereq 3012)
Technical, scientific, and scholarly use of German in both written and oral form.
- Ger 3016. Techniques of Translation. (4 cr; prereq 3013)
Translation of various texts into and from German.
- Ger 3020. Advanced Communication Skills for FLIP Students. (5 cr per qtr [15 cr max]; prereq admittance to the German Foreign Language Immersion Program [FLIP])
Provides support in language acquisition skills specifically geared for the German immersion program. Students enrolled will be given the opportunity to develop their language skill to the advanced level required in the FLIP Area Studies courses.
- Ger 3021w. Business German. (4 cr; prereq 3012 or equiv)
Oral and written command of the language used by German business and industry. Reading and discussion of German business documents; the basic format of business and other formal letters and preparation of reports.
- Ger 3040. German Play. (1-3 cr per qtr; prereq 1103 or 1110, #)
Use of standard German through participation in a biennial dramatic production.
- Ger 3043. Oral Interpretation of German Drama. (2 cr; prereq 3013 or equiv, #)
Dramatic reading of German plays for pronunciation and preparation for German play production.
- Ger 3104. Reading and Analysis of Prose. (4 cr; prereq 3012 or ¶1)
Reading fluency; appreciation of literary values through literary interpretation and familiarization with critical terminology.
- Ger 3104H. Honors Course: Reading and Analysis of Prose. (4 cr; prereq 3012 or ¶3012)
For description, see Ger 3104.
- Ger 3105. Reading and Analysis of Drama and Poetry. (4 cr; prereq 3012 or ¶3012)
For description, see Ger 3104.
- Ger 3105H. Honors Course: Reading and Analysis of Drama and Poetry. (4 cr; prereq 3012 or ¶3012)
For description, see Ger 3104.
- Ger 3301. Lyric Poetry: Klopstock Through Hölderlin. (4 cr; prereq 3104, 3105)
- Ger 3302. Lyric Poetry: Novalis Through Liliencron. (4 cr; prereq 3104, 3105)
- Ger 3303. Lyric Poetry: Rilke to the Present. (4 cr; prereq 3104, 3105)
- Ger 3310. Studies in German Authors. (4 cr per qtr; prereq 3104, 3105)
Works of one author (e.g., Kleist, Heine, Büchner, Hofmannsthal) studied in depth.
- Ger 3312. German Drama: 19th Century. (4 cr; prereq 3104, 3105)
- Ger 3313. German Drama: Naturalism to the Present. (4 cr; prereq 3104, 3105)
- Ger 3341H. Proseminar in German. (4 cr; prereq #; nonhonors students may enroll with #)
Significant themes in German literature.
- Ger 3342. Major Project in German. (1-4 cr [5 cr max]; prereq jr or sr)
Students prepare their major project in a seminar setting under supervision of a faculty member.
- Ger 3342H. Major Project in German. (1-4 cr [5 cr max]; prereq honors, jr or sr)
For description, see Ger 3342.
- Ger 3401. Medieval Literature. (4 cr; prereq 3104, 3105)
Political, social, and intellectual spheres of life in medieval Germany; major literary works.
- Ger 3411. Renaissance and Baroque. (4 cr; prereq 3104, 3105)
Major literary developments; movements that shaped more recent German literature.
- Ger 3421. Enlightenment. (4 cr; prereq 3104, 3105)
The 18th-century "Aufklärung" in historical and cultural context. Philosophy, criticism, poetry, drama, and the novel.
- Ger 3423. Classicism. (4 cr; prereq 3104, 3105)
Weimarer Hochklassik of the late 18th and early 19th centuries. Literary works and aesthetic criticism in historical and cultural context.
- Ger 3424. Faust. (4 cr; prereq 3104, 3105)
Goethe's *Faust*, Parts I and II.
- Ger 3431. Romanticism. (4 cr; prereq 3104, 3105)
German literature of the Romantic Period; its intellectual and historical background.
- Ger 3432. 19th-Century Literature: 1832-1890. (4 cr; prereq 3104, 3105)
German literature from late Romanticism to naturalism.
- Ger 3441, 3442, 3443. 20th-Century Literature. (4 cr per qtr; prereq 3104, 3105)
3441: From 1890 to 1918. *3442*: From 1918 to 1933. *3443*: From 1933 to the present.
- Ger 3460. Women Writers in German Literature. (4 cr [12 cr max]; prereq 3104, 3105)
Selected German women writers. Approaches may be thematic, generic, or chronological. Readings in feminist theory.

Ger 3490. Topics in German Literature. (4 cr per qtr [12 cr max]; prereq 3104, 3105)

Intensive exploration of topics or issues in German literature not dealt with in period courses.

Ger 3501. Contemporary Germany: The Federal Republic. (4 cr; prereq 1106 or the graduation proficiency test)

Culture of the Federal Republic of Germany and its evolution since 1949.

Ger 3502. Contemporary Germany: The German Democratic Republic. (4 cr; prereq 1106 or the graduation proficiency test)

Culture of the former German Democratic Republic and its evolution since 1949.

Ger 3503. Contemporary Austria. (4 cr; prereq 1106 or the graduation proficiency test)

Culture, politics, society and economy in Austria since 1945.

Ger 3510. Topics in German Studies. (4 cr per qtr [8 cr max]; prereq 1106 or the graduation proficiency test)

One topic in depth dealing with the culture or civilization of German-speaking countries.

Ger 3511. German Civilization and Culture: Middle Ages to the Renaissance. (4 cr)

Movements and personalities in art, music, science, religion, and education.

Ger 3512. German Civilization and Culture: Reformation to 1800. (4 cr)

For description, see Ger 3511.

Ger 3513. German Civilization and Culture: 1800 to Present. (4 cr)

For description, see Ger 3511.

Ger 3530. Selected Writings in German Intellectual History. (4 cr; prereq 3104, 3105, one additional 3xxx German course)

Authors and philosophers such as Lessing, Schiller, Kant, Hegel, Marx, Nietzsche, and Freud.

Ger 3590. Directed Studies in German-Speaking Countries. (5 cr per qtr; prereq 3501, #)

Preparation for research abroad during quarter before departure; research completed while abroad. Written reports and oral examinations upon return.

Ger 3604. Literature, History, and the German Film. (4 cr; requires no knowledge of German; may be taken for cr toward major or minor by doing a portion of the reading in German)

Focus on the relationship between German Cinema and both a) German literature, and b) German history and culture.

Ger 3610. German Authors or Topics in Translation. (4 cr per qtr [12 cr max]; requires no knowledge of German)

Study in depth of authors or topics from various periods in German literature.

Ger 3641. Introduction to German Folklore. (4 cr; requires no knowledge of German; day and UC) The traditional folklore genres; charms (magic), legends, fairy tales, ballads.

Ger 3702. Beginning Middle High German. (4 cr; prereq 1106)

Middle High German grammar. Selected literary texts.

Ger 3703. Introduction to Old High and Low German. (4 cr; prereq 3702 or #)

Biographies, charms, heroic poetry, and miscellany from the 9th and 10th centuries.

Ger 3704. German Dialects. (4 cr; prereq 1106) Contemporary regional dialects, recorded on tape and in written texts. Synchronic and diachronic analysis.

Ger 3705. Characteristics of the Germanic Languages. (4 cr; prereq 3703, Ling 3601 or Ling 5601 or #)

German and North Sea Germanic; West, North, and East Germanic; Proto-Germanic and Indo-European.

Ger 3970. Directed Studies. (1-5 cr; prereq #, Δ, □)

Guided individual reading or study.

Courses of 5xxx are open to juniors and seniors upon recommendation of advisers.

Ger 5011. Advanced Composition and Conversation. (4 cr; prereq 3013 or equiv)

Ger 5016. Advanced Translation: Theory and Practice. (4 cr; prereq 3016 or #)

Translation theory, related issues in stylistics, philosophy of language; sample translations; student production of translations, with methodological commentary.

Ger 5101, 5102. The Analysis of German. (4 cr per qtr; prereq 1106, Ling 3001 or 5001 or #)

5101: Phonology and morphology of modern German.
5102: Syntax of modern German.

Ger 5490. Topics in German Literature. (4 cr per qtr [8 cr max]; prereq 3104, 3105, jr or sr or grad)

Topic may focus on a specific author, group of authors, genre, period or subject matter. Topic to be listed in *Class Schedule*.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Ger 5510. Topics in Contemporary German Culture. (4 cr per qtr [8 cr max]; prereq 3513 or equiv) A single topic of contemporary German culture explored in depth to develop a methodology of *Landeskunde*. Taught in German.

Ger 5621. German Cinema From Caligari to Hitler. (4 cr; prereq 3xxx film studies course or #; may be applied toward German major or minor if part of reading done in German)
German cinema from its beginnings, through its golden age in the 1920s, until the end of the Weimar Republic in 1933. Includes Expressionism and New Objectivity. Leading directors: Lubitsch, Murnau, Lang, Pabst, Sagan.

Ger 5622. Nazi and Postwar German Cinema. (4 cr; prereq 3xxx film studies course or #; may be applied toward German major or minor if part of reading done in German)
German cinema, 1933-1962: Nazi cinema, including Riefenstahl, Harlan, Sirk; continuities (e.g. Harlan) and discontinuities (e.g., Staudte's work in East and West Germany) in postwar cinema.

Ger 5623. New German Cinema. (4 cr; prereq 3xxx film studies course or #; may be applied toward German major or minor if part of reading done in German)
West German cinema, 1962 to the present: from early acclaim in the mid-1960s (Schlöndorff, Kluge) to the attainment of international stature by the mid-1970s (Herzog, Fassbinder, Wenders, von Trotta); feminist and avant-garde films; the crisis of the 1980s.

Ger 5624. GDR Cinema. (4 cr; prereq 3xxx film studies course or #; may be applied toward German major or minor if part of reading done in German)
History of East German cinema, beginning with Staudte's work in the 1940s, through "socialist realism" in the 1950s, and the development of the more critical and sophisticated cinema of the 1970s and 1980s (e.g., Wolf, Beyer).

Ger 5630. Topics in German Cinema. (4 cr per qtr [8 cr max]; prereq 3xxx film studies course or #; may be applied toward German major or minor if part of reading done in German)
Topic chosen may focus on specific directors, formal or political characteristics, film production or reception, and/or other film-theoretical issues.

Ger 5711, 5712. History of the German Language. (4 cr per qtr)
Internal and external history. Changes in the sounds, grammar, and vocabulary of German and its dialects as manifested in texts from A.D. 750 to the present.

Ger 5721-5722. Middle High German Language. (4 cr per qtr)
Fluent reading of normalized Middle High German texts. Reading and analysis of non-normalized texts. Formal description of Middle High German phonology, morphology, syntax.

Ger 5731-5732. Old High German. (4 cr per qtr)
Reading and analysis of Old High German texts. Formal description of Old High German phonology, morphology, syntax.

Ger 5734. Old Saxon. (4 cr)
Reading and analysis of Old Saxon texts. Formal description of Old Saxon phonology, morphology, syntax.

Ger 5740. Readings in Philology. (4 cr per qtr [12 cr max])
Reading of new and/or old research on some single topic in the structure of the historical and/or contemporary Germanic languages.

Ger 5771. Early New High German. (4 cr)
Reading and analysis of Early New High German texts. Formal description of Early New High German phonology, morphology, syntax.

Ger 5781, 5782. Varieties of Modern German. (4 cr per qtr; prereq 5101, 5102 or #)
5781: Regional varieties. 5782: Social varieties. Lexical, syntactic, and phonological variations examined using contemporary methods of dialectology and sociolinguistics.

Ger 5970. Directed Studies. (1-5 cr per qtr; prereq #, Δ, □)
Guided individual reading or study.

Dutch (Dtch)

Dtch 1101-1102-1103. Beginning Dutch. (5 cr per qtr, §1110)
Emphasis on proficiency according to the national ACTFL system. All four language modalities (listening, reading, speaking, writing): sequential emphasis beginning with the reception modalities, listening and reading, followed by the production modalities, speaking and writing.

Dtch 1104-1105-1106. Intermediate Dutch. (5 cr per qtr; prereq 1103 or #)
Emphasis on proficiency according to the national ACTFL system. All four language modalities (listening, reading, speaking, writing) at the intermediate and advanced levels on the ACTFL scale.

Dtch 3011-3012. Conversation and Composition. (4 cr per qtr; prereq 1106 or #)
Spoken Dutch, composition, development of vocabulary, grammar review.

Dtch 3310. Studies in Dutch Authors. (4 cr per qtr; prereq 1103 or 15 cr of 1110 or #)
One author studied in depth.

Dtch 3510. Topics in Dutch Culture. (4 cr per qtr; no knowledge of Dutch required)
Single topic of Dutch culture explored in depth.

Dtch 3610. Dutch Authors in Translation. (4 cr per qtr; no knowledge of Dutch required)
One author studied in depth.

Dtch 3970. Directed Studies. (1-5 cr; prereq 1106 or #, Δ, □)
Guided reading in or study of Dutch literature, culture, or advanced language skills.

Dtch 5490. Topics in Dutch Literature. (4 cr per qtr [8 cr max]; prereq read knowledge of Dtch, jr or sr or grad)

Topic may focus on a specific author, group of authors, genre, period or subject matter. Topic to be listed in *Class Schedule*.

Dtch 5742. Middle Dutch. (4 cr)

Oldest recorded poetry and prose; linguistic and literary aspects; older Dutch dialects; relations between Middle Dutch and Middle High German.

Dtch 5743. Early Modern Dutch. (4 cr; prereq 5742 or #)

Study of 16th- and 17th-century Dutch poetry and prose; linguistic and literary aspects in context of Dutch "Golden Age." Development toward modern standard Dutch.

Dtch 5970. Directed Studies. (1-5 cr; prereq #, Δ, □)

Scandinavian Languages and Literature

Staff—Acting Director of Undergraduate Studies, Kaaren Grimstad, 231A Folwell Hall

Professors: Hasselmo (Scandinavian Linguistics and Swedish), Houe (Danish), Stockenström (Swedish)

Associate Professors: Grimstad (Old Norse, Swedish), Mishler (Norwegian)

Assistant Professor: Zagar (Norwegian)

Teaching Specialist: Sinks (Finnish)

The Scandinavian Languages and Literature program teaches and conducts research in the languages and literature of the Scandinavian countries, including Finland, in the context of relevant cultural-historical background and milieu. Majors and minors are offered with concentrations in Danish, Finnish, Norwegian, and Swedish.

General Education—Courses appropriate for nonmajors are Scan 3503, 3505, 3601, 3602, 3604, 3605, 3606, 3613, 3614, 3615, 3618, 5201, 5421, 5501, 5502, 5613, 5614, 5615, 5616, 5618, 5631, 5632, 5704, 5711, and 5712

Study Abroad—The department urges students with a strong interest in Scandinavia to make study in a Scandinavian country an integral

component of their undergraduate program. Credit for appropriate study abroad may be applied toward a Scandinavian major or minor. The University offers study opportunities in Denmark, Iceland, Finland, Norway, and Sweden. Further information on study abroad options and procedures is available in the department and also in the Foreign Study section of this bulletin.

Foreign Languages Across the Curriculum (FLAC)

Students are encouraged to enroll in one-credit sections taught in Scandinavian languages that may be offered in conjunction with four-credit courses in other disciplines taught in English on campus. For more information, consult the department adviser in 205 Folwell Hall.

B.A. Major Sequence—Scandinavian Languages and Finnish

Prerequisite—Passing score on graduation proficiency test in Danish, Finnish, Norwegian, or Swedish

Major Requirements—Dan, Nor, Swed, or Fin 3670 (12 cr)

One Scandinavian social science course, Scan 3342/3342H, Scan 5704, 20 additional 3xxx or 5xxx cr in Finnish or Scandinavian languages and literature.

Scandinavian area studies courses are offered in departments such as art history, geography, political science, and sociology and may be added to the student's program with adviser consent.

The major program must be approved by the director of undergraduate studies.

Minor Sequence

Prerequisite—Passing score on graduation proficiency test in Danish, Finnish, Norwegian, or Swedish

Minor Requirements—Dan, Fin, Nor, or Swed 3670 (12 cr), one Scandinavian literature course, one 3xxx or 5xxx elective course in Scandinavian literature or social science.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

The minor program must be approved by the director of undergraduate studies.

Scan 3342. Major Project. (4 cr; prereq Δ)
Students complete the major project under supervision of professors of their choice.

Scan 3342H. Major Project. (4 cr; prereq Δ)
For description, see Scan 3342.

Scan 3502. Scandinavian Mythology. (4 cr)
The religious beliefs of the Scandinavians at the turn of the first millennium A.D. and the tales of their gods. In addressing the religious issues, it will also explore the poetry and prose of Medieval Iceland that have preserved the northern myths.

Scan 3503. Scandinavian Folklore. (4 cr)
Grimstad
Literary and folkloristic investigation of Scandinavian ballad and folktale. Readings in translation for nonmajors.

Scan 3505. Scandinavian Fiction From 1890 to Present. (4 cr)
Examined in context of breakdown of traditional forms and changing concepts of "reality."

Scan 3601. Great Literary Works of Scandinavia. (4 cr) Houe, Mishler
Major literary works from the Middle Ages to the present.

Scan 3602. The Scandinavian Fairy Tale As Literature. (4 cr) Mishler
Examined in context of German romanticism. Emphasis on H. C. Andersen and 20th-century authors who write in his tradition.

Scan 3605. The Scandinavian and Finnish Short Story. (4 cr) Mishler
Stories by important 19th- and 20th-century authors. Readings in English for nonmajors.

Scan 3606. The Expressionist Film in Scandinavia. (4 cr) Mishler
Evolution of expressionism from works of Strindberg, Edvard Munch, German art and film. Emphasis on films of Sjöström, Dreyer, Bergman.

Scan 3613. Children's Literature in Scandinavia. (4 cr) Houe, Stockenström
Representative works, with emphasis on different critical methods of interpretation.

Scan 3614. Popular Fiction and Culture in Scandinavia. (4 cr) Houe, Stockenström
Representative genres, with emphasis on different critical methods of interpretation.

Scan 3615. The Family in Scandinavian Literature. (4 cr) Houe, Stockenström
Representative texts dealing with family socialization from a historical perspective.

Scan 3618. Scandinavian Drama, 1870-1940. (4 cr) Stockenström
Plays viewed in context of modern theatre, with emphasis on different critical methods of interpretation.

Scan 3670. Topics in Scandinavian Studies. (4 cr per qtr)
Topics announced before first class meeting. Readings in English for nonmajors. Meets with Scan 5670.

Scan 3970. Directed Studies. (1-5 cr per qtr [15 cr max]; prereq #, Δ, □)
Guided individual reading and study of topics not covered in regular courses.

Scan 5201. Scandinavian Literature From the Late Middle Ages to the Enlightenment. (4 cr; prereq reading knowledge of a Scandinavian language for Scandinavian grads) Houe
Representative literary works from the 14th century to Bellman and Holberg.

Scan 5202. Scandinavian Literature From Romanticism to the Modern Breakthrough. (4 cr; prereq reading knowledge of a Scandinavian language for Scandinavian grads)
Romantic and early realistic authors.

Scan 5501. Scandinavian Mythology. (4 cr)
Grimstad
Scandinavian myths based on the Poetic Edda and Prose Edda. All readings in translation.

Scan 5502. The Icelandic Saga. (4 cr) Grimstad
The saga literature: its origins and development. Readings in translation.

Scan 5511. Skaldic Poetry: Its Method. (4 cr; prereq reading knowledge of Old Norse; offered alt yrs) Grimstad
Representative skaldic poetry and its forms and method.

Scan 5613. Contemporary Scandinavian Literature. (4 cr) Mishler
Major trends after 1945. Readings in translation for nonmajors.

Scan 5614. The Drama of Ibsen and Strindberg. (4 cr) Stockenström
The later plays viewed in context of modern art and theatre.

Scan 5615. Ibsen and the Beginnings of the Modern Drama. (4 cr) Stockenström
The plays of Ibsen; his role as founder of modern European drama. Readings in translation for nonmajors.

Scan 5616. Strindberg and the Drama in Revolt and Transition. (4 cr) Stockenström
Strindberg as master of the naturalistic drama and as the father of modernity in European and American theater. Readings in translation for nonmajors.

Scan 5618. Modern Scandinavian Drama. (4 cr) Stockenström
Scandinavian plays from the 20th century.

Scan 5631. 19th-Century Scandinavian Novel. (4 cr) Mishler
Development from beginnings to end of 19th century. Readings in translation for nonmajors.

Scan 5632. 20th-Century Scandinavian Novel. (4 cr) Mishler
Novels of Hamsun, Strindberg, Lagerkvist, others.
Readings in translation for nonmajors.

Scan 5634. Isak Dinesen and Scandinavian Women Writers. (4 cr) Zagar, Mishler
Examination of the writings of Karen Blixen in the context of Scandinavian women's fiction.

Scan 5670. Topics in Scandinavian Studies. (4 cr per qtr)
For description, see Scan 3670.

Scan 5701-5702. Old Norse Language and Literature. (4 cr per qtr) Grimstad
Acquisition of reading knowledge of Old Norse; linguistic, philological, and literary study of Old Norse language and literature.

Scan 5703. Old Norse: Saga Reading and Analysis. (4 cr; prereq 5702; offered alt yrs) Grimstad
(Continuation of Scan 5702.) Prose narrative in Old Norse; its literary content.

Scan 5704. History of the Scandinavian Languages. (4 cr)
From early Middle Ages to the present; cultural history.
Readings in translation for nonmajors.

Scan 5711. Structure of the Scandinavian Languages. (4 cr; prereq introductory course in linguistics or #; offered alt yrs)
Syntax and phonology of standard Danish, Norwegian, and Swedish. Readings in translation for nonmajors.

Scan 5970. Directed Studies. (1-5 cr; prereq #, Δ, □)
Guided individual reading and study of topics not covered in regular courses. Readings in literature in Scandinavian.

Danish (Dan)

Dan 1101f-1102w-1103s. Beginning Danish. (5 cr per qtr)

Dan 1104f-1105w-1106s. Intermediate Danish. (5 cr per qtr; prereq 1103 or equiv)
Continued development of reading, writing, and speaking skills.

Dan 3670. Advanced Danish. (4 cr per qtr [28 cr max]; prereq 1106 or equiv)
Use of diverse texts to develop reading, writing, and speaking skills.

Finnish (Fin)

Fin 1101f-1102w-1103s. Beginning Finnish. (5 cr per qtr)

Fin 1104f-1105w-1106s. Intermediate Finnish. (5 cr per qtr; prereq 1103 or equiv)
Continued development of reading, writing and speaking skills; problems and usage of Finnish grammar.

Fin 3670. Advanced Finnish. (4 cr per qtr [max 28 cr]; prereq 1106 or equiv)
Use of diverse texts from 19th and 20th centuries to develop reading, writing, and speaking skills.

Norwegian (Nor)

Nor 1101f-1102w-1103s. Beginning Norwegian. (5 cr per qtr)

Nor 1104f-1105w-1106s. Intermediate Norwegian. (5 cr per qtr; prereq 1103 or equiv)
Continued development of reading, writing, and speaking skills.

Nor 3670. Advanced Norwegian. (4 cr per qtr [max 28 cr]; prereq 1106 or equiv)
Use of diverse literary texts to develop reading, writing, and speaking skills.

Swedish (Swed)

Swed 1101f-1102w-1103s. Beginning Swedish. (5 cr per qtr)

Swed 1104f-1105w-1106s. Intermediate Swedish. (5 cr per qtr; prereq 1103 or equiv)
Continued development of reading, writing, and speaking skills.

Swed 3670. Advanced Swedish. (4 cr per qtr [28 cr max]; prereq 1106 or equiv)
Use of diverse texts to develop reading, writing, and speaking skills.

Global Campus

See Foreign Study.

Greek

See Classical and Near Eastern Studies.

Hebrew

See Classical and Near Eastern Studies.

Hindi

See Institute of Linguistics and Asian and Slavic Languages and Literatures.

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History (Hist)

Staff—*Chair*, Kinley Brauer, 614a Social Sciences Building; *Associate Chair*, Thomas Noonan, 614b Social Sciences Building; *Director of Undergraduate Studies and Honors*, Lisa Norling, 672 Social Sciences Building; *Director of Graduate Studies*, George Green, 633 Social Sciences Building

Professors: Altholz, Bachrach, Berman, Brauer, J. Evans, S. Evans, Farmer, Good, Hanawalt, Howe, Isaacman, Kelly, Kopf, Lehmborg, Marshall, Maynes, McCaa, Metcalf, Menard, Munholland, Murphy, Noble, Noonan, C. Phillips, W. Phillips, Reyerson, Roediger, Rudolph, Ruggles, Samaha, Schwartz, Stavrou, Thayer, Tracy, Vecoli

Associate Professors: Allman, Green, Kieft, Pomata, Spear, Valdés, Waltner

Assistant Professors: Dillard, Norling, O'Brien
Course offerings in the Department of History cover the history of humankind to the present day.

General Education—History courses numbered 1xxx, 3xxx, and 5000 to 5500 serve the needs of nonmajors as well as majors. Courses numbered between 5000 and 5500 are open to advanced undergraduate and graduate students with little or no previous work in the subject. Courses numbered above 5500 are proseminars (reading seminars) intended primarily for graduate students, honors undergraduates, and others with a specialized interest in the subject.

Internship Opportunity—The department provides information about internships for majors and nonmajors through the Ramsey County Historical Society, the Minnesota Historical Society, and other agencies in the metropolitan area. Internships are self-directed and arranged by the student on an individual basis with the agency involved. Students gain practical experience in research, exhibits, site interpretation, cataloging, and other public history activities. Contact the Undergraduate Studies Office for further information.

Study Abroad—The department encourages students to incorporate an overseas study experience into their undergraduate program. Appropriate credits from such study can be applied toward a history major or minor. For information on options and procedures, see Foreign Study.

Foreign Languages Across the Curriculum (FLAC)

Students are encouraged to include courses conducted in a language other than English as part of their undergraduate career, whether they are offered on campus or abroad. The Foreign Languages Across the Curriculum (FLAC) program offers students a number of opportunities to take two- or four-credit courses in French, German, and Spanish, while one-credit FLAC sections are offered in conjunction with some four-credit courses taught in English. These one-credit sections have been offered in French, German, Italian, Russian, Scandinavian languages, and Spanish. In spring quarter, FLAC courses offered in French, German, and Spanish provide students the opportunity to do all their coursework in one of these languages as participants in the Foreign Language Immersion Program (FLIP). For more information, consult the history advisers in 614 Social Sciences Building.

B.A. Major Sequence

If you are considering a major in history, you should consult with advisers in the Undergraduate Studies Office, 672 Social Sciences building (612/624-5227). The description of the major in history below is outlined in more detail in the department's *Undergraduate Handbook*, available from the Undergraduate Studies Office.

Only courses taken A-F completed with a grade of C or better can be applied to the major.

Preparatory Courses—Three introductory courses, usually 1xxx courses completed during the first two years of college. Juniors and seniors may fulfill this requirement by completing 3xxx survey courses.

Advanced Courses—Minimum of eight courses at the 3xxx- or 5xxx-level which fulfill the distribution requirements outlined below.

Major Paper Sequence—Hist 3955 (Introduction to Historical Research) and 3961 (Major Paper), usually completed during senior year. All students must preregister for 3955 and 3961 in the Undergraduate Studies Office at least two quarters before taking the course.

Honors majors do not take 3955 and 3961; instead, they must take 3951-3952 their junior

year and, in their senior year, a 2 or 3 quarter proseminar with a 55xx or higher designator.

Distribution Requirements—Through the 13 1xxx, 3xxx, and 5xxx courses, you must fulfill three distribution requirements:

1. Chronological: At least two courses from the premodern (pre-1750) and two courses from the modern (post-1750) periods
2. Geographical: At least one course in each of three different geographical areas
3. Area of Concentration: At least four courses, 3xxx or higher, that represent either one geographic-cultural area, or a unifying theme, method, subject, or time period.

Transfer Students—up to 7 transferred history courses from other institutions may be applied to the major, if they fulfill the appropriate distribution requirements. Transfer students must complete 3955 and 3961 and at least four additional 3xxx-5xxx courses at the University of Minnesota.

Double Majors—students using history courses to satisfy requirements in another major may only apply two such courses toward the major in history. Senior projects are required in one but not both majors. Students who opt to do their project in another major may substitute a 3xxx or 5xxx elective, in lieu of Hist 3961, to complete the required 13 courses.

Minor Sequence

Minor Requirements—Five courses in at least two different geographic-cultural areas; four of these courses must be 3xxx or 5xxx. Students using history courses to satisfy requirement for their major in another subject may apply only two such courses toward the minor in history.

Only courses taken A-F completed with a grade of C or better can be applied to the minor.

Transfer students minoring in history must complete at least two courses at the University of Minnesota.

The minor program must be approved by an adviser in the Undergraduate Studies Office.

Introductory

Hist 1011, 1012, 1013. Introduction to World History. (5 cr per qtr, §Hist 1011H, 1012H, 1013H)
1011: Civilizations in 1550, comparing agriculture, herding, commerce, artisans, communities, their traditions and development, city states, nomadic federations, kingdoms and empires; world religions and their spread; regional trading systems. Examples drawn from Africa, Asia, Europe, and the Americas. **1012:** World civilizations in the era of global contact, 1450 to 1960. Linking the globe through trade and migration; cultural, racial, and religious contact and clash in the Americas, Asia, and Africa; family farms to plantation agriculture; European industrialization, individualism, nationalism, and imperialism; independence movements, decolonization, and the colonial heritage. **1013:** The world today and its recent past. War and Cold War; expansion of the American and Soviet economic, political, and cultural systems, dominant culture and minority questions; contemporaneous developments in the Third World; global order; movements for peace, ecology, and human rights.

Hist 1021. Introduction to Western Civilization. (5 cr, §Hist 1021H)
 Ancient Near East, Greece and Rome.

Hist 1031. Introduction to European Civilization: The Medieval Centuries. (5 cr)
 Europe from the christianization of the Roman Empire to the Renaissance, 300-1350: politics, institutions, society, economy, and culture of the European Middle Ages.

Hist 1032. Introduction to European Civilization: Early Modern Europe 1350-1750. (5 cr)

The early modern period laid the groundwork for modern European history. Renaissance exploration, religious reformations, international rivalries, economic and social transformation, revolution and war affected Europe as a whole, as well as individual countries and their overseas colonies.

Hist 1033. Introduction to European Civilization: 1750 to Present. (5 cr)
 Modern European politics, institutions, society, economy, and culture from the eighteenth-century enlightenment to the present.

Hist 1301, 1302. American History. (5 cr per qtr, §1301H, §1302H)

1301: Colonial era and early national period from the Revolution through Civil War and Reconstruction.
1302: Modern America from 1880 to the present.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Hist 1305. Cultural Pluralism in American History. (4 cr)

Survey of the development of American society focusing on the role of Afro-Americans, American Indians, Asian Americans, and Hispanic Americans. Concepts of cultural pluralism, racism, and inter-group relations explored within a comparative historical framework.

Hist 3051, 3052, 3053. Ancient Civilization. (4 cr per qtr) J Evans, Kelly

3051: History and civilization of the ancient world to 500 B.C. *3052*: History and civilization of the ancient world, 500-146 B.C. *3053*: History and civilization of the ancient world, 146 B.C. to A.D. 337.

Hist 3101. Introduction to Medieval History. (4 cr) Bachrach, W Phillips

Europe from the decline of Rome to the early Renaissance: politics, institutions, society, economy, and culture of the Middle Ages.

Hist 3151. English History to the 17th Century. (4 cr) Altholz, Lehmborg

The Anglo-Saxons and Normans; development of English law in Parliament; Reformation and constitutional crisis.

Hist 3152. English History From the 17th Century to the Present. (4 cr) Altholz, Lehmborg
Civil War, revolution, and constitutional settlement; Industrial Revolution, democracy, and welfare state.

Hist 3401. Survey of Latin American History: Colonial Period to the Present. (4 cr, §LAS 3401) McCaa

Pre-Hispanic and colonial period to 1800, with emphasis on social, cultural, and economic aspects.

Hist 3402. Survey of Latin American History: 1800-1929. (4 cr, §LAS 3402) McCaa

Development of new nations from independence to the emergence of dependent economies.

Hist 3403. Survey of Latin American History: 1929 to the Present. (4 cr, §LAS 3403) McCaa

Contradictions of modern societies: economic expansion, dependency, population growth and the social crisis, democratic and authoritarian politics.

Hist 3431. History of Africa to 1800. (4 cr, §Afro 3431) Allman, Isaacman

Socioeconomic, political, and cultural development in pre-colonial Africa; emphasis on slave trade, Islamic revolution, and European commercial penetration.

Hist 3432. History of Africa: 1800 to the Present. (4 cr, §Afro 3432) Allman, Isaacman

Colonial rule, the forced restructuring and underdevelopment of African economies, African resistance, nationalism, and the problems of independence.

Hist 3461. Introduction to East Asia: Early Civilization. (4 cr, §EAS 1461) Farmer, Marshall, Waltner
Rise and fall of the first great Chinese empire (Han) and the early history of Vietnam, Korea, and Japan. Origins and development of Chinese society, government, and thought and the introduction of Buddhism from India.

Hist 3462. Introduction to East Asia: The Imperial Age. (4 cr, §EAS 1462) Farmer, Marshall, Waltner

Historical survey of early Japan, medieval Vietnam, Korea, and China from the Tang empire until the end of the 18th century. Diffusion of Chinese and Buddhist cultural forms and maturation of distinctive societies in China, Japan, Vietnam, Korea.

Hist 3463. Introduction to East Asia in Modern Times. (4 cr, §EAS 1463) Farmer, Marshall, Waltner

Decline of Asian empires; European and American imperialism; Asian responses; nationalism, social revolution, reintegration, modernization in China, Japan, Vietnam, Korea; retreat of European and American empires.

Honors

Hist 1011H, 1012H, 1013H. Honors Course: Introduction to World History. (5 cr per qtr, §1011, §1012, §1013; prereq #: not open to jr or sr)
For description, see Hist 1011, 1012, 1013.

Hist 1021H. Honors Course: Introduction to Western Civilization. (5 cr, §1021; prereq #: not open to jr or sr)
For description, see Hist 1021.

Hist 1031H. Introduction to European Civilization: Honors Sections. (5 cr; prereq #: not open to jr or sr)
For description, see Hist 1031.

Hist 1032H. Introduction to European Civilization: Honors Sections. (5 cr; prereq #: not open to jr or sr)
For description, see Hist 1032.

Hist 1033H. Introduction to European Civilization: Honors Sections. (5 cr; prereq #: not open to jr or sr)
For description, see Hist 1033.

Hist 1301H, 1302H. Honors Course: American History. (5 cr per qtr, §1301, §1302; prereq #)
For description, see Hist 1301, 1302.

Hist 3951-3952†. Honors Course: History. (4 cr per qtr; prereq candidacy for honors in history, #)
Seminar in philosophy of history, historiography.
Recommended for junior year for those seeking honors in history.

General, Methodological, and Comparative Studies

Hist 3200. Contemporary Problems in Historical Perspective. (4 cr per qtr)
Comparative treatment of a contemporary problem (e.g., urbanization, social change, nationalism, intercultural conflict, revolution) in historical perspective.

Hist 3421, 3422. The World and the West. (4 cr per qtr) Kopf, Tracy
Survey of the political, economic, and cultural interaction among the peoples of Europe, Africa, America, and Asia. *3421*: Era of Western dominance, 1500-1850. Sea power, colonialism, imperialism. *3422*: Modern world of Renaissance, nationalism, modernization, and countermodernization, 1850 to present.

Hist 3955. Introduction to Historical Research. (4 cr; prereq Δ; priority given to history majors; take before 3961)
Use of documents and different kinds of historical writing. Students read and discuss materials representative of contrasting historical perspectives. Faculty guidance in sections limited to 15 students. Sign up in Undergraduate Studies Office two quarters in advance.

Hist 3960. Internship. (4-5 cr per qtr [10 cr max]; prereq #, Δ)
Internship with historical society, government, or community organization, supervised by department.

Hist 3961. Major Paper. (5 cr; prereq Δ)
Required of history majors, usually taken in senior year. Research papers on topics students choose; work largely with original materials (printed documents, memoirs, literature). Sign up in Undergraduate Studies Office two quarters in advance.

Hist 3970. Directed Studies. (1-15 cr per qtr; prereq #)
Guided individual reading or study. Open to qualified students for one or more quarters.

Hist 3990. Directed Research. (1-15 cr per qtr; prereq #)
Qualified students, with consent of instructor, work on a tutorial basis.

Hist 3991-3992†. Undergraduate Seminar in History. (4 cr per qtr; prereq jr or sr history major, Δ)
Specific history topics offering upper division history majors an intensive experience in historical research. Limited to 15 students.

Hist 5011. Quantitative Methods in Historical Research. (4 cr; prereq #) McCaa, Menard, Ruggles
Quantitative approaches to historical problems. Data collection, questions of measurement, analytical techniques, and rudimentary statistics, as they apply to historical research. Relationship of quantitative inferences to nonquantitative procedures emphasized.

Hist 5035. The Germ Theory and the Medical Profession. (4 cr, §HMed 5035) Eyer
American medical profession in 19th and 20th centuries, role of institutions, influence of social and moral values and consequences of specialization and scientific innovation.

Hist 5429. Slavery in the Americas. (4 cr) Isaacman, Menard
Comparative history of slavery, concentrating on the slave regimes in the United States, Latin America, and the Caribbean; slavery as both an economic and a social system.

African History

Hist 5436. Social History of African Women: 1850 to the Present. (4 cr; prereq #) Isaacman
Examination of recent scholarship in African women's social history, undertaken from various perspectives and employing as well as testing differing frameworks of historical analysis for the African continent.

Hist 5446. Problems in West African History. (4 cr) Allman, Isaacman
Advanced seminar focusing on specific historical debates and methodological problems in West African history. Topics vary, but examples include: slavery and the state, Islam and trade, the colonial encounter, gender and social change, resistance, nationalism.

Hist 5447. Problems in East Africa. (4 cr) Allman, Isaacman
Advanced course. Focus on specific themes and methodological problems.

American History

Hist 3347. Women in Colonial and Victorian America: 1600-1890. (4 cr; day and UC) S Evans, Norling
The female experience in U.S. history to 1890: work, family, images, sexuality, feminism; impact of race and class.

Hist 3348. Women in Modern America: 1890-1980. (4 cr) S Evans, Norling
Women in the United States from the late Victorian era to the present: changes in labor force participation, family patterns, sexuality, education, feminism; images of women from Gibson girl to feminine mystique.

Hist 3351. American Maritime History. (4 cr) Norling
Survey of American maritime history from the contact period to the present. Maritime activities in social, economic, and political development; emphasis on the social history of seafaring.

Hist 3357. Social History of the United States: 19th Century. (4 cr) Norling
Examines selected themes in social history and material culture of the United States in the 19th century with special focus on Minnesota.

Hist 3801. The People of Early America to 1750. (4 cr) Menard, Ruggles
Multicultural approach to early American history focusing on the interactions of Africans, Europeans, and American Indians who came together to create a new world in North America during the 16th, 17th, and 18th centuries.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Hist 3809. The American Revolution and the Beginnings of American Politics. (4 cr) Howe
The culture and structure of late colonial politics; regionalism and connections between society and politics; the imperial crisis and independence; political transformation in the revolutionary era; origins of national politics and the constitutions.

Hist 3811. Politics and Society in the Early Republic: 1788-1848. (4 cr: day and UC) Howe, Norling

Beginning the new government; the first party system; Jefferson and the Virginia dynasty; political transformation in the states and emergence of mass politics; Jackson, the Whigs, and the second party system; slavery, race, and rise of southern sectionalism; abolitionism and reform; Indian removal, westward expansion, and the frontier; manifest destiny and Mexican War; collapse of the second party system.

Hist 3812. Civil War and Reconstruction. (4 cr) Howe, Noble

Politics and society from 1848 to 1877. The Compromise of 1850 and the "finality" period; nativism and the Know-Nothing movement; party realignment and the rise of the Republican Party; the West; Dred Scott, John Brown, and the coming of the Civil War; Lincoln, Douglass, and the crisis of secession; the rise and fall of the Confederacy; Grant, Sherman, and the politics of total war; emancipation; presidential and radical reconstruction; the Ku Klux Klan; the origins of the Gilded Age; redemption and the Compromise of 1877.

Hist 3814. The Practice of Citizenship in 19th Century America. (4 cr) Howe

Examination of the changing ideologies and practices of citizenship from the American Revolution through the Civil War. Topics include citizenship and public virtue in the revolutionary era, the nature of social obligation in an increasingly commercial society, the gendered bases of citizenship, national loyalty and southern secession, and citizenship's meaning for African-Americans following emancipation.

Hist 3821. United States in the 20th Century: 1900-1932. (4 cr: day and UC) Berman, Noble, Spear
Immigration and the rise of the city: the progressive movement; the growth of overseas empire and World War I; prohibition and women's suffrage, political reaction and cultural conflict in the 1920's; the coming of the Great Depression.

Hist 3822. United States in the 20th Century: 1932-1960. (4 cr) Berman, Noble, Spear
The Great Depression and the New Deal; the challenge of fascism and the coming of World War II; the origins of the Cold War; the great Red scare; the politics and culture of the Eisenhower era; the origins of the civil rights movement.

Hist 3823. United States in the 20th Century: 1960 to the Present. (4 cr) Berman, Brauer, Spear
The conflicts of the 1960s; the New Frontier and Great Society, the black struggle for freedom; the Vietnam War; the new left and counterculture; the women's movement and gay liberation; Watergate and the uncertainties of the 1970s; the Reagan counterrevolution.

Hist 3834, 3835. History of Civil Liberties and Civil Rights in the United States. (4 cr per qtr) Murphy

The conceptual and institutional development of liberty, equality, and justice in America, and subsequent application or nonapplication of these principles throughout our national history. 3834: English background through pre-industrial society. 3835: The role of civil liberties and civil rights in modern America.

Hist 3837. Minnesota History. (4 cr) Berman, Spear, staff

Topics in political and social history of Minnesota and its region in 19th and 20th centuries.

Hist 3841. American Business History. (4 cr) Green
Development of the modern corporation and its managerial structure. Contributions of Eli Whitney, Edison, Ford, Carnegie, Rockefeller, J. P. Morgan, Alfred Sloan, others. History of relation of business to economic development, social change, politics, and government policies.

Hist 3844. American Economic History, Colonial Period to Civil War. (4 cr) Green
Economic development, regional specialization, and early industrialization. Slavery and southern development. The role of railroads and government policies. Economic impact of the Civil War.

Hist 3845. American Economic History: 1870 to Present. (4 cr) Green

Farm problems in the 19th century. Rise of big business and finance capitalism. The 1920s economy and the Great Depression. Corporate capitalism, government policies, and modern society.

Hist 3851. American Labor History in the 19th Century. (4 cr) Berman

The development of an American working class from the pre-industrial to the industrial age. Responses of American workers through strikes, labor organization, and political reform. The rise and fall of the Knights of Labor, formation of the American Federation of Labor, and challenge of Marxism and anarchism.

Hist 3852. American Labor History in the 20th Century. (4 cr) Berman

The development of American labor in a mature industrial society. Industrial unionism and radicalism's challenge to the AFL; the IWW, the CIO, and organized labor's integration into American society. From Gompers and Debs through John L. Lewis and Earl Browder to George Meany and Hubert Humphrey.

Hist 3861, 3862. European Americans: From Immigrants to Ethnic. (4 cr per qtr) Vecoli
Trans-Atlantic migrations, 17th to 20th centuries; formation of ethnic communities and cultures; nativism and ethnic conflict; assimilation, cultural maintenance, and social mobility; emergence of a pluralistic America. 3861: To 1890. 3862: Since 1890.

Hist 3864. Afro-American History. (4 cr, \$Afro 3864) Dillard

From African background to Reconstruction period.

Hist 3865. Afro-American History. (4 cr, §Afro 3865) Dillard
From Reconstruction period to present.

Hist 3867. American Jewish History. (4 cr) Berman
Jews in the United States from the colonial period to the present; migration patterns, economic adjustment, social arrangements, political participation, cultural and religious diversity. Intergroup contacts, anti-Semitism, and formation of voluntary communal associations viewed in the context of the American historical experience.

Hist 3871. American Indian History. (4 cr, §Amln 3111) O'Brien
Pre-contact to 1830. Colonization and survival of North American Indians from rise of ancient American Indian civilizations to the Removal era.

Hist 3872. American Indian History: 1830 to the Present. (4 cr, §Amln 3112) O'Brien
American Indian communities from Removal era to the present, emphasizing native initiatives and adaptations in the face of federal policies.

Hist 3881, 3882, 3883. History of American Foreign Relations. (4 cr per qtr) Brauer
3881: Foreign policy and diplomacy during period America sought independence through territorial expansion, 1760-1865. 3882: America's commercial expansion, involvement in war, and imperialism, 1865-1945. 3883: American foreign relations during the Cold War, 1941 to present.

Hist 3891, 3892. American Military History. (4 cr, §Mil 3011, 3012; UC only) Buckley
3891: Impact of geography, politics, society, technology, and leadership in the development of the military from the colonial period to the Spanish American war. 3892: Impact of geopolitics, technology, society and leadership in the rise of land, sea, and air forces to global dominance in the twentieth century.

Hist 3910. Topics in American History. (4 cr; day and UC)
Selected topics of interest to students of history and of civilization in the United States and its constituent elements. Topics deal with cultural, social, economic, and political concerns.

Hist 5331, 5332. American Constitutional History. (4 cr per qtr) Murphy
The origins and development of constitutional government in America, with emphasis on the role of constitutional politics in the evolution of public policy. 5331: English and colonial background through Reconstruction period. 5332: The Constitution and the rule of law in modern America.

Hist 5334. American Legal History. (4 cr) Murphy
History of American law, from English antecedents, American reception, Americanization, and development of American legal institutions and legal culture through rise and decline of legal realism.

Hist 5349. Social Welfare in America. (4 cr) Chambers
Advanced survey of social services, public policies, and the profession of social work, colonial era to present. Issues include dependency, deviancy, crime, social security, public health, social reform, the functions of public and voluntary institutions (charities, settlements).

Ancient History

Hist 3509. Military History of the Ancient World. (4 cr) Kelly
Conduct of war in the ancient Near East, Greece, and Rome. The importance of warfare in the political, economic, and social development of ancient societies.

Hist 3515. The Historians of Greece and Rome. (4 cr) J Evans, Kelly
Origins and development of historical thought in the ancient world.

Hist 5061. History of Greece to 600 B.C. (4 cr) Kelly
Political, economic, and social developments from the first appearance of the Greeks to circa 600 B.C.

Hist 5062. History of Greece, 600-400 B.C. (4 cr) Kelly
The birth and development of democracy in Athens and militarism of Sparta; birth and development of philosophical and historical thought; development of the Athenian empire; the Peloponnesian War between Athens and Sparta.

Hist 5063. History of Greece, 400-200 B.C. (4 cr) Kelly
Spartan, Theban, and Macedonian hegemony; Alexander the Great and the Hellenistic monarchies to 200 B.C.

Hist 5071, 5072, 5073, 5074. History of Rome. (4 cr per qtr) J Evans
5071: To 133 B.C. 5072: 133 to 31 B.C. 5073: 31 B.C. to A.D. 235. 5074: A.D. 235 to A.D. 395

History of Asia and the Middle East

Hist 3450. Topics in Southeast Asian History. (4 cr; day and UC) Farmer, Kopf
Topics may include history of Vietnam and the Vietnamese War, origins of colonialism and nationalism in Southeast Asia.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Hist 3451. Survey of Civilizations in Ancient Asia. (4 cr) Kopf

A comparative approach to the birth of civilizations in East, South and West Asia; the ethical protest of Confucius, Buddha, Zoroaster, and others; the rise of the universal empires of the Han, Mauryans, Guptas, Achaemenids, and Sasanids.

Hist 3452. Survey of Asian Civilizations in the Middle Period. (4 cr) Kopf

A comparative approach to the rise of Buddhism, Hinduism, and Islam; the Mongol conquests; the creation to the early modern empires of the Ming, Ch'ing, Mughuls, Safavids, and Ottomans.

Hist 3453. Survey of Asian Civilizations in the Modern Era. (4 cr) Kopf

A comparative approach to East, South, Southeast and West Asia from the decline of the early modern empires through the establishment of European and American dominance, cultural renaissance and nationalist movements, to the creation of independent nation-states.

Hist 3464. Early Modern China: 1350-1750.

(4 cr, §5464, §EAS 3464) Farmer, Waltner
The Ming and early Ch'ing empires; expulsion of the Mongols and centralization of imperial power; the high point of Confucian bureaucratic rule, commercial development, philosophical innovation, popular fiction, the Manchu conquest, and early Western contacts.

Hist 3465. China's Response to the West: 1750-1911. (4 cr, §5465, §EAS 3465; day and UC)
Farmer, Waltner

Eighteenth-century demographic crisis; the growth of Western trade, opium wars, and peasant rebellion; early reform efforts, cultural conflicts with the West, imperialism in China, and the first phase of the Chinese revolution.

Hist 3467. The Nationalist Revolution in China:

1900 to Present. (4 cr, §5467, §EAS 3467) Farmer
Failure of the early republic, warlordism, the new culture movement, and the development of Chinese nationalism. The rise of the Nationalist Party and intervention of the Soviet Union, Japan, and the United States. Taiwan and the People's Republic of China.

Hist 3468. People's Republic of China: The Communist Revolution, 1900 to the Present.

(4 cr, §5468, §EAS 3468) Farmer
Introduction of Marxism to China, rise of Communist Party, and development of a rural guerrilla movement. The career of Mao Tse-tung and developments in the People's Republic: The Great Leap, Cultural Revolution, Gang of Four.

Hist 3471. 20th-Century Japan. (4 cr, §EAS 3471) Marshall

World War I and Japan's emergence as an industrial society and world power in the 1920s; rise of militarism, World War II in the Pacific; political reform, economic resurgence, and cultural change in the postwar era.

Hist 3472. Early Modern Japan. (4 cr, §5472, §EAS 3472) Marshall

Tradition and change in society and culture under the Tokugawa shoguns (1600-1867); the growth of cities and decline of the samurai class, response to Western intrusion.

Hist 3474. Rise of Modern Japan: 1853-1914. (4 cr, §EAS 3474) Marshall

The Meiji Revolution from Commodore Perry to eve of World War I: origins of constitutional monarchy, industrial economy, Western influence, and modern cultural change.

Hist 3475. Japan and the Second World War. (4 cr) Marshall

From the origins of war in China through the Pearl Harbor decision, the conquest of Southeast Asia, defeat in the Pacific, the impact of the atomic bomb, the American occupation and the creation of a United States-Japan alliance.

Hist 3480. Topics in the History of India. (4 cr) Kopf

Examination of a problem in South Asian history. Topics vary from year to year and may include Gandhi; family, caste, and ethnicity; popular culture; intellectual institutions; work.

Hist 3481. Classical and Hindu India. (4 cr) Kopf
History of Brahmanism, Buddhism, and Hinduism

before the advent of Islam in 1200.

Hist 3484. History of Southeast Asia. (4 cr) Kopf
Development of societies and states in Asian regions

bordered by the cultural and political spheres of China, India.

Hist 3488, 3489. Modern India. (4 cr per qtr) Kopf
South Asia under British rule and rise of independent

nation-states. 3488: Fall of Mughal empire; Clive, Hastings, and the British conquest of India; Orientalism and Indian renaissance; the 1857 rebellion. 3489: Rise of the nationalist movement; Muslim separatism; Gandhi and Nehru; economic and social change; contemporary India.

Hist 3505. Survey of the Middle East. (4 cr, §MELC 3505) Farah

Lands and peoples of the Middle East, historical evolution of Middle East civilizations and societies, the status of Middle East countries in world affairs.

Hist 3541, 3542, 3543. History of the Arabs. (4 cr per qtr, §MELC 3541, §MELC 3542, §MELC 3543) Farah

3541: From pre-Islamic days to downfall of Umayyads of Damascus. 3542: From Abbasids to fall of Baghdad in 1258. 3543: From Crusades to present.

Hist 3544. The Arab World in Recent Times. (4 cr, §MELC 3544; day and UC) Farah

Central Arab lands (the Arabian peninsula, Iraq, Syria, Jordan, Lebanon, Egypt) and North African region (Libya, Tunisia, Morocco, Algeria) from end of World War I to the present. Foreign occupation and struggle for independence, position in regional and international politics.

Hist 3547. History of the Ottoman Empire. (4 cr) Farah

History and institutions of the Ottoman Empire from its inception in 1300 until its demise in 1920; includes both Asiatic and European provinces; relations with other powers in Europe and Asia; its role in world affairs.

Hist 5461. Ancient China. (4 cr)

Origins of Chinese civilization, classical philosophies, and the Han empire (to A.D. 220).

Hist 5462. Buddhist China. (4 cr)
Disintegration of Han empire; aristocratic society; barbarian invasions; spread of Buddhism and reintegration of the empire in T'ang period (220-906).

Hist 5463. Renaissance China. (4 cr) Waltner
Disappearance of medieval aristocracy; commercial and maritime expansion; neo-Confucian renaissance; growth of Chinese science and technology; Mongol conquest and Yuan dynasty.

Hist 5464. Early Modern China: 1350-1750. (4 cr, §3464, §EAS 3464) Farmer, Waltner
For description, see Hist 3464.

Hist 5467. The Nationalist Revolution in China: 1900 to Present. (4 cr, §3467, §EAS 3467) Farmer
For description, see Hist 3467.

Hist 5468. People's Republic of China: The Communist Revolution, 1900 to the Present. (4 cr, §3468, §EAS 3468) Farmer
For description, see Hist 3468.

Hist 5472. Early Modern Japan. (4 cr, §3472 and EAS 3472) Marshall
For description, see Hist 3472.

Hist 5473. Family, School, and Work in Modern Japanese History. (4 cr) Marshall
Impact of industrialization on family, life, economic role of women, educational opportunities and curriculum, and the work ethic and the Japanese employment system in the 19th and 20th centuries.

British History

Hist 3641. Anglo-Saxon England: From King Arthur to William the Conqueror. (4 cr; day and UC) Bachrach

History of medieval England from the end of Roman rule to the Norman Conquest. All aspects of society examined to provide a broad picture of the creation of Anglo-Saxon England and the Celtic frontiers.

Hist 3642. Knights, Peasants, and Bandits in Medieval England. (4 cr) Hanawalt
Social history of medieval England from the Norman Conquest in 1066 to 1500. Peasants, nobility, and bourgeoisie, including their economic institutions, living conditions, and entertainments. Legal and illegal ways of coping with economic and social change resulting from plague and wars.

Hist 3651. Henry VIII and the English Reformation. (4 cr) Lehmborg
The early Tudor period, 1485-1547; the reign of Henry VIII and his break with the papacy.

Hist 3652. England in the Age of Elizabeth I. (4 cr) Lehmborg
The later Tudor period and the reign of James I, 1547-1625; the problems and achievements of Queen Elizabeth.

Hist 3653. The English Civil War and Restoration. (4 cr) Lehmborg
The English Civil War; Oliver Cromwell and the Interregnum; the Restoration era and the Glorious Revolution (1625-1689).

Hist 3671, 3672, 3673. Modern England: 1783 to Present. (4 cr per qtr) Altholz
3671: 1783 to 1846, the age of reform. 3672: 1846 to 1901, Victorian era. 3673: 1901 to 1972, war and social change.

Hist 3681. Modern Irish History. (4 cr) Altholz
History of Ireland since 1535, emphasizing the union with Britain, 1800-1922.

History of Continental Europe

Hist 3222, 3223. European Social History Through Literature. (4 cr per qtr) Rudolph
Novels, short stories as sources in examining social movements, social change, patterns of class, family, and sex roles. 3222: Through the Industrial Revolution. 3223: Industrial Revolution to the present.

Hist 3224. Europe During World War II. (4 cr; meets with 3722) Metcalf
Origins and diplomatic background of the war, strategic objectives and campaigns; political and social impact.

Hist 3245. History of Eastern Europe: 19th and 20th Centuries. (4 cr) Rudolph
Poland, Czechoslovakia, Hungary, Romania, and Yugoslavia. Nationalism and formation of national states; fascism and World War II; Jews in Eastern Europe; communist and post-communist period.

Hist 3271. The Vikings At Home and Away. (4 cr) Metcalf
Viking society and expansion of Viking influence abroad as perceived in recent centuries and in the popular mind; Viking society at home and abroad as understood by modern researchers; Scandinavia in East-West trade.

Hist 3272. Early Modern Scandinavia to 1807. (4 cr) Metcalf
The centralization of state power and the Reformation; struggle for control of the Baltic; Gustavus Adolphus and Charles XII; absolutism in the North; social and economic transformation of Scandinavia.

Hist 3273. Modern Scandinavia Since 1807. (4 cr) Metcalf
From agrarian periphery to vanguard welfare-state models; impact of industrialization, urbanization, and demographic expansion; social democracy and the politics of consensus.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Hist 3281, 3282, 3283. Intellectual and Cultural History of Modern Europe. (4 cr per qtr, §Hum 3281, 3282, 3283) Thayer
3281: Aesthetic, historical, and political thought from Vico to Arnold. 3282: Marxism and alternative contemporary critics of industrial and national Europe. 3283: Development of modern historicism and its critics: history and social sciences in the late 19th and 20th centuries.

Hist 3607. The History of the Jews in Medieval Europe. (4 cr; day and UC) Bachrach
Institutions, thought, and major personalities of the Jewish people from the later Roman Empire until the expulsions from Western Europe.

Hist 3608. History of the Catholic Church in the Middle Ages. (4 cr) Bachrach, Hanawalt.
Institutions, thought, and major personalities dominating the church from the later Roman Empire to the Reformation.

Hist 3609. Military History of Medieval Western Europe. (4 cr) Bachrach
Concept and conduct of war in Western Europe in the Middle Ages and the relation between military organization and society.

Hist 3611. Medieval Cities of Europe: 500-1500. (4 cr) Reyerson
Evolution of Western European cities from the late Roman town to the early Renaissance city-state.

Hist 3613. History of the Crusades. (4 cr) Reyerson, Bachrach
Examination of the crusading spirit in Europe and the results of the medieval crusades from ca. 1095 to ca. 1285.

Hist 3614. Women in Medieval Europe: Circa 500-1500. (4 cr; day and UC) Reyerson
Women in medieval European society from the royal court and secluded nunnery to the urban workshop and peasant hovel.

Hist 3615. Women in European History: 1500 to the Present. (4 cr) Maynes, Pomata
Women's history and gender relations in modern European history, including women and work, women and the family, the history of childbearing and sexuality, cultural images of women, women in political life.

Hist 3616. France in the High Middle Ages. (4 cr) Reyerson
The growth of royal power during the era of the Capetian monarchy, 987-1328.

Hist 3621. Renaissance Italy: 1200-1530. (4 cr) Pomata, Tracy
Politics and culture in the city-states from Dante to Machiavelli.

Hist 3623. The Reformation in Germany. (4 cr) Tracy
The Lutheran movement and the beginnings of the Catholic Reformation.

Hist 3624. France From the Renaissance to Richelieu. (4 cr) Tracy
The religious wars and the growth of an absolute monarchy.

Hist 3626. France From Louis XIV Through the French Revolution and the Napoleonic Era. (4 cr) C Phillips

Follow the brilliant and tumultuous society of Old Regime France as it disintegrates into revolution and transforms itself through empire and war. Politics and diplomacy, economy and society, intellectual and cultural life blend in the dramatic birth of modern France.

Hist 3632. History of Germany: Reformation to Revolution, 1500-1848. (4 cr) Tracy
Social and religious upheaval; warfare and demographic catastrophe; the politics of absolutism; baroque culture, everyday life in town and country; the revolution of 1848.

Hist 3633. History of Germany: Empire to Hitler, 1848-1945. (4 cr) Kieft, Maynes
Unification, political and economic development, growth of socialism, World War I and revolution, the Weimar years, the Nazi seizure of power.

Hist 3636. Russian History From the Origins to Peter the Great. (4 cr, §5132) Noonan
A survey of Russian history: origins to Peter the Great.

Hist 3637. Russian History From Peter the Great to the Present. (4 cr, §5133) Stavrou
A survey of Russian history since Peter the Great.

Hist 3700. Topics in European History. (4 cr)
Topics vary and may include imperialism, psychohistory, biography in European history, urbanization.

Hist 3703. European Cities: 1500-1800. (4 cr; offered alt yrs) C Phillips
Urban social classes and their daily lives, architecture, relationship between town and countryside. Featured cities: Venice, Florence, Rome, Augsburg, Madrid, Seville, Lisbon, Paris, Antwerp, Amsterdam, London.

Hist 3704. Daily Life in Europe: 1348-1750. (4 cr) C Phillips, Pomata
Economy and society in various European countries from the Renaissance to the Industrial Revolution. Topics include court life, the nobility, peasants, artisans, marriage, family, the middle class, disease, agriculture, handicrafts, witchcraft, piracy, crime, and trade.

Hist 3707, 3708. Social and Economic History of Modern Europe. (4 cr per qtr) Rudolph
Transformation from traditional agrarian to modern society, 18th to 20th centuries. 3707: Social and economic change. 3708: social change; history of the family, marriage, and sexuality.

Hist 3711, 3712. Economic History of Modern Europe. (4 cr) D Good
Long-term rise and transformation of European economy. 3711: Emergence of capitalism and spread of modern economic growth through 19th century. 3712: Growth, instability, and structural change in 20th century capitalism.

Hist 3714. Medieval Spain: 400-1500. (4 cr) W Phillips
Political, economic, and social history of the Spanish regions from late Roman times to 15th century. Geographical background. Interaction of Christian, Islamic, and Jewish cultures. Links with the Mediterranean and the Atlantic.

- Hist 3715. Spain Under the Habsburgs: 1516-1701. (4 cr) C Phillips, W Phillips
The golden age of Spanish history. The Habsburg family, internal government, Spain and European politics, culture and society, the American empire, agriculture and commerce, daily life and social mores, reasons for Spain's decline.
- Hist 3716. Spain From 1700 to the Present. (4 cr) C Phillips, W Phillips
Modern Spain from the beginning of the Bourbon dynasty in 1700 to its restoration in 1975. The 18th-century Enlightenment, Napoleonic invasion, Carlist wars, Federal Republic, Bourbon restoration of the 19th century, republic and Civil War, Franco regime, and Bourbon restoration of the 20th century.
- Hist 3721. Europe in the Era of World War I. (4 cr) Munholland
Political, social, and diplomatic background of Europe on eve of World War I; origins of conflict; impact of war and revolution on European society; the peace settlement.
- Hist 3722. Europe in the Era of World War II. (4 cr, §3224) Munholland
Rise of fascism and totalitarian movements in Europe; political and military origins of World War II; course of the war and its impact on European society.
- Hist 3723. Europe Since World War II. (4 cr) Munholland
Reconstruction of European politics and society; emergence of Cold War in Europe; decolonization; economic cooperation and development; East-West relations.
- Hist 3747. Habsburg Austria From 1526 to World War I. (4 cr) Good, Rudolph
Establishment of Habsburg Empire; the Reformation and Counter-Reformation in Austria and Central Europe; arts, letters, and music of the baroque; socioeconomic reforms of 18th century; French Revolution; nationalism; Austrian revolution; Ausgleich; fin de siècle.
- Hist 3748. The Austrian Republic From World War I to Present. (4 cr) Good, Rudolph
The First Republic; "the state no one wanted"; Anschluss and Hitler; World War II; decade of occupation; the new Austria.
- Hist 5100. Selected Topics in Medieval Europe. (4 cr; prereq #) Bachrach, Hanawalt, W Phillips, Reyerson
From the fall of the Roman Empire through the end of the Middle Ages.
- Hist 5115. Medieval Latin Historians. (4 cr; prereq good reading knowledge of Latin) Bachrach
The writing of history in Western Europe during the Middle Ages. The philosophy and techniques of research by medieval historians and chroniclers; history as literature; the value of medieval histories to modern research scholars. All work done with original Latin texts.
- Hist 5118. Scandinavia in the Middle Ages. (4 cr, §Scan 5118, Geog 5178) Metcalf
A team-taught interdisciplinary examination of the economic, political, and social history of Scandinavia from the late Viking period until 1500. Agrarian and urban societies; peasant and elite perspectives; growth of economic, political, religious, and social institutions.
- Hist 5134. Russia Before the Mongol Conquest. (4 cr) Noonan
The origins and development of the Kievan state, 850-1240.
- Hist 5135. From Khan to Tsar: Russia, 1240-1530. (4 cr) Noonan
Mongol rule of Russia, rise of Lithuania, emergence of Muscovy.
- Hist 5136. From Ivan the Terrible to Peter the Great: Russia, 1530-1700. (4 cr) Noonan
Reign of Ivan the Terrible, the time of troubles, the great Cossack revolt in the Ukraine, 17th-century Muscovy, enslavement of the peasantry.
- Hist 5137. The Nomads of Southern Russia From the Scythians to the Mongols, 600 B.C.-A.D. 1300. (4 cr) Noonan
The nomads who occupied the Russian steppe (Scythians, Sarmatians, Huns, Avars, Bulgars, Khazars, Pechenegs, Cumans, Mongols) and their societies.
- Hist 5200. Topics in European History. (4 cr)
In-depth treatment of selected historical themes. Topics vary from quarter to quarter.
- Hist 5231. Modern France From 1848 to De Gaulle. (4 cr) Munholland
Survey of French society and political life from the revolution of 1848 to contemporary France.
- Hist 5264. Modern Russia: 18th-Century Background. (4 cr; day and UC) Stavrou
Foundation of the Russian empire, modernization and expansion under Peter the Great and Catherine the Great. Russia's Europeanization.
- Hist 5265. Modern Russia: 19th Century. (4 cr) Stavrou
Political, social, and cultural developments from Alexander I to the 1905 revolution. The revolutionary movement and the consequences of the emancipation of the serfs; Russian industrialization.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Hist 5266. Modern Russia: The 20th Century. (4 cr) Stavrou

Fall of the Russian monarchy, revolutions, and Soviet regime.

Hist 5284. Diplomatic History of Europe: 1848-1900. (4 cr) Kieft
Bismarck; imperialism; Eastern question.

Hist 5285. Diplomatic History of Europe: 1900-1945. (4 cr) Kieft
The world wars.

Hist 5286. Diplomatic History of Europe: 1945-Present. (4 cr) Kieft
The Cold War.

Hist 5294, 5295. Social History of Russia and Eastern Europe. (4 cr per qtr) Rudolph
Lives of peasants and workers, nobles and merchants. Topics include family, marriage, sexuality; culture and tradition; work; social movements (revolutionary, women's, nationalist); socialist societies and economies and post-communist society. 5294: Through the 19th century. 5295: 20th century.

Latin American History

Hist 3411. History of Brazil, 1500-1808. (4 cr) Schwartz
Colonial Brazilian development with emphasis on social, cultural and economic aspects, the role of slavery in Brazilian life.

Hist 3425. History of Mexico: The 19th and 20th Centuries. (4 cr) McCaa, Valdés
The struggle for land and liberty from the Hidalgo revolt to the oil age.

Hist 3427. History of Cuba and Puerto Rico. (4 cr, §Chic 3427) Valdés
Historical development from Spanish conquest to the present; conquest and colonization, slavery, Hispanic Caribbean society and culture, Operation Bootstrap, Cuban Revolution.

Hist 3428. History of Relations Between United States and Mexico: 1821 to the Present. (4 cr, §Chic 3428) Valdés
U.S.-Mexico relations in 19th and 20th centuries.

Hist 3441. The Spanish-Mexican Borderlands and the Chicano Experience to 1900. (4 cr, §Chic 3441) Valdés
The history of Chicanos to 1900.

Hist 3442. Survey of Chicano History: 1900 to the Present. (4 cr, §Chic 3442) Valdés
Twentieth-century Chicano experience including migration and repatriation, contemporary politics, society, and culture.

Hist 5420. Topics in Latin American History. (4 cr; prereq #) McCaa, C Phillips, Valdés
Historical themes common to the entire Latin American area. Topics change each quarter.

Proseminars

Hist 5511. Social and Intellectual Change in Late Chou and Han China. (4 cr) Waltner
Axial Age transcendence of primordial myths in the cultural crisis of late Chou and early Han; major schools of philosophy and statecraft; establishment of the literati as a social elite.

Hist 5512. Religion and Society in Late Imperial China. (4 cr) Waltner
Chinese traditional society approached through the institutions of official and popular religion, Buddhism and Daoism.

Hist 5515. Local Institutions in Modern China. (4 cr; prereq #) Farmer
The marketing system, village, and clan and family structure in rural China; local control devices, religious practices, and status of women.

Hist 5519. Topics in Chinese History. (4 cr; prereq #) Farmer
Topics in recent Chinese history.

Hist 5521. Introductory Proseminar on the Meiji Revolution in Japan. (4 cr; prereq #: offered alt yrs) Marshall
Readings in English on the reforms from 1868 to 1912 and their economic, social, political, and cultural consequences.

Hist 5522. Current Issues in Japanese History. (4 cr; prereq #) Marshall
Readings in English on current interpretations and topics in Japanese history.

Hist 5561-5562-5563†. Ancient Greek History. (4 cr per qtr; prereq #) Kelly

Hist 5571-5572-5573†. Proseminar: Roman History. (4 cr per qtr; prereq #) J Evans

Hist 5610. Medieval European History and Its Historians. (4 cr) Bachrach, Hanawalt, W Phillips, Reyerson
Major historiographical debates in medieval European history; consideration of the types of sources available for addressing the historical problems and the various methodologies used.

Hist 5611, 5612, 5613. Medieval History. (4 cr per qtr; prereq 1 yr of medieval history or equiv, reading knowledge of French or German, #) Bachrach, Hanawalt, W Phillips, Reyerson

Hist 5616. Proseminar: Medieval Spain. (4 cr; prereq #) W Phillips
Review of secondary literature of history of medieval Spain from Visigothic period to Renaissance. Emphasizes Middle Ages.

Hist 5618. Spanish Paleography: Deciphering Handwriting of the 15th-17th Centuries. (4 cr; prereq #) C Phillips
Practical training in reading and handwriting of Spanish documents from the fifteenth through eighteenth centuries; essential for research in early Spain or colonial Spanish American.

Hist 5620. Selected Topics in Medieval History. (4 cr; prereq 1 yr medieval history or equiv, reading knowledge of appropriate foreign language(s), #) W Phillips
Topics in European and/or Mediterranean history from the fall of the Roman Empire through the end of the Middle Ages.

Hist 5630. Comparative Early Modern History. (4 cr; prereq #)
Critical examination of historical literature dealing with selected topics in early modern history, circa 1450-1750.

Hist 5631, 5632. Early Modern History. (4 cr; prereq #)
Two-quarter proseminar in early modern history: Review of pertinent secondary literature dealing with various processes of global integration circa 1450-1700 and with the comparative study of different regions. Reading knowledge of at least one foreign language required.

Hist 5640. Topics in Early Modern Europe. (4 cr; prereq #)

Hist 5641, 5642, 5643. Medieval English History. (4 cr; prereq #) Hanawalt
Survey of the major historiographical issues in medieval English history and of the types of primary source evidence that is used in studying English history.

Hist 5650. Early Modern Europe, 1450-1650. (4 cr; prereq #)
Readings in economic, intellectual, political and religious history; students emphasize (their choice) one of the following countries: France, Germany, Italy, the Low Countries, and Spain. List of countries to be considered will vary somewhat with the instructor.

Hist 5651-5652-5653†. English History: Tudor and Stuart Periods. (4 cr per qtr; prereq #) Lehmborg
Critical study of principal writings about English history. 5651: 1485-1558. 5652: 1558-1625. 5653: 1625-1689.

Hist 5671-5672-5673†. Modern England: 1783 to the Present. (4 cr per qtr; prereq #) Altholz

Hist 5715. Proseminar: Readings on European Women's History, 1450-1750. (4 cr; prereq #) Pomata
Survey of recent literature on the social history of European women and an introduction to bibliographical and archival resources.

Hist 5720. Introductory Proseminar in Contemporary Europe. (4 cr; prereq #)
Selected topics dealing with problems of interpretation and analysis in contemporary European history from the late 19th century to the Cold War.

Hist 5721-5722†. Europe in the 20th Century. (4 cr per qtr; prereq #) Munholland
5721: Background and impact of World War I. 5722: Interwar years and World War II.

Hist 5730. Proseminar in Middle East History: 16th to 19th Century. (4 cr) Farah
Topics, which vary widely, on Mamluk, Safavid-Qajar, and Ottoman era concerning relations with each other and outside world, to include political, diplomatic, and ideological orientations and conflicts; cultural and social trends; commerce; transformations due to Western impact, to secularization, and to modernization and colonial encroachments.

Hist 5735. Reading on European Women's History: 1750 to the Present. (4 cr; prereq #) Maynes
Selected themes in modern European women's history.

Hist 5756-5757†. Modern Greek Studies. (4 cr per qtr) Stavrou
Evolution of modern Greece from the middle of the 18th century to the present. 5756: Political, cultural, and socioeconomic factors that contributed to Greek nationalism and the establishment of independent Greece. 5757: Political and cultural developments in the 20th century.

Hist 5761-5762-5763†. Russian History. (4 cr per qtr; prereq reading knowledge of Russian, or German or French, #) Stavrou

Hist 5764, 5765, 5766. New Interpretations and Approaches in Russian History. (4 cr; prereq #) Noonan, Stavrou
An analysis of the new interpretations, methods and approaches which have revolutionized Russian history since the late 1980s. 5764: Focus on the medieval and early modern periods. 5765: Period from Peter the Great to the present. 5766: Students will write a substantial essay on a topic connected with the new history of Russia.

Hist 5784-5785. Diplomatic History of 19th- and 20th-Century Europe. (4 cr per qtr; prereq #) Kieft
5784: From 1815 to 1914. Historical literature on the Congress of Vienna, unification of Italy and Germany, Bismarck alliance system, other events. 5785: 1914 to present. World War I, Paris Peace Conference, origins of World War II, causes of the Cold War.

Hist 5791-5792†. Social History of Modern Europe Since 1750. (4 cr per qtr; prereq #) Rudolph

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Hist 5793, 5794. Readings in European Economic History: 1750 to the Present. (4 cr; prereq #) Good

Selected topics in economic development of modern Europe. 5793: Europe's rise in world economy, England's industrial revolution; uneven development within Europe. 5794: late 19th-century capitalism and imperialism, interwar economic instability, post-World War II economic miracle in Western Europe, continuity and change in Eastern Europe.

Hist 5797. Methods of Historical Demography. (4 cr; prereq #) McCaa, Ruggles
Analysis of past population and its relation to other historical developments. Birth, marriage and the family, household structure, diseases, death, impact of industrialization and urbanization.

Hist 5801-5802†. 17th- and 18th-Century American History. (4 cr per qtr; prereq #; offered alt yrs) Menard, O'Brien

Hist 5807. Research in U.S. Political History. (4 cr, prereq 5805 or 5806 or #) Howe

Hist 5816. The Beginnings of American Politics. (4 cr; prereq #) Howe
Development of American political institutions, behavior, and culture from the colonial beginnings through the American Revolution and the ratification of the federal constitution. Emphasis on the connections between politics, society, and American culture.

Hist 5817, 5818. 19th-Century U.S. Political History. (4 cr; prereq #) Howe
Readings about the history and historiography of 19th-century American politics; emphasis on the social analysis of politics, 1789 to 1850.

Hist 5821-5822†. American History in 20th Century. (4 cr per qtr; prereq #)

Hist 5831-5832†. American Political and Constitutional History. (4 cr per qtr; prereq #) Murphy
Dimensions of constitutional politics in the American experience. 5831: Late 18th and 19th century. 5832: The 20th century.

Hist 5841, 5842. American Economic History. (4 cr per qtr; prereq #) Green

Hist 5844, 5845. American Labor History. (4 cr per qtr; prereq #) Berman
Readings in the classics of American labor history literature. Research methods and materials in labor history.

Hist 5854, 5855. Themes in American Social History. (4 cr)
Historical literature on U.S. social history, including historical demography, family history, and urban history. Historiographical or research paper required.

Hist 5857-5858. Proseminar: Social History of American Women. (4 cr per qtr; prereq #) SEvans, Norling
Historical literature, conceptual frameworks, and methodological problems in the history of American women from 1600 to the present.

Hist 5861-5862†. History of American Immigration. (4 cr per qtr; prereq #; offered alt yrs) Vecoli

Readings in historiography of immigration and ethnic groups.

Hist 5864, 5865. Afro-American History Proseminar. (4 cr; prereq #) Dillard

Hist 5871-5872†. Intellectual History of United States in 19th, 20th Centuries. (4 cr per qtr; prereq #) Noble

Writings of current scholars of American culture that express paradigmatic conflicts in the study of ideas and values.

Hist 5881, 5882. American Foreign Relations. (4 cr per qtr; prereq #) Brauer

Intensive readings in the historiography of American foreign relations, with emphasis on American imperialism, domestic sources of foreign policy, and international political, economic, and cultural relations. 5881: To 1900. 5882: Since 1900.

Hist 5890. American Indian Social History. (4 cr; prereq #) O'Brien

Social history of American Indian groups across time and space; historical demography, gender roles, interracial relationships, urbanization, and internal differences within Indian communities.

Hist 5901, 5902. Latin American History. (4 cr; prereq reading knowledge of Spanish, #) McCaa, Valdés

Introduces beginning graduate and advanced undergraduate students to major historical writings on various Latin American themes.

Hist 5910. Topics in American History. (4 cr)

Selected topics of interest to students of history and of civilization in the United States and its constituent elements. Cultural, social, economic, and political concerns.

Hist 5920. Topics in Comparative Women's History. (4 cr; prereq #) Pomata, Waltner

Cross-cultural and thematic explorations in the history of women, including women, markets, and agriculture; women in colonialism; women and class formation; women and religion; prostitution; the medical construction of gender; women's narratives as historical sources.

Hist 5930. Topics in Comparative Third World History. (4 cr; prereq #) Isaacman, Kopf, Schwartz
Recurring themes in Third World history.

Hist 5931. History of Africa: Social Grouping, Conflicts. (4 cr; prereq #) Isaacman

The rise of social differentiations in precolonial and contemporary African societies; how this process affects formation and development.

Hist 5932. African Historiography. (4 cr; prereq #) Isaacman

Critique of written sources of African history and the history of the peoples of African descent in the Americas from antiquity to the present.

Hist 5939. Methodology for the Study of African History. (4 cr; prereq #) Isaacman
The process of historical reconstruction in nonliterate societies; collection and interpretation of oral traditions.

Hist 5960. Research in Quantitative History. (4 cr; prereq 5011 or 5797, #) Ruggles
Workshop to expand on projects completed in 5011, 5797, or other history courses.

Hist 5961, 5962. Expansion of Europe. (4 cr per qtr; prereq #) C Phillips, W Phillips

Hist 5970. Directed Studies. (1-15 cr per qtr; prereq #)
Qualified senior and graduate students may register for work on tutorial basis. Guided individual reading or study.

Hist 5990. Directed Research. (1-15 cr per qtr; prereq #)
Qualified senior and graduate students may register for work on tutorial basis.

History of Medicine (HMed)

Medical School

Staff—Chair and Director of Graduate Studies, Leonard G. Wilson, 510 Diehl Hall;
Director of Undergraduate Studies, John M. Eyler, 511 Diehl Hall

Professor: Wilson

Associate Professor: Eyler

Courses offered by the department explore the development of medical knowledge, institutions, and practices; the history of diseases; and the place of medicine in Western intellectual and social history.

Minor Sequence

Minor Requirements—12 cr in introductory survey courses selected from 3401, 3402, 3403, 5400, 5401, 5402.

8 cr selected from 3xxx or 5xxx classes or seminars

The minor program must be approved by the director of undergraduate studies.

HMed 3040. Human Disease and the Environment in History. (4 cr) Eyler
The changing relationship of human health and the environment. The course will examine the ways in which human-induced environmental changes have altered our experiences with disease and our prospects of health.

HMed 3401. Early History of Medicine: The Classical Tradition. (4 cr) Wilson
The early history of medicine from its emergence in the ancient civilizations to the mid-seventeenth century, including the relation of medical thought to prevalent diseases and to anatomical and physiological knowledge.

HMed 3402, 3403. Health Care in Modern History. (4 cr per qtr) Eyler
Intellectual and social history of European and American medicine and health care. 3402: mid-seventeenth century to mid-nineteenth century. 3403: since the mid-19th century.

HMed 5002. Public Health Issues in Historical Perspective. (4 cr, §PubH 5002) Eyler
Evolution of major recurring problems and issues in public health including the environment and health, food customs and nutrition, control of alcohol and drugs, venereal diseases and public policy, human resources regulation, and relationship of science to promotion of health.

HMed 5035. The Germ Theory and the Medical Profession. (4 cr, §Hist 5035) Eyler
Formulation of the germ theory of disease and its consequences for medical procedures (therapeutics, surgery, management of hospitals), for public health programs, and for the structure and prestige of the medical profession.

HMed 5045. Medical Profession in America. (4 cr, §Hist 5045) Eyler
American medical profession in 19th and 20th centuries; role of institutions, influence of social and moral values, and consequences of specialization and scientific innovation.

HMed 5120-5130. Historical Topics: Medicine and the Modern State. (4 cr per qtr [16 cr max], §Hist 5940-5950) Eyler
Topics vary each year. Emphasis on mid-18th century to present.

HMed 5400, 5401, 5402. Introduction to the History of Medicine. (4 cr per qtr) Wilson
5400: Early history of medicine to 1650. *5401:* Medicine during the scientific revolution, 1650-1830. *5402:* Medicine since 1830.

HMed 5410-5411-5412†. Seminar: Emergence of Modern Medicine, 1750-1900. (3 cr per qtr; prereq #)
Reading of original medical observations and ideas and of historical writings pertaining to them. Each student submits research paper at end of third quarter.

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History of Science and Technology (HSci)

Institute of Technology

Staff—*Director*, Alan E. Shapiro, 354C Physics; *Director of Undergraduate Studies*, Sally Gregory Kohlstedt, 123 Pillsbury Hall; *Director of Graduate Studies*, Arthur L. Norberg, 4-213 EE/CSci

Professors: Kohlstedt, Layton, Norberg, Seidel, Shapiro, Stuewer

Associate Professor: Beatty

The history of science and technology concerns the origins and development of science and technology and their relations to the social, cultural, and philosophical currents of their time. Courses may be taken to support existing majors as well as to broaden knowledge of the nature and development of science and technology; a minor is also available. Many history of science and technology courses satisfy Twin Cities campus CLE requirements and former CLA general education requirements.

Minor Sequence

Minor Requirements—16 cr of 3xxx-5xxx courses, at least 4 cr of 5xxx

The minor program must be approved by the director of undergraduate studies.

HSci 1711, 1712, 1713. Technology and Western Civilization. (4 cr per qtr, §3711, §3712, §3713) Layton
History and sociocultural relations of Western technology. *1711*: The relations of technology to culture from the Bronze Age to the Middle Ages. *1712*: Technology and science in the Renaissance; technology and the scientific revolution; the Industrial Revolution. *1713*: Diffusion of the Industrial Revolution; technological development and its impact on industry, government, and society of the 19th and 20th centuries, especially in the United States.

HSci 1811, 1812, 1813. Introduction to History of Science. (4 cr per qtr, §3811, §3812, §3813) Shapiro
1811: Babylonian and Egyptian science; Greek natural philosophy, mathematics, astronomy, and biology; the Aristotelian world; decline and transmission of Greek science. *1812*: Medieval background; the scientific revolution; the “experimental philosophy”; dissecting and describing nature; anatomy, circulation, and respiration; Copernican revolution; physical world of Kepler, Galileo, Descartes, and Newton; science and the popular imagination. *1813*: 19th and 20th centuries; Newtonian triumph, romantic reaction, and modern revolution; the aether, electrical and optical, to Einstein; history of the earth; evolution before and after Darwin; nuclear physics and nuclear weapons.

HSci 3201, 3202. History of Biology. (4 cr per qtr, §5201, §5202) Beatty
Scientific, philosophical, and social factors in the development of biology; changing styles of biological reasoning, and changing relationships between the biological and physical sciences. *3201*: Biology from antiquity through the early modern period. *3202*: Biology in the 19th and 20th centuries.

HSci 3331. Technology and American Culture. (4 cr, §5331) Norberg
Historical survey of the development of American technology in its cultural and intellectual context from the colonial period to the present. Includes transfer of technology to America; establishment of an infrastructure promoting economic growth; relationship among government, corporate, and academic influences; and the social response of technological developments.

HSci 3332. Science and American Culture. (4 cr, §5332) Kohlstedt
Historical survey of the development of American science, including the transfer of science to America; development of indigenous traditions for the pursuit of science; establishment of an infrastructure for education and research; response of the public to scientific development; and the relationship among government, corporate, and academic scientists.

HSci 3401. Engineering Ethics in Historical Perspective. (4 cr, §5401)
Strategies for dealing with ethical issues. Case studies include the Challenger and DC-10 disasters.

HSci 3402. Science, Ethics, and Values. (4 cr) Seidel
A historical approach to the questions: Is there a scientific ethic? What ethical standards govern scientific and technological work in the late 20th century?

HSci 3502. History of High-Tech Weapons. (4 cr) Seidel
Role of high-technology weaponry in imperialism, the arms race, and civil and military contexts. Covers 1500-1990.

HSci 3711, 3712, 3713. Technology and Western Civilization. (4 cr per qtr, §1711, §1712, §1713)
For description, see HSci 1711, 1712, 1713.

HSci 3811, 3812, 3813. Introduction to History of Science. (4 cr per qtr, §1811, §1812, §1813)
For description, see HSci 1811, 1812, 1813.

HSci 3825. The Nuclear Age. (4 cr, §5825) Stuewer
Origin, development, and social impact of nuclear physics from beginning of 20th century through post-World War II era. Experimental discoveries, theoretical models of the nucleus; refugees from Nazism and Fascism; construction and use of atomic bomb; Oppenheimer and McCarthyism.

HSci 5050. Special Topics in History of Science. (4 cr) Beatty, Kohlstedt, Norberg, Seidel, Shapiro
Topics specified in *Class Schedule*.

HSci 5060. Special Topics in History of Technology. (4 cr) Layton, Norberg, Seidel
Topics specified in *Class Schedule*.

HSci 5201, 5202. History of Biology. (4 cr per qtr, §3201, §3202)
For description, see HSci 3201, 3202.

HSci 5242. The Darwinian Revolution. (4 cr; prereq Biol 1009 or Biol 1101 or #) Beatty
Pre-Darwinian conceptions of nature; development and reception of Darwin's theory of evolution by natural selection; also the broader context of the Darwinian Revolution, including religious thought, political theory, and views about proper scientific methodology.

HSci 5321. History of Computing. (4 cr, §3321) Norberg
Developments in last century: factors affecting evolution of hardware and software, growth of the industry and its relation to other business areas, and changing relationships resulting from new data gathering and analysis techniques.

HSci 5331. Technology and American Culture. (4 cr, §3331)
For description, see HSci 3331.

HSci 5332. Science and American Culture. (4 cr, §3332)
For description, see HSci 3332.

HSci 5502. History of High Tech Weapons. (4 cr, §3502)
For description, see HSci 3502.

HSci 5511. History of Scientific Methodology. (4 cr) Beatty
Changing views of the aims and methods of science as seen through the eyes of philosopher-scientists of the past; how notions such as "explanation," "evidence," "probability," etc., have changed.

HSci 5555. Women, Gender, and Science. (4 cr) Kohlstedt
Three intersecting themes are analyzed in their changing historical context, from 1700s to the present: participation of women in scientific activities, sexual and gendered concepts in modern sciences, and impact of science on conceptions of sexuality and gender.

HSci 5681. Engineering in History. (4 cr) Layton
Civil and mechanical engineering since the Industrial Revolution; the complementary roles played by structures and machines in the history of technology. The interaction of structure with aesthetics and of machines with science.

HSci 5825. The Nuclear Age. (4 cr, §3825)
For description, see HSci 3825.

HSci 5924. History of 19th-Century Physics. (4 cr, §Phys 5924; prereq general physics or #) Stuewer
Experimental and theoretical discoveries in 19th-century physics (wave theory of light, atomic theory, heat, thermodynamics and statistical mechanics, electromagnetism and field theory) within context of educational, institutional, and political developments in Europe and the United States.

HSci 5925. History of 20th-Century Physics. (4 cr, §Phys 5925; prereq general physics or #) Stuewer
Experimental and theoretical discoveries in 20th-century physics (birth of modern physics, special theory of relativity, old and new quantum theories) within context of educational, institutional, and political developments in Europe and the United States.

HSci 5970. Directed Studies. (1-15 cr per qtr; prereq #)
Guided individual reading or study.

HSci 5990. Directed Research. (1-15 cr per qtr; prereq #)

Honors Program

Staff—*Director*, Gordon Hirsch, 115 Johnston Hall

The CLA Honors Program is described fully in the first section of this bulletin. Honors course offerings consist of departmental honors courses and college honors courses.

Departmental Honors Courses—There are honors sections of many regular classes. Most departments also offer special seminars, tutorials, internships, or independent research projects for honors students. Departmental honors courses are designated by an H following the course number. See departmental listings in this bulletin for specific honors offerings. A complete list of honors courses for the current quarter is available in 115 Johnston Hall.

College Honors Courses—Distinguished members of the faculty in CLA and other colleges on the Twin Cities campus are selected to teach Honors Seminars (for juniors and seniors) and Colloquia (for freshmen and sophomores). Course topics are drawn from the research specialization of the instructor and include subject matter not treated in the regular curriculum of the college. The courses are often interdisciplinary and experimental in nature. Descriptions of honors seminars and colloquia for the current quarter are available in 115 Johnston Hall.

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Honors Colloquium (HCol)

HCol 1001. Honors Colloquium: Introduction to the Arts and Sciences. (2 cr; prereq fr, honors div regis; S-N only)

Discussions led by faculty representing a variety of disciplines in the College. Introduction to the problems these disciplines address and the methods they use.

HCol 1010-1090. Honors Colloquium. (2-4 cr per qtr; prereq fr or soph, honors div regis)
Topics change each quarter.

HCol 1970. Directed Studies. (1-4 cr per qtr; prereq fr or soph, honors div regis, #, Δ, □)
For additional research related to a colloquium topic.

Honors Seminar (HSem)

HSem 3010-3090. Honors Seminar. (2-4 cr per qtr; prereq jr or sr, honors div regis)
Topics change each quarter.

HSem 3970. Directed Studies. (1-5 cr per qtr; prereq jr or sr, honors div regis, #, Δ, □)
For additional research related to a seminar topic.

College of Human Ecology

The College of Human Ecology offers baccalaureate degree programs in the following areas: clothing design, design communication, family social science, food science, housing, human ecology, interior design, nutrition, and retail merchandising. Undergraduates may also pursue minors in family education and international studies and coursework in youth studies.

Degree programs and courses may be found in the *College of Human Ecology Bulletin*.

Credit for all courses listed in the *CLA Bulletin* and all courses approved for the Twin Cities campus liberal education curriculum (see current *Class Schedule*) may be applied toward CLA baccalaureate degrees and toward the CLA residency requirement.

In addition, CLA students may apply toward their degrees up to 28 credits of other University courses that are not part of the liberal education curriculum.

Humanities (Hum)

Staff—*Coordinator*, George Kliger, 243 Ford Hall

Assistant Professor: Kliger

Adjunct Faculty—*Professors*: Akehurst (French and Italian), Bachrach (History), Bagley (Educational Policy and Administration),

Hershbell (Classical and Near Eastern Studies), Jackson (Music), Kopf (History), Liberman (German), Munholland (History), Stavrou (History), Thayer (History), Tracy (History)

Humanities offers integrated study of areas of civilization and major humanistic problems, drawing mainly on primary sources in literature, philosophy, history, the arts, and relevant aspects of the human and natural sciences. This breadth of perspective provides an understanding of men and women as heirs to and creators of civilization, concerned with values and the development of the whole person. Humanities offers a variety of interdisciplinary courses and a minor in Humanities in the West.

Study Abroad—Students are encouraged to study overseas in a European culture and to integrate study abroad into their minor program. For information on options and procedures, see Foreign Study.

Minor Sequence

Minor Requirements—Six courses, for a total of 25 credits, as follows. One course from the Introduction to Western Civilization sequence (Hist 1031, 1032, 1033 or Hist 1031H, 1032H, 1033H) (5 credits); three courses from the European Heritage and Modern West sequences (12 credits); two additional 3xxx-5xxx Humanities courses (8 credits). The Minor program must be approved by the Humanities Curriculum Coordinator. Not more than one Humanities course in the Minor program may be 1xxx. Not more than one 3xxx-5xxx course in the Minor course program may be taken on a Directed Study, Directed Instruction or Independent Study basis. Not more than one 3xxx-5xxx course in the Minor program may be taken S-N. All courses must be completed with a grade of C or higher (exception: one course may be completed with a grade of S).

Eras of Western Civilization: The Modern West

Hum 1001. Humanities in the Modern West I. (4 cr, \$3001, \$Rhet 1301)

Eighteenth-century Europe. Old Regime through French Revolution and Napoleon; new science, Enlightenment, cult of sensibility; rococo, neoclassicism, incipient romanticism. Integrative study of works by creative figures such as Pope, Voltaire, Rousseau, Diderot, Goethe, Watteau, Boucher, Hogarth, David, Goya, Mozart, Haydn.

Hum 1002. Humanities in the Modern West II. (4 cr, §3002, §Rhet 1302)

Romanticism, liberalism, socialism; Industrial Revolution, materialism, cult of the individual and some counterstatements; realism, naturalism. Integrative study of works by creative figures such as Wordsworth, Byron, Adam Smith, Bentham, Marx, Mill, Stendhal, Flaubert, Ibsen, Dostoevsky, Delacroix, Courbet, Daumier, Beethoven, Berlioz, Liszt.

Hum 1003. Humanities in the Modern West III. (4 cr, §3003, §Rhet 1303)

Impact of science, especially evolution theory, on religious and humanistic thought; roots of existentialism; disorientation in modern culture; impressionism. Integrative study of works by creative figures such as Kierkegaard, Darwin, Nietzsche, Chekhov, Joyce, Mann, Manet, Monet, Renoir, Degas, Wagner, Debussy, Mahler.

Hum 1004. Humanities in the Modern West IV. (4 cr, §3004, §Rhet 3381)

Europe, 1914-1940. Ideas and forms of society and culture: Leninist, fascist-Nazi, Freudian, neo-orthodox. Expressionism, dada, surrealism. Integrative study of works by creative figures such as Lenin, Freud, Kafka, Eliot, Duchamp, Klee, Kollwitz, Dali, Picasso, Stravinsky, Schönberg, Bartók, Wright, Gropius.

Hum 1005. Humanities in the Modern West V. (4 cr, §3005)

The Western world, 1940-1970. Existentialism, "the absurd"; searches for identity, commitment; religious trends; influence of oriental spiritual traditions. Integrative study of selected works by such creative figures as Camus, Sartre, Ionesco, Bultmann, Watts, Pollock, Warhol, Beauvoir, Cage, Corbusier, Fellini.

Hum 3001. Humanities in the Modern West. (4 cr, §1001, §Rhet 1301; prereq jr or sr or #)

Meets with Hum 1001. Additional work for upper-level credit.

Hum 3002. Humanities in the Modern West II. (4 cr, §1002, §Rhet 1302; prereq jr or sr or #)

Meets with Hum 1002. Additional work for upper-level credit.

Hum 3003. Humanities in the Modern West III. (4 cr, §1003, §Rhet 1303; prereq jr or sr or #)

Meets with Hum 1003. Additional work for upper-level credit.

Hum 3004. Humanities in the Modern West IV. (4 cr, §1004, §Rhet 3381; prereq jr or sr or #)

Meets with Hum 1004. Additional work for upper-level credit.

Hum 3005. Humanities in the Modern West V. (4 cr, §1005; prereq jr or sr or #)

Meets with Hum 1005. Additional work for upper-level credit.

Eras of Western Civilization: The European Heritage

Hum 1111. European Heritage: Greece. (4 cr, §3111, §Rhet 3321)

Greek civilization; literary and artistic works that have influenced modern Western culture. Epic and lyric poetry, drama, architecture, sculpture, philosophy, religion; Homer, Hesiod, Aeschylus, Sophocles, Euripides, Aristophanes, Plato, Aristotle.

Hum 1113. European Heritage: Rome. (4 cr, §3113, §Rhet 3322)

Roman civilization of the late republic and empire; rise of Christianity. Literature, religion, philosophy, art, architecture. Integrative study of selected works influential in modern Western culture; Caesar, Lucretius, Virgil, Ovid, Seneca, Petronius, Augustine, Boethius.

Hum 1115. European Heritage: Middle Ages. (4 cr, §3115, §CICv 3950, §Rhet 3322)

Sixth to 14th centuries: growth of Christendom; monasticism; feudalism and courtly love; rise of towns and universities. Art and architecture: Byzantine, Romanesque, and Gothic. Music: Gregorian chant, minstrelsy, liturgical drama. Literature: epic, romance; Dante. Islam. Scholastic philosophy: Abelard, Aquinas.

Hum 1117. European Heritage: Renaissance, Reformation. (4 cr, §3117, §Rhet 3323)

Civilization in 15th- and 16th-century Italy; religious and cultural reaction in northern Europe. Scientific naturalism, individualism, humanism. Writings: Petrarch, Machiavelli, Castiglione, Erasmus, Luther, Calvin, Montaigne, Marlowe. Arts: Botticelli, Michelangelo, Leonardo, Raphael. Music: Dufay, Josquin, Lasso.

Hum 1119. European Heritage: Age of the Baroque. (4 cr, §3119)

Counter-Reformation, religious wars; mannerism, baroque Rome; Spanish golden age; new science, philosophy; Netherlandish culture; court of Louis XIV; German architecture, music. Authors: Calderón, Grimmelshausen, Descartes, Molière. Artists: Bernini, Borromini, El Greco, Rubens, Vermeer, Rembrandt. Composers: Palestrina, Monteverdi, Handel, Bach.

Hum 3111. European Heritage: Greece. (4 cr, §1111, §Rhet 3321; prereq jr or sr or #)

Meets with Hum 1111. Additional work for upper-level credit.

Hum 3113. European Heritage: Rome. (4 cr, §1113, §Rhet 3322; prereq jr or sr or #)

Meets with Hum 1113. Additional work for upper-level credit.

Hum 3115. European Heritage: Middle Ages. (4 cr, §1115, §Rhet 3322, §CICv 3950)

Meets with Hum 1115. Additional work for upper-level credit.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Hum 3117. European Heritage: Renaissance, Reformation. (4 cr, §1117, §Rhet 3323; prereq jr or sr or #)
Meets with Hum 1117. Additional work for upper-level credit.

Hum 3119. European Heritage: Age of the Baroque. (4 cr, §1119; prereq jr or sr or #)
Meets with Hum 1119. Additional work for upper-level credit.

Times, Places, Genres, Creative Figures, Major Works, Ideas, Issues, Themes

Intermediate Courses

Hum 3027. Lyric Song in Medieval and Renaissance Culture. (4 cr, §Mus 3027)
Cardamone-Jackson
Oral, popular, and courtly song traditions in sociocultural contexts. Status and roles of women. Analysis and criticism approached from different disciplinary perspectives.

Hum 3029. Music in the 20th Century. (4 cr, §Mus 3029) Cardamone-Jackson
Aural perception of modern styles; cultural perspective through primary source readings.

Hum 3101. Foundations of Modern Education. (4 cr, §5101, §EdPA 3101, §EdPA 5101)
Bagley
Background course for all other courses in history and philosophy of education. Analysis and interpretation of important elements in modern education derived from the Greeks, Romans, Middle Ages, and Renaissance.

Hum 3155. History of Western Educational Thought. (4 cr, §5155, §EdPA 3155, §EdPA 5155)
Bagley
Major educational classics of Western civilization: Plato, Aristotle, Cicero, Quintilian, Montaigne, Milton, Locke, Rousseau, and others.

Hum 3256. Aesthetics, Arts, and Society: France, 1848-1900. (4 cr; prereq jr or sr or #) Klinger
Major movements in painting, literature, and poetry in France during second half of 19th century. Aesthetic concepts of artists and their critics, in context of historical events and social and political changes.

Hum 3281, 3282, 3283. Intellectual and Cultural History of Modern Europe. (4 cr per qtr, §Hist 3281, 3282, 3283) Thayer
3281: Aesthetic, historical, and political thought from Vico to Arnold. 3282: Marxism and alternative contemporary critics of industrial and national Europe. 3283: Development of modern historicism and its critics; history and social sciences in the late 19th and 20th centuries.

Hum 3635. Hinduism: From Guptas to 13th Century. (4 cr, §SALC 3635, §SoAs 3625; prereq jr or sr or #) Klinger
Development of classical Hinduism in its multiple cultural and social manifestations, from the 4th to 13th century C.E. Art, religion, mythology, literature, philosophy, caste system.

Hum 3677. Self-Realization in 20th-Century Literature. (4 cr; prereq jr or sr or #) Klinger
Quest for meaning and process of individuation. Works by Conrad, Kate Chopin, Joyce, Sartre, Hesse.

Hum 3878. The Modern Greek Experience. (4 cr) Stavrou
Modern Greek literary and cultural contributions as symbols of national frustrations, aspirations, and accomplishments.

Hum 3910. Topics in the Humanities. (4 cr per qtr; prereq jr or sr or #)
Topics specified in *Class Schedule*.

Hum 3910H. Topics in the Humanities. Honors Course. (4 cr; prereq jr or sr or #)
Topics specified in *Class Schedule*.

Hum 3970. Directed Studies. (Cr ar; prereq #)
Guided individual reading or study.

Hum 3970H. Honors Course: Directed Studies. (Cr ar; prereq #)
Guided individual reading or study.

Advanced Courses

Hum 5101. Foundations of Modern Education. (4 cr, §3101, §EdPA 3101, §EdPA 5101)
Bagley
Meets with Hum 3101. Additional work for upper-level credit.

Hum 5155. History of Western Educational Thought. (4 cr, §3155, §EdPA 3155, §EdPA 5155)
Bagley
Meets with Hum 3155. Additional work for upper-level credit.

Hum 5304. Theories of Ideology: Philosophical Views. (4 cr; prereq jr or sr or grad or #) Klinger
Explores leading contributions to an understanding of nature and function of ideology. Representative theories may include those of Marx, Nietzsche, Freud, Mannheim, Althusser, Foucault, Habermas, and feminist theories.

Hum 5837. Nietzsche as Cultural Critic. (4 cr; prereq jr or sr or grad or #) Klinger
Nietzsche's contributions to philosophy, psychology, and criticism of religion, culture, and society.

Hum 5910. Topics in the Humanities. (4 cr; prereq jr or sr or grad)
Topics specified in *Class Schedule*.

Hum 5910H. Honors Course: Topics in the Humanities. (4 cr)
Topics specified in *Class Schedule*.

Hum 5970. Directed Studies. (Cr ar; prereq jr or sr or grad, #)
For description, see Hum 3970.

Hum 5970H. Honors Course: Directed Studies. (Cr ar; prereq #)
Guided individual reading or study.

Individualized Studies Degree Program (B.I.S.)

Staff—*Coordinator*, Karen Murray, 220 Johnston Hall; *Advisers*, 220 Johnston Hall (612/624-8006)

The bachelor of individualized studies (B.I.S.) is an alternative degree program that provides certain types of flexibility not available in B.A. and B.S. programs. Rather than completing a major within a single field you focus your coursework on three smaller areas of concentration, one of which may consist of courses outside of CLA. The areas do not have to be related to each other, but the B.I.S. program proposal must include an explanation of your overall educational goals.

Working closely with a B.I.S. adviser, you develop an application that explains why your academic needs would best be met by an individualized program and lists the courses you propose to include in your program. The B.I.S. application must be approved by faculty advisers with expertise in your areas of concentration. Detailed information about the B.I.S. admission process is available from B.I.S. advisers.

Study Abroad—You are strongly encouraged to include an overseas academic experience as part of your undergraduate study. Early planning for study abroad is important so that resulting credits will fit integrally into your B.I.S. program. For programs and procedural information, see Foreign Study.

Foreign Languages Across the Curriculum (FLAC)—Your undergraduate career can be greatly enriched by including in your B.I.S. program courses taught in a language other than English. In some languages, it is possible to take an entire quarter's courses in a second language. For more information, see the Foreign Languages Across the Curriculum (FLAC) section in this bulletin.

Program Requirements

85 cr, including 75 cr of 3xxx or 5xxx courses, approved for the degree program. These credits must be divided into three areas of concentration, which may be departmental or interdepartmental in composition, with a minimum of 20 cr of 3xxx or 5xxx in each area. Up to 40 cr may be from outside CLA.

At least 45 cr in the B.I.S. program must be completed after admission.

A maximum of 20 cr of directed studies (3970 or 5970) and a maximum of 16 cr completed S-N may be included in a B.I.S. program.

One D grade in a 3xxx or 5xxx course may be counted in the B.I.S. program, provided it is balanced by a B or A grade in a 3xxx or 5xxx course in the same area of concentration. A maximum of two D grades in 1xxx courses may be counted.

The B.I.S. Writing Requirement is met with a ten-page analytic paper written in conjunction with a CLA course in the B.I.S. program.

The CLA upper-level composition requirement must be satisfied by taking a 3xxx composition course related to one of your liberal arts areas of concentration, selected in consultation with your B.I.S. adviser.

The CLA requirement of 28 3xxx and 5xxx cr outside the major does not apply.

Individually Designed Interdepartmental Major (IDIM)

Staff—*Coordinator*, Karen Murray, 220 Johnston Hall; *Advisers*, 220 Johnston Hall (612/624-8006)

The IDIM program enables students to fulfill the major program requirement for the B.A. degree through completion of an interdepartmental program of coursework focused on a theme of their own choosing, designed in consultation with faculty and staff advisers.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ‡—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

Thematic unity is a basic requirement of the IDIM program. Typical themes have been law and society, environmental policy studies, visual communications, and aspects of aging.

IDIM programs consist of three or four areas of concentration, which may be departmental or interdepartmental in composition.

Working closely with an IDIM adviser, you develop a program proposal that explains your academic goals and lists a set of courses appropriate for meeting these goals. Admission to the IDIM program is based on approval of your program by three faculty advisers with expertise in your areas of concentration.

Study Abroad—Study outside the United States can be an important component in this major. You are encouraged to decide on such study early in your major planning so that it can be integrated fully into your program theme. For information on options and procedures, see Foreign Study.

Foreign Languages Across the Curriculum (FLAC)—Many CLA departments offer courses in languages other than English; these courses can strengthen an I.D.I.M. program. In some languages, it is possible to take an entire quarter's courses in a second language. For more information, see the Foreign Languages Across the Curriculum (FLAC) section in this bulletin.

B.A. Major Sequence

Major Requirements—80 cr approved for the major program, distributed in three or four areas, with a minimum of 16 cr of 3xxx or 5xxx courses in each area. At least 60 of the 80 cr must be from 3xxx or 5xxx courses.

Senior project: minimum 3 cr, must be approved in advance by both faculty and staff advisers (part of the 80 cr total).

A minimum of 30 cr in the major must be completed after the program has been approved.

No more than 20 cr of directed study (3970 or 5970) may be applied toward the major.

A maximum of 15 cr at the 1xxx level and 15 cr at the 3xxx-5xxx level taken S-N may be applied to the major.

No course in which a grade of D has been earned may be applied toward the major.

The CLA requirement of 28 3xxx-5xxx cr outside the major does not apply.

Institute of Linguistics and Asian and Slavic Languages and Literatures (ILASLL)

The institute houses five principal units—East Asian Languages, Literatures, and Linguistics; Linguistics; Slavic and Central Asian Languages and Literatures; South Asian and Middle Eastern Languages and Cultures; and English as a Second Language—as well as the Minnesota English Center and the Program in Translation and Interpreting.

Staff—*Director*, to be named, 196 Klæber Court

Program Chairs: Bruce Downing (Ling, TrIn Director), Indira Junghare (SALC), Leonard Polakiewicz (SCALL), Elaine Tarone (ESL), Yu-shih Chen (EALL); *Directors of Undergraduate Studies*, Irina Corten (SCALL), Indira Junghare (SALC), Nancy Stenson (Linguistics), Yu-shih Chen (EALL)

Professors Emeriti: Barker (SAMELC), Donchenko (Slavic Languages), Kulesov (Slavic Languages), Sanders (Linguistics), Liu (Chinese), Mather (Chinese), Matsumoto (Japanese), Prokopov (Slavic Languages), Staneslow (SAMELC)

Professors: Bashiri (SCALL), Chen (EALL), Cohen (ESL), Gundel (Linguistics), Junghare (SALC), Tarone (ESL), Wang (EALL)

Associate Professors: Corten (SCALL), Downing (Linguistics), Hutchinson (Linguistics), Jahn (SCALL), Polakiewicz (SCALL), Stenson (Linguistics), Sztatowski (EALL)

Assistant Professor: Pradt (EALL)

East Asian Languages, Literatures, and Linguistics

East Asian languages, literatures, and linguistics deals with the languages and literatures of China and Japan. The unit offers degrees in two areas—Chinese and Japanese. Students may emphasize language and literature or language and linguistics. Programs are planned in consultation with advisers. Students considering graduate work should begin their planning early to ensure appropriate preparation. Interested students should contact the institute office at 192 Klæber Court.

General Education—Courses that have no language requirement are particularly suitable for nonmajors interested in East Asia and for satisfying liberal education requirements. These include Chn 1201, 3091, 3163, 3164, 3171, 3172, 3173, 3174, 3175, 3176, 3181, and Jpn 3163, 3164, 3165.

Study Abroad—The unit strongly encourages its majors and minors in Chinese and Japanese to spend some time, as much as a year if possible, living and studying in East Asia. The annual Summer Chinese in Tianjin (China) Program is particularly recommended for Chinese majors. This program offers 15 University of Minnesota quarter credits for the summer. Individual study experiences can be arranged in China, Taiwan, and Japan. For information on options and procedures, consult the undergraduate adviser in East Asian Languages, Literatures, and Linguistics or see Foreign Study in this bulletin.

B.A. Major Sequence—Chinese

Required Preparatory Courses—1011-1012-1013 or 1014-1015, 3021-3022-3023

Major Requirements—Language sequences: 3031-3032-3033 and 3041-3042-3043 (both sequences may be taken concurrently)

Literature/linguistics courses: One each from groups 1 and 2; and a combined total of three from groups 3 and 4, with at least one from each of the two groups.

- 1) 3171, 3172
- 2) 5251, 5252
- 3) 3091, 3163, 3164, 3173, 3174, 3175, 3176
- 4) 5102, 5103, 5104, 5704

Major Project: Students enrolled in a 3xxx or 5xxx literature course or 5xxx linguistics course may complete the major project concurrently with the same instructor. For more information, consult the undergraduate Chinese program brochure or director of undergraduate studies.

Minor Sequence—Chinese

Required Preparatory Courses—1011, 1012, 1013 or 1014-1015

Minor Requirements—3021, 3022, 3023

Two additional 3xxx or 5xxx Chinese literature courses, of which only one may be in directed or independent study

Program approval must be obtained from the unit.

B.A. Major Sequence—Japanese

Required Preparatory Courses—1011-1012-1013, 3021-3022-3023

Major Requirements—3031, 3032, 3033, 3051, 3052, 3053

3451 (qualified students may substitute 5451 or 5452)

3163 or 3164

A minimum of two additional courses, including at least one of 5xxx, from the following: 3161, 3162, 3163, 3164, 3165, 5041, 5166, 5251, 5361, 5362, 5363, 5364, 5451, 5452

Major project: normally completed in conjunction with a 5xxx course chosen from above. Students should choose 5xxx course(s) with this purpose in mind.

Minor Sequence—Japanese

Required Preparatory Courses—1011, 1012, 1013

Minor Requirements—3021, 3022, 3023

Two additional 3xxx or 5xxx Japanese courses, of which only one may be in directed or independent study

Program approval must be obtained from the unit.

Chinese (Chn)

Chn 1011f, su-1012w, su-1013s, su. Beginning Modern Chinese. (5 cr per qtr)
Speaking and reading modern standard Chinese through structured practice.

Symbols and abbreviations: f, w, s, su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ‡—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / —In prerequisite listings, comma means “and” / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Chn 1014f-1015w. Accelerated Beginning Chinese. (5 cr per qtr)
Same content as Chn 1011-1012-1013, concentrating on pronunciation and Chinese characters. For students with a dialect background or prior experience.

Chn 3021f,su-3022w,su-3023s,su.
Intermediate Modern Chinese. (5 cr per qtr; prereq 1013)
Modern standard Chinese skills developed further through conversation, writing, and reading.

Chn 3031f-3032w-3033s. Introductory Classical Chinese. (4 cr per qtr; prereq 3023 or #)
Extensive training in reading classical Chinese texts and analyzing classical Chinese grammar.

Chn 3041f, 3042w, 3043s. Third-Year Modern Chinese. (4 cr per qtr, §5041-5042-5043; prereq 3023 for 3041; 3041 for 3042; 3042 for 3043)
3041: Reading and analysis of 20th-century texts. 3042, 3043: Reading and analysis of vernacular texts.

Chn 3051su, 3052su. Advanced Chinese Conversation and Composition. (4 cr per qtr, §5051, §5052; prereq 3023 or #)
Conversation and pronunciation. Exercises in composition and translation. English into Chinese.

Chn 3091. Filmic Construction of Modern Identity in China. (4 cr)
A survey of important films made after the Cultural Revolution with a special emphasis on the critically acclaimed “Fifth Generation” filmmakers, who began producing films in the 1980s.

Chn 3163. 20th-Century Chinese Literature in English Translation I (Pre-1949 Period). (4 cr)
Main trends in Chinese literature from May 4th period (circa 1919) to 1949. Knowledge of Chinese not required. Background in modern Chinese history desirable.

Chn 3164. 20th-Century Chinese Literature in English Translation II (Post-1949 Period). (4 cr)
Main trends in Chinese literature from 1949 to the present. Knowledge of Chinese not required.

Chn 3171-3172. Introduction to Chinese Literature in Translation I-II. (4 cr ea)
Selected representative literary works from 600 B.C. to the present.

Chn 3173-3174. Chinese Poetry in English Translation I-II. (4 cr ea)
Introduces students with little or no knowledge of Chinese language or culture to the major themes, genres, and technical conventions of Chinese poetry from the Classic Age of Poetry to the modern period.

Chn 3175-3176. Chinese Fiction in Translation I and II. (4 cr ea)
Offers a comprehensive introduction to narrative and fictional traditions in pre-modern China.

Chn 3970. Directed Studies. (1-15 cr per qtr; prereq #, Δ, □)
Guided individual reading or study.

Chn 5041f-5042w-5043s. Third-Year Modern Chinese. (4 cr per qtr, §3041-§3042-§3043; prereq 3023 for 5041; 5041 for 5042; 5042 for 5043)
For description, see Chn 3041-3042-3043; additional work required.

Chn 5101. Contemporary Chinese Writing. (4 cr; prereq 3041)
Reading, translation, and discussion of representative works of Chinese authors since 1976.

Chn 5102. Readings in Modern Chinese Fiction. (4 cr; prereq 3043 or #)
Reading and analysis of selected short fiction from 1918 to the present.

Chn 5103. Premodern Chinese Prose. (4 cr; prereq 3031, 3041)
Reading of representative Chinese texts of the premodern periods.

Chn 5105. Readings in Chinese Vernacular Fiction. (4 cr; prereq 3041)
Selections from great works of traditional fiction including short stories and novels such as *Journey to the West* and *Dream of the Red Chamber*.

Chn 5251. Structure of Standard Chinese. (4 cr; prereq 1013, #; offered alt yrs with 5252)
Analysis of modern standard Chinese grammar.

Chn 5252. History of the Chinese Language. (4 cr; prereq 3031; Ling 3601 highly recommended; offered alt yrs with 5251)
Sources and methods in study of historical development of the Chinese language.

Chn 5451, 5452. Studies in Chinese Linguistics. (4 cr per qtr; prereq jr or #)
Grammatical and pragmatic structures in Chinese.

Chn 5460. Topics in Chinese Literature. (4 cr per qtr; prereq 3031)
Critically examine texts from all periods of Chinese civilization and genres—poetic, expository, narrative, and dramatic. Topics announced in advance.

Chn 5704. Early Chinese Poetry. (4 cr; prereq 5165 or #)
Selected major poets and poetic forms from first anthologies through the 12th century.

Chn 5706. Chinese Philosophical/Historical Texts. (4 cr; prereq 3033 or 3043, one 5xxx course in premodern Chinese)
Readings from major texts in Chinese philosophical and historical tradition.

Chn 5707. Chinese Religious Texts. (4 cr; prereq 3033, one 5xxx course in premodern Chinese)
Traditional religious systems of China through selected texts; State Confucianism (*Record of Rites*, *Chun-giu fan-lu*), Sectarian Taoism (Celestial Masters, Mao-shan, Quan-zhen), and Buddhism (Tiantai, Pure Land, Chan, and Esoteric).

Chn 5970. Directed Studies. (1-4 cr per qtr; prereq Δ)
Guided individual reading or study.

Japanese (Jpn)

Jpn 1011f,su-1012w,su-1013s,su. Beginning Japanese. (5 cr per qtr)
Reading, writing, and speaking Japanese.

Jpn 3021f,su-3022w,su-3023s,su. Intermediate Japanese. (5 cr per qtr; prereq 1013 for 3021; 3021 for 3022; 3022 for 3023 or #)
Foundation for reading knowledge of Japanese. Review and pattern drill.

Jpn 3031f-3032w-3033s. Third-Year Japanese. (5 cr per qtr; prereq 3023)
Hearing, speaking, reading, and writing Japanese. Development of reading proficiency in modern Japanese prose and poetry. Formal written Japanese.

Jpn 3051f, 3052w, 3053s. Advanced Japanese Conversation and Composition. (4 cr per qtr, \$5051, \$5052, \$5053; prereq 3033 or #)
Verbal expression, oral and written; grammar review; idioms and nuances; short compositions, correspondence.

Jpn 3161. Modern Japanese Literature and Western Culture. (4 cr)
Reading of modern Japanese novels in translation by authors significantly influenced by the impact of Western culture after 1900; how these writers reacted and the consequences on the development of modern Japanese fiction.

Jpn 3163. Traditional Literature of Japan in English Translation. (4 cr)
Intellectual, social, and aesthetic traditions of prose and poetry. Reading knowledge of Japanese not required.

Jpn 3164. Modern Japanese Literature in English Translation. (4 cr)
Twentieth-century Japanese literature examined in context of traditional expression. Knowledge of Japanese not required.

Jpn 3165. Japanese Performance Arts. (4 cr)
A survey of Japanese performance traditions, with emphasis on Noh, Kabuki, and Bunraku, in their literary and cultural contexts, and the relationship between these traditions and the evolution of avant-garde performance practices.

Jpn 3166. Japanese Film. (4 cr)
Themes, stylistics, and genres of Japanese cinema explored in the works of both classic directors (Kurosawa, Mizoguchi, Ozu) and more recent filmmakers (Nakajima, Itami, Norita).

Jpn 3451. Introduction to Japanese Linguistics. (4 cr; prereq 3023 or #)
Basic issues in the study of form, meaning, and their interrelationship in the Japanese language.

Jpn 3970. Directed Studies. (1-15 cr; prereq #, Δ, □)
Guided individual reading or study.

Jpn 5051, 5052, 5053. Advanced Japanese Conversation and Composition. (4 cr per quarter, \$3051, \$3052, \$3053; prereq 3033 or #)
Verbal expression, oral and written; grammar review; idioms and nuances; short compositions, correspondence.

Jpn 5166. Literature by 20th-Century Japanese Women. (4 cr; prereq 3031 for Japanese majors)
Analysis of fiction and nonfiction writings by 20th-century Japanese women.

Jpn 5251. History of Japanese Language. (4 cr; prereq 3033 or 5451 or #; offered alt yrs)
Development of Japanese grammar from classical to modern language.

Jpn 5361, 5362. Readings in Modern Japanese Literature I. (4 cr per qtr; prereq 3031)
Traditionalist and aesthetic authors of 19th- and 20th-century Japan.

Jpn 5363. Readings in Modern Japanese Literature II. (4 cr per qtr; prereq 3031)
Realist, naturalist, and humanist authors of 19th- and 20th-century Japan.

Jpn 5451. Structure of Japanese: Syntax/Semantics. (4 cr; prereq 3023, Ling 3001 or #; offered alt yrs)
Analysis of structure and meaning of Japanese sentence patterns.

Jpn 5452. Structure of Japanese: Phonology/Morphology. (4 cr; prereq 3023, Ling 3001 or #; offered alt yrs)
Generative and nongenerative approaches to Japanese sound and word structures.

Jpn 5453. Structure of Japanese—Discourse/Conversational Analysis. (4 cr; prereq 3023, Ling 3001 or #)
Analysis of Japanese written texts and conversations. Emergence of grammar in discourse, discourse/conversational structural units, patterns genre, strategies, style, and sociolinguistic variables.

Jpn 5460. Topics in Japanese Literature. (4 cr; prereq 3033)
Japanese literature in the context of culture and intellectual history.

Jpn 5471. Research Methods. (4 cr; prereq 3033)
Philological and textual research in Japanese sources.

Jpn 5650. Proseminar: Japanese Linguistics. (4 cr per qtr [12 cr max]; prereq 5451 or #; offered alt yrs)
Selected topics from the syntax, pragmatics, and lexicon of Japanese and/or comparative English and Japanese.

Jpn 5970. Directed Studies. (1-15 cr; prereq #, Δ, □)
Guided individual reading or study.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ‡—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means “and” / UC—University College (formerly CEE)

Linguistics (Ling)

Linguistics is the scientific study of human language. Courses in the undergraduate linguistics curriculum explore the principles governing the structure of natural languages, how language is used in human social interaction, how languages are acquired by children and adults, and how they change over time.

General Education—Courses that may be of interest to nonmajors include 1005, 3001, 3101, 3301, 3601, 3812, 5002, 5301, 5601,

B.A. Major Sequence

Major Requirements—3001 or 5001, 3301 or 5301, 3601 or 5601, 3971; and Option 1—5201, 5302, 12 additional cr in 3xxx or 5xxx linguistics courses with no more than 8 in any one area, such as phonology or syntax, *or* Option 2—5002, 16 additional cr in 3xxx or 5xxx linguistics courses with no more than 12 in any one area excluding 5201 and 5302. Students intending to pursue graduate study in linguistics are advised to select Option 1. Related courses in other departments may be applied to the major with the approval of the director of undergraduate studies.

At least seven of the preceding courses must be taken A-F. Three yrs college study in one foreign language or two years in one and one year in a second (requirement may be satisfied by examination).

One course in the history and/or structure of one language studied. If such a course is not available, Ling 5741 or a similar course may be taken with the approval of the director of undergraduate studies.

For the upper-level writing course, Comp 3012, Comp 3015, or Comp 3027 is recommended.

Minor Sequence

Minor Requirements—Option 1: 3001, 5002, two additional courses; Option 2: 3001, 3301, 5201, 5302

The minor program must be approved by the director of undergraduate studies.

Ling 3001. Introduction to Linguistics. (5 cr, §5001) Phonetics, phonology, morphology, syntax, semantics, and historical-comparative linguistics; language learning and psychology of language; linguistic universals; language in society.

Ling 3001Hf. Honors Course: Introduction to Linguistics. (5 cr, §3001, §5001; prereq honors regis or #) For description, see Ling 3001.

Ling 3101. Languages of the World. (4 cr; prereq 1001 or 3001 or #)

Survey of language families of the world; classifying languages genetically and typologically; historical relationships among languages.

Ling 3301f. Phonetics. (5 cr, §5003, §5301; prereq 3001 or ¶13001 or #)

Production, acoustics, and perception of speech sounds; practice in production and perception.

Ling 3601. Introduction to Historical Linguistics. (4 cr, §5601; prereq 3001 or #)

Historical change in phonology, syntax, semantics and the lexicon; linguistic reconstruction; genetic relationship among languages.

Ling 3812. Ethnic Bilingualism in the United States. (4 cr; some knowledge of linguistics and a second language helpful)

The linguistic experience of American immigrants and ethnic minority groups, especially Asian Americans; public policy implications; field experience in bilingual communities.

Ling 3971. Senior Project. (1 cr; prereq linguistics major, #; S-N only)

Revision and/or expansion of a paper completed for a linguistics course.

Ling 5001. Introduction to Linguistics. (5 cr, §3001, §3005; prereq grad or #)

For description, see Ling 3001.

Ling 5002. Linguistic Analysis. (4 cr, §5201, §5302; prereq 3001 or 5001 or #)

Techniques for analyzing phonological, morphological, and syntactic data from a variety of languages; discovering, stating, and justifying generalizations; comparison of diverse languages.

Ling 5201w-5202s. Introduction to Syntax. (4 cr per qtr; prereq 3001 or 5001 or #)

5201: Principles of grammar construction and evaluation; syntactic phenomena in a variety of languages. 5202: Modern syntactic theory.

Ling 5211. Semantics. (4 cr; prereq 5202 or #)

Linguistic analysis and explanation of synonymy, analyticity, presupposition, and other meaning phenomena in natural language; alternative theories of meaning.

Ling 5212. Linguistic Pragmatics. (4 cr; prereq 5002 or 5201 or #)

Analysis and explanation of linguistic phenomena in relation to beliefs and intentions of language users; speech act theory, conversational implicature, shared knowledge and presupposition, topic-comment structure, discourse coherence.

Ling 5301f. Phonetics. (5 cr, §3301, §5003; prereq 3001 or 5001 or ¶15001 or #)

For description, see Ling 3301f.

Ling 5302w-5303s. Introduction to Phonology. (4 cr per qtr; prereq 3301 or 5301 or #)

5302: Formulation and evaluation of phonological descriptions and examination of phonological processes in a variety of languages. 5303: Current approaches to phonological theory; metrical, autosegmental, and lexical phonology.

Ling 5401-5402. Computational Linguistics. (4 cr per qtr; prereq 3001 or 5001 or #; some programming experience helpful; offered through UC) Methods and issues in computer understanding of natural language. Research paper or lab project.

Ling 5601. Introduction to Historical Linguistics. (4 cr, \$3601; prereq 3001 or 5001 or #) For description, see Ling 3601.

Ling 5701. Introduction to Second-Language Acquisition. (4 cr; prereq 5002 or 5201, 5302, 5003 or 3301 or 5301, #) Overview of second-language acquisition and processing; implications for second-language teaching.

Ling 5702. Second-Language Acquisition. (4 cr; prereq 5701 or #) Empirical and theoretical studies of second-language acquisition and processing.

Ling 5711-5712. Field Methods in Linguistics. (4 cr per qtr; prereq #) Techniques for obtaining and analyzing linguistic data from unfamiliar languages through direct interaction with a native speaker.

Ling 5720. Topics in Second Language Acquisition. (4 cr [may be repeated for credit]; prereq 3001 or 5001 or #) Topics specified in *Class Schedule*.

Ling 5741-5742. Linguistic Description of Modern English. (4 cr per qtr; prereq 3001 or 5001 or #) Word and sentence structure in present-day English.

Ling 5751. Conversation Analysis. (4 cr; prereq 3001 or 5001 or Spch 3401 or #) Discourse processes. Application of concepts through conversation analysis.

Ling 5752. Field Research in Spoken Language. (4 cr; prereq 5751 or Spch 5461 or #) Transcribing, coding, and analyzing spoken and recorded conversations.

Ling 5821. Sociolinguistics. (4 cr; prereq 3001 or 5001 or #) Social determinants of linguistic diversity, variability, and change; linguistic behavior and social control; methods of community-based linguistic research.

Ling 5910. Topics in Linguistics. (4 cr per qtr; prereq #)

Ling 5970. Directed Studies. (1-5 cr per qtr; prereq #) Guided individual reading or study.

Minnesota English Center (ESL)

Staff—*Acting Director*, Lynne Ackerberg, 106 Klæber Court; *Acting Curriculum Coordinator*, Susan Gillette

Associate Education Specialists: Susan Gillette, Adele Hansen, Eric Nelson

Assistant Education Specialists: Arlys Arnold, Lydia Fass, Ann Leake, Margaret Scheirman-Quiroz

Noncredit English language courses are for nonnative speakers of English, both international students and U.S. residents, including students who have been admitted or are applying for admission to the University or another institution or who want to improve their English for personal or business reasons. Students are placed in classes according to proficiency tests administered through the program office, 101 Klæber Court, or according to a TOEFL score.

ESL 0201. Basic Grammar. (No cr; prereq Δ; for full-time ESL students; 5 hrs per wk; special fee) Introduces and reviews basic grammatical structures emphasizing form, meaning, and use.

ESL 0206. Oral Skills. (No cr; prereq Δ; for students studying English full-time; 10 hrs per wk; special fee) Emphasizes listening and speaking in everyday social interaction; practice of basic structures in meaningful contexts in controlled speaking and writing activities.

ESL 0207. Basic Reading and Composition. (No cr; prereq Δ; for full-time ESL students; 10 hrs per wk; special fee) Reading short passages of limited difficulty. Emphasizes main ideas, vocabulary, reading speed, skimming, scanning, and writing fundamentals: content development, spelling, punctuation, paragraphing, and basic organization. Writing exercises and free writing.

ESL 0211. Lower Intermediate Grammar. (No cr; prereq Δ; for students studying English full-time; 5 hrs per wk; special fee) Reviews and adds to students' skills with basic structures, emphasizing increasingly complex structures, with attention to form, meaning, and use; practice of structures in controlled speaking and writing activities.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ‡—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

ESL 0216. Lower Intermediate Oral Skills. (No cr; prereq Δ ; for full-time ESL students; 10 hrs per wk; special fee)

Practice in speaking in structured and semi-structured situations with special attention to a limited set of language functions; emphasizes basic regularities of pronunciation. Practice in comprehending conversational English samples of limited length.

ESL 0217. Lower Intermediate Reading and Composition. (No cr; prereq Δ ; for full-time ESL students; 10 hrs per wk; special fee)

Reading for main and supporting ideas with increased speed. Vocabulary through study of word-formation and use of dictionary. Review of writing fundamentals; emphasizes organization. Writing as process including revision.

ESL 0221. Upper Intermediate Grammar. (No cr; prereq Δ ; for full-time ESL students and some academic students; see MEC for details; 5 hrs per wk; special fee)

Reviews and adds to repertoire of structures with attention to meaning, use, and form; emphasizes verb phrase and control of grammar in writing.

ESL 0226. Upper Intermediate Oral Skills. (No cr; prereq Δ ; for full-time ESL students; 10 hrs per wk; special fee)

Develops fluency and accuracy and adds to the students' repertoire of language for specific functions and situations; special attention to communication strategies; pronunciation work emphasizes stress and intonation and problems of individual students; preparation for academic lectures and work on understanding natural conversational speech.

ESL 0227. Upper Intermediate Reading and Composition. (No cr; prereq Δ ; for full-time ESL students; 10 hrs per wk; special fee)

Reading unadapted and adapted passages. Emphasis on efficiency, vocabulary, drawing inferences, recognizing paraphrase, identifying point of view, using knowledge of organization to aid understanding. Writing process (planning, writing, rewriting, editing), academic style, writing in response to reading.

ESL 0231. Advanced Grammar. (No cr; prereq Δ ; for students whose test scores show they may take 1-3 academic courses; 5 hrs per wk; special fee)

Emphasizes form, meaning, use of complex structures, and increased control over basic structures.

ESL 0232. The Written Word. (No cr; prereq Δ ; for students whose test scores show they may take 1-3 academic classes; 10 hrs per wk; special fee)

Focuses on improving reading efficiency, including strategy development, as well as vocabulary and skill building; some attention to reading as a support for academic writing; practice in planning, drafting, revising, and editing a composition.

ESL 0233. Advanced Composition. (No cr; prereq Δ ; for students whose English proficiency allows them to take 1-3 academic courses; 5 hrs per wk; special fee)

Skills needed at every stage of the writing process; finding a topic, determining an approach to the topic, planning and drafting a composition, revising, and editing; suiting one's writing to audience and topic and looking at one's own writing critically.

ESL 0234. Advanced Listening

Comprehension. (No cr; prereq Δ ; for students whose English proficiency allows them to take 1-3 academic courses; 5 hrs per wk; special fee)

Lecture comprehension, with special attention to note taking, recognizing main ideas and support, and determining the attitude of the speaker toward the subject; comprehension of complex information presented in a nonlecture format, as in television documentaries.

ESL 0235. Advanced Speaking/Pronunciation. (No cr; prereq Δ ; for students whose English proficiency allows them to take 1-3 academic courses; 5 hrs per wk; special fee)

Spoken English in academic settings as well as in daily conversation; pronunciation focuses on individual needs of students.

ESL 0236. Oral Skills. (No cr; prereq Δ ; 10 hrs per wk; special fee)

Emphasizes interacting effectively and presenting information clearly. Students discuss American cultural topics (introduced in ESL 0232) and participate in Project ADAPT, attending seminars and visiting schools to teach about their culture.

ESL 0237. Advanced Reading and Composition. (No cr; prereq Δ ; for students whose English proficiency allows them to take 1-3 academic courses; 10 hrs per wk; special fee)

Understanding academic and challenging non-academic material. Reading efficiently, recognizing tone, distinguishing fact from opinion. Vocabulary skill-building. Academic writing process, from gathering material through editing. Reading as means to improve writing content and form.

ESL 0238. Pronunciation. (No cr; prereq Δ ; 5 hrs per wk; special fee)

Individual attention given to specific areas of spoken language, including pronunciation, enunciation, intonation, and stress.

ESL 0241. Grammar Through Writing. (No cr; prereq Δ ; 5 hrs per wk; special fee)

Focuses on grammatically sophisticated writing structures. Students edit three assigned essays/compositions.

ESL 0251. International Business English. (No cr; prereq Δ ; for students whose English proficiency allows them to take 1-3 academic courses; 5 hrs per wk; special fee)

Reading, listening, speaking, and writing activities based on business topics and academic texts.

ESL 0252. English for Science and Technology. (No cr; prereq Δ ; for students whose English proficiency allows them to take 1-3 academic courses; 5 hrs per wk; special fee)

English for formulating hypotheses, describing experiments, and presenting results; includes reading, writing, listening, and speaking activities based on scientific and technical topics.

ESL 0253. Listening and Speaking Through Film. (No cr; prereq Δ; for students whose English proficiency allows them to take 1-3 academic courses; 5 hrs per wk; special fee)

Focuses on developing listening and speaking skills and cultural understanding using American movies and television.

ESL 0254. English for Current Events. (No cr; prereq Δ; for students whose English proficiency allows them to take 1-3 academic courses; 5 hrs per wk; special fee)

Skills necessary to understand news media as means of English improvement and as a source of information and entertainment; print and electronic media coverage of current news and issues.

ESL 0255. Advanced Vocabulary and Academic Skills. (No cr; prereq Δ; for students whose English proficiency allows them to take 1-3 academic courses; 5 hrs per wk; special fee)

Strategies for success in academic classes, including vocabulary development, lecture comprehension, and textbook reading. Students attend freshman-level lectures (e.g., geography or sociology) and read unadapted supporting material.

ESL 0256. Midwestern Stories. (No cr; prereq Δ; 5 hrs per wk; special fee)

Advanced course for students who want further practice in reading, listening, speaking, and writing for nonacademic purposes.

Slavic and Central Asian Languages and Literatures

The Slavic and Central Asian Languages and Literatures unit offers study of Russian, Polish, and Iranian and Turkic languages of Central Asia as well as literature and culture of the Slavic world and of Central Asia. The unit offers a major and a minor in Russian language and literature.

General Education—Courses recommended for general education are Russ 3211, 3421, 3422, 3512, 5211, CAS 3531

Study Abroad—The unit recommends strongly that its undergraduates complement their coursework with firsthand knowledge of the former USSR, Eastern Europe, and/or Central Asia by studying abroad at least a semester. The University offers several study abroad opportunities, including quarter and semester programs at Herzen Pedagogical University and summer and academic year

study opportunities in Lublin, Poland. For more information on study abroad options and procedures, see Foreign Study.

B.A. Major Sequence—Russian

Required Preparatory Courses—

1101-1102-1103, 1104-1105-1106 or 3001-3002-3003 or equiv.

Major Requirements—3101-3102-3103, 3111-3112-3113, 3421, 3422, 3512

3 electives (12 cr) from 3xxx and 5xxx

Russ 3311 (Senior Thesis) or 3311H

For requirements for teaching licensure, see the *College of Education and Human Development Bulletin*.

Minor Sequence—Russian

Required Preparatory Courses—

1101-1102-1103, 1104-1105-1106 or 3001-3002-3003

Minor Requirements—3101-3102-3103

8 additional cr in 3xxx-5xxx Russian courses

Russian (Russ)

Russ 1101f,su-1102w,su-1103s,su. Beginning Russian. (5 cr per qtr; 5 class meetings per wk) Speaking, reading, and understanding Russian through acquisition of basic patterns of speech.

Russ 3001f-3002w-3003s. Intermediate Russian. (5 cr per qtr, §1104-1105-1106; prereq 1103) Expansion of experience in speaking, reading, and understanding Russian; reading contemporary texts.

Russ 3101-3102-3103. Third-Year Russian. (4 cr per qtr; prereq 1106 or 3003) Conversation, composition, grammar review, translation, and readings in appropriate literature.

Russ 3104f. Introduction to Literary Analysis. (4 cr, §5104; prereq 3103 or ¶13101 or ¶13102 or ¶13103) Reading and analysis of poetry and prose selections to understand rudiments of studying Russian literature.

Russ 3105w. Reading of Russian Poetry and Prose. (4 cr; prereq 3104, # for native speakers) Appreciation of literary values through stylistic analysis and literary interpretation; analysis of humanistic elements. Taught in Russian.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Russ 3106. Contemporary Russian Literature and Culture. (4 cr, \$5106; three or more yrs of Russian, # for native speakers)
Current Russian values as reflected in literature, the press, and other media. Taught in Russian.

Russ 3111-3112-3113. Fourth Year Russian. (4 cr; prereq 3103 or #)
Advanced speaking and writing Russian.

Russ 3211. Modern Russian Literature in Translation. (4 cr, \$5211)
Literary, cultural, and political significance of the important works of Russian literature (1917 to present).

Russ 3311. Major Project in Russian. (2 cr; prereq #)
Students complete the major project under supervision of professors of their choice. A detailed description of the project requirements is available from the department.

Russ 3311H. Major Project in Russian. (2-4 cr; prereq #)
For description, see Russ 3311.

Russ 3404. Tolstoy in Translation. (4 cr, \$5404)
Novels, stories.

Russ 3407. Stories and Plays of Anton Chekhov in Translation. (4 cr, \$5407)
Prose works and major plays. An intrinsic approach.

Russ 3409. The 19th-Century Russian Novel in Translation. (4 cr, \$5409)
The Russian realistic novel from origin to decline; social, political, and intellectual circumstances that led to its emergence as the dominant genre of the "age of realism" in Russia.

Russ 3411. Dostoevsky in Translation. (4 cr, \$5411)
Novels.

Russ 3421. Literature: Middle Ages to Dostoevsky in Translation. (4 cr, \$5421)
Russian literature from about 1000 A.D. to mid-19th century; emphasizing writers of the first half of the 19th century.

Russ 3422. Literature: Tolstoy to the Present in Translation. (4 cr, \$5422; prereq 3003 or 1106 or # for Russian majors)
Russian literature from mid-19th century to present. Realism, modernism, socialist realism, and other developments since 1917.

Russ 3511. Russian Culture to the Mid-19th Century. (4 cr; prereq 1106 for Russian majors)
Aspects of folk and "high" culture, their interrelationship and development in Russia from earliest times to the mid-19th century. Arts emphasized.

Russ 3512. Russian Art and Culture from Peter I to the Present. (4 cr; prereq 1106 or 3003 or # for Russian majors)
Major trends in Russian visual arts, mainly painting, discussed in context of pertinent political, social, and ideological questions, e.g., nationalism, authoritarianism, dissidence, spirituality, the role of women in Russian society.

Russ 3601. Methods of Translating Fiction from Russian to English. (4 cr, \$5601; prereq 3 or more years of Russian, # for native speakers)
Learning to distinguish and appreciate a variety of Russian literary styles from the beginning of 19th century to the present, through experience of translating.

Russ 3970. Directed Studies. (1-5 cr per qtr; prereq #, Δ)
Guided individual reading or study.

Russ 5021. Russian Study Tour. (6-18 cr; prereq 1106 or 3003 or equiv)
Study of Russian language and culture in an accredited academic institution in Russia.

Russ 5104. Introduction to Literary Analysis. (4 cr, \$3104; prereq 3103 or ¶ third-yr Russian)
Reading and analysis of poetry and prose selections to understand rudiments of studying Russian literature.

Russ 5106. Contemporary Russian Literature and Culture. (4 cr, \$3106; three or more yrs of Russian, # for native speakers)
Current cultural and social issues in Russia through analysis of selected literary works and texts from Russian newspapers and periodicals. Taught in Russian.

Russ 5211. Modern Russian Literature in Translation. (4 cr, \$3211)
For description, see Russ 3211.

Russ 5404. Tolstoy in Translation. (4 cr, \$3404)
For description, see Russ 3404.

Russ 5407. Stories and Plays of Anton Chekhov in Translation. (4 cr, \$3407)
For description, see Russ 3407.

Russ 5409. The 19th-Century Russian Novel in Translation. (4 cr, \$3409)
For description, see Russ 3409.

Russ 5411. Dostoevsky in Translation. (4 cr, \$3411)
For description, see Russ 3411.

Russ 5421. Literature: Middle Ages to Dostoevsky in Translation. (4 cr, \$3421)
For description, see Russ 3421.

Russ 5422. Literature: Tolstoy to the Present in Translation. (4 cr, \$3422)
Russian literature from the mid-19th century to the present. Realism, modernism, socialist realism, and other developments since 1917, with a view to language evolution and change.

Russ 5601. Methods of Translating Fiction from Russian to English. (4 cr, \$3601; prereq 3 or more yrs of Russian, # for native speakers)
For description, see Russ 3601.

Russ 5970. Directed Studies. (1-5 cr per qtr; prereq #)
Guided individual reading or study.

Polish (Plsh)

Plsh 1101f-1102w-1103s. Beginning Polish. (5 cr per qtr)
Speaking, understanding, and reading basic Polish.

Plsh 3001f-3002w-3003s. Intermediate Polish. (5 cr per qtr; prereq 1103 or #)
Grammar review, advanced texts, practice in speaking.

Plsh 5900. Topics. (4 cr)
Topics specified in *Class Schedule*.

Plsh 5970. Directed Studies. (1-4 cr per qtr; prereq #)
Guided individual reading or study.

Slavic (Slav)

Slav 3900. Topics in Russian and East European Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

Slav 5900. Topics in Russian and East European Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

Central Asian Studies (CAS)

CAS 3511. Ancient Iran. (4 cr, \$MELC 3511)
For description see MELC 3511.

CAS 3512. Modern Iran. (4 cr, \$MELC 3512)
For description, see MELC 3512.

CAS 3526. Islam and Communism. (4 cr, \$5526, \$MELC 3521, \$MELC 3526)
The development of medieval Islamic culture in Transoxiana; formation of Sufic orders; clash of Islamic principles with Soviet dicta; activities of the Islamic institutions and of the major Islamic centers in the former Soviet Union; Pan-Islamism.

CAS 3531. Central Asian Culture. (4 cr, \$MELC 3531)
Origins of Turkish and Mongol tribes of Central Asia; Turko-Mongol migrations westward; institution of the Golden Horde and, later, of smaller kingdoms; effects of sovietization/russification on the republics; Pan-Turkism.

CAS 3541. Russia and Central Asia. (4 cr, \$5541, \$MELC 3541, \$MELC 5541)
Rise and fall of the Mongol Empire, formation of the Chaghatai Khanate and Golden Horde. Russian expansion into Central Asia and rivalry with Britain leading to the "Great Game." Russia and the republics during the Soviet period and thereafter.

CAS 3555. Zoroastrianism. (4 cr, \$MELC 3555)
For description, see MELC 3555.

CAS 3601. Fiction: Iran and Central Asia. (4 cr, \$CAS 5601, \$MELC 3601, \$MELC 5601)
Social, political, and religious thought of Iranian and Soviet Central Asian writers of fiction since the beginning of the 20th century, emphasizing the themes of tradition, modernization, women's rights, and secularization.

CAS 3602. Persian Poetry in Translation. (4 cr, \$5602, \$MELC 3602, \$MELC 5602)
For description, see MELC 3602.

CAS 5311. Medieval Sages: Iran and Central Asia. (4 cr, \$MELC 5311; prereq some background in Iranian, Central Asian, or Islamic studies recommended)
Study and discussion of the intellectual life of the region from the rise of the Ghaznavids (A.D. 1000) to the fall of the Timurids (A.D. 1500).

CAS 5526. Islam and Communism. (4 cr, \$3526, \$MELC 3521, \$MELC 3526, \$MELC 5526)
For description, see CAS 3526.

CAS 5541. Russia and Central Asia. (4 cr, \$3541)
For description, see CAS 3541.

CAS 5601. Fiction: Iran and Central Asia. (4 cr, \$3601, \$MELC 3601, \$MELC 5601)
For description, see CAS 3601.

CAS 5602. Persian Poetry in Translation. (4 cr, \$3602, \$MELC 3602, \$MELC 5602)
For description, see MELC 3602.

CAS 5900. Readings in an Iranian Language. (1-4 cr per qtr [max 12 cr], \$Per 5900; prereq 3013 or #)
Pre-medieval and medieval Iranian texts. Topics specified in *Class Schedule*.

CAS 5990. Directed Research. (Cr ar; prereq #)

Middle Eastern Languages and Cultures (MELC)

Middle Eastern Languages and Cultures courses focus on the languages, literatures, cultural traditions, and contemporary problems of Afghanistan, Iran, Nepal, Pakistan, Sri Lanka, Turkey, and the Arab world.

For information about requirements for the major and minor program options in South Asian and Middle Eastern Studies, consult the Area Studies Programs section of this bulletin.

General Education—Courses under the heading Middle Eastern Languages and Cultures, given in English translation, are suitable for general education.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ¶—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

Middle Eastern Languages and Cultures (MELC)

MELC 1536. The Religion of Islam. (4 cr, §3036, §5036, §ReIS 1036, §ReIS 3036, §ReIS 5036, §SALC 3036, §SALC 5036)

The rise of Islam in historical context; the role of Muhammad, *Qur'an*, traditions; fundamentals and observances of the faith; sectarian movements; the spread of Islam into Asia and Africa; Baha'i and Black Muslim components; reformist movements and change.

MELC 3036. The Religion of Islam. (4 cr, §1536, §5036, §ReIS 1036, §ReIS 3036, §ReIS 5036, §SALC 3036, §SALC 5036)

The evolution of Islam in historical context; institutions that made for diversity and continuity; traditions, laws, and observances of the faith; sectarian movements; philosophical and theological trends; modern developments; reformist, revolutionary, and militant.

MELC 3213. The Qur'an as Literature. (4 cr, §Arab 3213, §ReIS 3213)

Texts and commentaries in translation. Knowledge of Arabic not required.

MELC 3505. Survey: The Middle East. (4 cr, §5505, §Hist 3505)

Cultural, religious, and scholarly achievements of Middle Eastern peoples from pre-Islamic times to the present.

MELC 3511. Ancient Iran. (4 cr, §CAS 3511)

Iranian civilization from the Achaemenids to the rise of the Samanids: the role of the common person.

MELC 3512. Modern Iran. (4 cr, §CAS 3512)

From the fall of the Samanids to the present: the role of the common person.

MELC 3531. Central Asian Culture. (4 cr, §CAS 3531)

For description, see CAS 3531.

MELC 3541. Russia and Central Asia. (4 cr, §5541, §CAS 3541, §CAS 5541)

For description see CAS 3541.

MELC 3555. Zoroastrianism. (4 cr, §CAS 3555)

Historical survey from the prophet Zarathustra to modern survivals in Iran and India.

MELC 3601. Fiction: Iran and Central Asia. (4 cr, §5601, §CAS 3601, §CAS 5601)

Social, political, and religious thought of Iranian and Central Asian fiction writers since the beginning of the 20th century, emphasizing the themes of tradition, modernization, women's rights, and secularization.

MELC 3602. Persian Poetry in Translation. (4 cr, §5602, §CAS 3602, §CAS 5602)

Major poetic works of Iran: quatrains of Omar Khayyam, sonnets of Hafiz; "new" Persian poetry such as works of Faroukh Farrokhzad.

MELC 5036. The Religion of Islam. (4 cr, §1536, §3036, §ReIS 3036, ReIS 5036, §SALC 3036, §SALC 5036)

For description see MELC 3036.

MELC 5311. Medieval Sages: Iran and Central Asia. (4 cr, §CAS 5311; some background in Iranian, Central Asian, or Islamic studies recommended)
Study and discussion of the intellectual life of the region from the rise of the Ghaznavids (A.D. 1000) to the fall of the Timurids (A.D. 1500).

MELC 5541. Russia and Central Asia. (4 cr, §3541, §CAS 3541, §CAS 5541)

For description, see CAS 3541.

MELC 5601. Fiction: Iran and Central Asia. (4 cr, §CAS 5601)

For description, see MELC 3601.

MELC 5602. Persian Poetry in Translation. (4 cr, §3602, §CAS 3602, §CAS 5602)

For description, see MELC 3602.

MELC 5940. Topics Proseminar. (1-4 cr; prereq #)
Selected topics on language, literature, or civilization.

MELC 5990. Directed Research. (Cr ar)

Middle Eastern Languages

Arabic (Arab)

See Afro-American and African studies.

South Asian Languages and Cultures (SALC)

South Asian languages and cultures courses focus on the languages, literatures, cultural traditions, and contemporary problems of Bangladesh, India, Nepal, Pakistan, and Sri Lanka.

For information about requirements for the major and minor program options in South Asian and Middle Eastern studies, consult the Area Studies Programs section of this bulletin.

General Education—South Asian languages and cultures courses, taught in English, are suitable for general education.

South Asian Languages and Cultures (SALC)

SALC 1506. Introduction to Contemporary South Asia. (5 cr, §3506)

Land, people, modern historical development, contemporary problems, global setting, and future of India and adjacent countries of South Asia.

SALC 3036. The Religion of Islam. (4 cr, §1536, §5036, §MELC 1536, §MELC 3036, §MELC 5036, §ReIS 1036, §ReIS 3036, §ReIS 5036)

The evolution of Islam in historical context; institutions that made for diversity and continuity; traditions, law and observances of the faith; sectarian movements; philosophical and theological trends; modern developments: reformist, revolutionary, and militant.

SALC 3201. Ancient Indian Literature in Translation. (4 cr, §5201)
Literary achievement of Indian civilization from the ancient period.

SALC 3202. Modern Indian Literature in Translation. (4 cr, §5202)
Literary achievements of Indian civilization from the modern period.

SALC 3411. Introduction to Indian Philosophy. (4 cr, §5411)
Major concepts; principal schools of Indian philosophy; traditional and contemporary views.

SALC 3412. Hinduism. (4 cr, §5412, §ReIS 3412, §ReIS 5412)
Development of Hinduism, focusing on sectarian trends, modern religious practices, myths and rituals, pilgrimage patterns and religious festivals, and the interrelationship between Indian social structure and Hinduism.

SALC 3413. Buddhism. (4 cr, §5413)
Historical account of Buddhist religion in terms of its rise, development, various schools, and common philosophical concept. Indian Buddhism, compared with Hinduism; Buddhism's demise and revival on the Indian subcontinent.

SALC 3456. The Cinema of India. (4 cr)
Survey of cinema of South Asia; aesthetic, social, economic and political perspectives.

SALC 3506. Introduction to Contemporary South Asia. (4 cr, §1506)
For description, see SALC 1506.

SALC 3556. Women in India: Role and Repression. (4 cr)
Representation of Indian women studied through literature of contemporary Indian women and against background of traditional Indian values and roles.

SALC 3607. Indian Culture: Past and Present. (4 cr)
Traditional cultures of India and their effects on modernity.

SALC 3970. Directed Studies. (1-15 cr per qtr; prereq #)
Guided individual reading or study. Open to qualified students for one or more quarters.

SALC 5011. Indo-Aryan Linguistics. (4 cr)
Phonological, morphological, and syntactic developments; Indo-European, Old Indo-Aryan, Middle Indo-Aryan, Hindi, and other major modern Indo-Aryan languages.

SALC 5036. The Religion of Islam. (4 Cr, §3036, §ReIS 3036, §ReIS 5036)
For description, see SALC 3036.

SALC 5090. Instruction in South Asian Languages. (Cr ar)

SALC 5201. Ancient Indian Literature in Translation. (4 cr, §3201)
For description, see SALC 3201.

SALC 5202. Modern Indian Literature in Translation. (4 cr, §3202)
For description, see SALC 3202.

SALC 5411. Introduction to Indian Philosophy. (4 cr, §3411)
For description, see SALC 3411.

SALC 5412. Hinduism. (4 cr, §3412)
For description see SALC 3412.

SALC 5413. Buddhism. (4 cr, §3413)
For description see SALC 3413.

SALC 5710. Topics in South Asian Languages and Literature. (Cr ar)

SALC 5970. Directed Studies. (Cr ar)
Guided individual reading or study.

South Asian Languages

Hindi (Hndi)

Hndi 1101f-1102w-1103s. Beginning Hindi. (5 cr per qtr)

Hndi 5131f-5132w-5133s. Intermediate Hindi. (5 cr per qtr; prereq 1103 or #)

Hndi 5161f-5162w-5163s. Advanced Hindi. (4 cr per qtr; prereq 5133 or #)

Marathi (Mar)

Mar 1101f-1102w-1103s. Beginning Marathi. (5 cr per qtr)

Mar 5970. Directed Readings. (Cr ar; prereq #)
Guided individual reading or study.

Mar 5990. Directed Research. (Cr ar; prereq #)

Sanskrit (Skt)

See Classical and Near Eastern Studies.

Teaching English as a Second Language (TESL)

The Program in English as a Second Language includes two parts. (1) A graduate program provides coursework toward an M.A. in English as a Second Language; this program's courses use the TESL or Ling designator. For more information, see the *Graduate School Bulletin* or contact the Institute, 192 Klaeber Court. (2) The Minnesota English Center (MEC) provides English language coursework; the center's programs use the ESL designator. For more information, contact the MEC, 101 Klaeber Court.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ‡—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

TESL 5721. English as a Second Language: Methods. (4 cr; prereq Ling 3001 or 5001 or #) Methods for teaching English as a second language.

TESL 5722. English as a Second Language: Practicum. (4 cr; prereq ESL major or minor, 5721, #; S-N only) Observation of and practice in teaching English as a second language.

TESL 5723. English as a Second Language: Materials. (4 cr; prereq 5721, 5722, #) Evaluation and preparation of materials for teaching English as a second language.

Translation and Interpreting (TrIn)

The Program in Translation and Interpreting offers a sequence of courses designed to develop skills in translation and interpreting for employment in a variety of community settings, such as hospitals, social services, and the courts. Sections are offered for specific language pairs (e.g., English-Spanish, English-Hmong) which may differ at each offering. For admission, students must demonstrate a high level of bilingual proficiency. Contact the Program office, 133 Klaeber Court, for information about the application process.

TrIn 3001. Introduction to Translation. (3 cr; prereq high level of proficiency in English and another language, #) Theory and practice in the translation of non-literary English texts directed to the general public into another language.

TrIn 3101. Introduction to Community Interpreting. (3 cr; prereq high level of proficiency in English and another language, #) A practical and theoretical introduction to interpreting in a variety of community settings; emphasis is on interpreting for professional/client interviews. Self-assessment through audio- and video-taping.

TrIn 3102-3103†. Intermediate Community Interpreting I-II. (4 cr per qtr; prereq 3101, #) Consecutive interpreting and sight translation; vocabulary research, storage, and retrieval; intercultural issues; analysis of the interpreting process.

Interdepartmental Study (ID)

Office for Special Learning Opportunities (OSLO), 220 Johnston Hall (612/624-7577). Courses offered through Interdepartmental Study are cross-disciplinary, frequently taught by more than one faculty member, and sometimes experimental. Consult the *Class Schedule* for current offerings. Many of these courses include an experiential component and may require an internship or community service work in addition to more traditional classroom assignments. Further information on these courses is available in OSLO.

ID 1101. Career Exploration and Planning. (2 non-liberal arts cr) Ever wonder what you'll do with your major? Assess your interests, skills, and values in the context of the world of work and learn how your courses, research projects, internships, community service, work experience, hobbies, and travel play major roles in your future success.

ID 3101. An Introduction to Marxism. (4 cr) Marxist philosophy; evolutionary and revolutionary processes of change; formation of class societies, capitalism, imperialism, paths to socialism; transition from socialism to communism.

ID 3170. HECUA Off-Campus Study Program: Metro Urban Studies Term. (24 cr; prereq #; contact OSLO, 220 Johnston Hall, 612/624-7577) Intensive off-campus fall semester combining interdisciplinary field study, seminar work, and professional internship. Pedagogical approach blends structured field experiences with rigorous academic analysis. Twin Cities are source of interpretive materials for exploring contemporary urban life, social issues, relationships between subcultures/lifestyles, and ways of knowing.

ID 3180. HECUA Off-Campus Study Program: City Arts. (1-24 cr; prereq #; contact OSLO, 220 Johnston Hall, 612/624-7577) Intensive off-campus spring semester combining interdisciplinary field study, seminar work, and professional internship in Twin Cities area. Function of arts in urban society; organization of art worlds and design of cities as they relate to quality of urban life and other urban issues. Pedagogical approach blends diversity of structured field experiences with rigorous academic analysis.

ID 3201. AIDS/HIV: Cultural Perspectives. (5 cr; prereq Δ: students must meet with an OSLO adviser in 220 Johnston Hall before the first class session to obtain a course override and discuss internship possibilities) Interdisciplinary study of AIDS/HIV integrating philosophical, medical, historical, artistic, and sociological approaches. Service or field learning projects enable review and critique of classroom materials to incorporate questions and issues that arise on site.

ID 3205-3206-3207. Community, Service, and Self. (2-2-2 cr; prereq meet with OSLO adviser in 220 Johnston Hall before first class meeting to obtain course override and discuss service possibilities) Historical, economic, philosophical, anthropological and social services approaches to community service in cultural context. Participation in community service project, classroom lectures and discussions will enable students to assess community service and the role it plays (or fails to play) in community development and social change.

ID 3211. Internship: Perspectives on Work. (6 cr; prereq Δ and acceptance into internship program in OSLO, 220 Johnston Hall, 612/624-7577) Combines practical experience in an internship in business, government or non-profit sector with reflection upon work. Topics include organizational structure and culture, decision-making, work as a cultural phenomenon, history of the concepts of work and career and relationship of work to the broader demands of citizenship.

ID 3251-3252†. Metro Intern Seminar. (3-2 cr; prereq #: application through University YMCA, 1901 University Ave. S.E., Minneapolis, MN 55414, 612/624-3800)

Winter quarter seminar preparing interns for spring quarter internship in corporate social responsibility. Topics include ethics, leadership, power, and corporate culture.

ID 3925. Strategic Career Planning. (2 non-liberal arts cr)

Wonder what you'll do after you graduate? Match your individual talents, values, interests, and experiences with career search strategies that will position you in today's marketplace. Emphasis on understanding the dramatically changing work world as well as strategic résumé writing, networking, interviewing, and negotiating.

3970. Directed Studies. (1-15 cr per qtr; prereq OSLO approval, Δ)
Individual readings and research on topics that cross departmental lines.

International Relations (IntR)

Staff—Advisers, 232 Social Sciences Building (612/624-9353)

The International Relations major is an interdisciplinary program. It requires a combination of academic perspectives from various departments and offers students opportunities to reflect on that diversity of viewpoints in a major project at the end of their program. The program exists as an alternative to international concentrations in some departmental majors listed elsewhere in this bulletin.

Within the International Relations major students choose one of five curricular options or "tracks." The tracks are diplomacy and interstate relations, international development, international political economy, international relations and the environment, international society and politics.

The curricular options and requirements of these tracks are described in the *International Relations Major Handbook*, available in 214 Social Sciences Building.

All tracks require IntR 3101, one upper division social sciences quantitative methods course, and completion of a major project. The program requires students to demonstrate proficiency in a foreign language. Students who lack such proficiency must complete 3xxx coursework specified for the language selected. For some

foreign languages the program offers courses on international relations taught in that language. These courses supplement the basic proficiency requirements in a foreign language and help students deepen their language skills in the subject matter of an international relations major.

In an era of computers and rapid transmission of data, the major also requires students to develop minimal quantitative skills with the successful completion of one upper division quantitative methods course.

An early start on planning your program in this major is essential. The requirements are diverse, and some courses may require you to complete a prior course in the same department. You are urged to begin the premajor courses as promptly as possible, including the foreign language requirements. You are also encouraged to complete your CLA general education requirements during your first two years. For early help in planning an international relations major, visit the program advisers in 232 Social Sciences Building.

Foreign Languages Across the Curriculum (FLAC)

—Students are encouraged to include courses conducted in a language other than English as part of their undergraduate career, whether they are offered on campus or abroad. A variety of FLAC courses are offered for two or four credits, while others are offered for one credit in conjunction with four-credit courses taught in English. To date, FLAC courses have been taught in area studies, geography, history, international relations, political science, and sociology in Chinese, French, German, Italian, Japanese, Russian, Scandinavian languages, and Spanish. In spring quarter, FLAC courses offered in French, German, and Spanish provide students the opportunity to do all their coursework in one of these languages as participants in the Foreign Language Immersion Program (FLIP), which is especially beneficial for students planning to study abroad or returning from a study abroad experience. For more information, consult the international relations advisers in 214 Social Sciences Building.

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Study Abroad—Students are strongly encouraged to spend part of their undergraduate career studying at a foreign university. A variety of study abroad opportunities are available, and appropriate courses taken under such programs can be applied toward international relations major requirements. Students are also encouraged to consider a foreign studies minor. For information on this minor and on study abroad options and procedures, see Foreign Study.

B.A. Major Sequence

Students must complete a set of premajor requirements. With the successful completion of those requirements and formal enrollment in the major at the IntR advising office (232 Social Sciences Building), students are admitted to the major program.

Premajor requirements for admission to the major—To be accepted into the major, students must complete the following: Econ 1101-1102; 12 cr in other social science courses relevant to international relations; three quarters of second-language study (or equivalent as determined by the relevant language department). The GPA of these courses must be 2.75 or better, with no grade lower than C.

Admission to the major—Students who have completed the premajor requirements enroll in the major at the undergraduate advising office, 232 Social Sciences Building. The student and an adviser discuss the various tracks and develop a program that meets the major guidelines listed in the handbook. Students with questions about the premajor or major requirements or the various tracks are encouraged to contact the International Relations advisers.

Major Requirements—48 upper division credits (3xxx or 5xxx courses), including IntR 3101, an upper division quantitative methods course in social sciences, and an additional 8-15 credits at the upper division level in a foreign language. Each of the five programs or tracks of this major has a specific set of requirements listed in the handbook, which is available in 214 Social Sciences Building. Each of the 48 credits must carry a grade of C or better, and no course may be taken S-N (except Speech 5452, which is offered only S-N). The major requires completion of a major project, preferably IntR 3981. Students are also strongly encouraged to take one or more topics courses offered in the program.

Honors Program—Outstanding premajor students should consider the honors program, described in the *International Relations Major Handbook*. Admission to honors in the International Relations major requires an overall GPA of 3.30 or better, a GPA of 3.30 or better in foreign language courses, a GPA of 3.00 or better in economics courses, and a GPA of 3.50 or better in social science courses. The honors program provides seminars and supports a more ambitious major project than is required of other students. Interested students should contact the honors adviser, 232 Social Sciences Building.

Courses—The international relations major offers courses in CLA and agricultural economics, management, natural resources, and public affairs. For details, consult the *International Relations Major Handbook*. The courses offered by the International Relations Program are:

IntR 3101f. Theoretical Approaches to International Relations. (4 cr; prereq international relations major or #)

Interdisciplinary study of international relations; contributions of various disciplines to the analysis of significant contemporary world problems.

IntR 3101Hf. Honors Course: Theoretical Approaches to International Relations. (4 cr; prereq honors international relations major or #)

IntR 3301H. Honors Seminar: The Making of the Modern World. (4 cr; prereq #)
Interaction across ecological frontiers, changing power relations, restructuring of production systems, and the creation of new cultures and identities.

IntR 3302H. Honors Seminar: Change in the Contemporary Global Order. (4 cr; prereq 3301H or #)
Important issues of global change: population growth and human migration; human relations with the physical environment; struggles for popular power and sustainable democratic institutions; relations and conditions of work; and cultural representations of social identities.

IntR 3620. Foreign Language News Coverage of International Events. (2 cr; prereq international relations major or #; must have satisfied the college language requirement in the language of the course; limited to 15 students)
Compares coverage of current news in selected foreign language newspapers with coverage in a U.S. paper, such as *The New York Times*.

IntR 3640. Foreign Perspectives on International Relations. (4 cr; prereq international relations major or #; must have satisfied college language requirements in the language of the course)
Examines approaches used in the teaching of international relations in universities of the specified foreign language. Intended to provoke consideration of relationships of these materials to the presentation and conceptualization of international relations found in prior courses taken as part of the major.

InTR 3900. Topics in International Relations. (1-4 cr; prereq 12 cr in social sciences)
Selected issues and topics in international relations.
Topics vary quarterly.

InTR 3960f,w,s. Field Studies/Internship in International Relations. (1-8 cr [8 cr max]; prereq Δ)
Internship with government/community/international organization or field study in international relations.
Activities must have an international focus.

InTR 3970f,w,s. Directed Studies. (1-15 cr per qtr; prereq #, Δ)
Guided individual reading or study.

InTR 3981f,w,s. Major Project. (4 cr; prereq Δ; limited to 15 students)
Supports senior project requirement by allowing students to formulate their own research questions, select a topic, develop and produce a 25-30 page undergraduate research paper.

InTR 3990Hf,w,s. Honors Course: Supervised Research Paper. (3 cr; prereq sr honors candidate in international relations, Δ)

InTR 3991Hs. Junior Research Seminar: Introduction to Research in the Social Sciences. (3 cr; prereq jr honors international relations major)
Theoretical perspectives and methods available to researchers in international studies.

InTR 5701f. Theories of International Development. (4 cr; prereq international relations major or #)
Interdisciplinary approaches to understanding contemporary development theory and practice. Selected development perspectives and case studies that illustrate complexities of development planning and implementation.

InTR 5900. Topics in International Relations. (4 cr; prereq international relations major or #)
Proseminar. Selected issues in international relations.
Topics vary quarterly.

Italian

See French and Italian.

Japanese

See Institute of Linguistics and Asian and Slavic Languages and Literatures.

Jewish Studies (JwSt)

Staff—Director, Jonathan Paradise (Classical and Near Eastern Studies), 330 Folwell Hall

Professors: Bachrach (History), Berman (History), Cooperman (Sociology), Krislov (Political Science), Zipes (German)

Associate Professors: Paradise (Classical and Near Eastern Studies), Prell (Anthropology), Reisman (Classical and Near Eastern Studies), Sellow (Classical and Near Eastern Studies)

A major program is offered in Jewish Studies. For related coursework and major programs in Ancient Near Eastern Studies and Hebrew language and literature, see listings under Department of Classical and Near Eastern Studies. Study abroad in Israel or Europe may be a valuable part of these majors; see Foreign Study.

B.A. Major Sequence

Major Requirements—Hebr 1101-1102-1103, 3011-3012-3013; JwSt 3034

36 cr in courses of 3xxx or above in Jewish languages and literatures, social sciences, and philosophy and religion, chosen with adviser approval

JwSt 1034. Introduction to Judaism. (4 cr, §3034, §RelA 1034, §RelA 3034)
Concepts, movements, and institutions in the development of classical Judaism, as manifested in the literature and festivals of the Jewish people from Second Commonwealth times to the present.

JwSt 3034. Introduction to Judaism. (4 cr, §1034, §RelA 1034, §RelA 3024)
Meets with 1034. Additional written assignments and reading.

JwSt 3100. Judaism in the Time of Early Christianity. (4 cr, §RelA 3100)
History, religion, and literature of Judaism in Palestine, the Roman world, and Parthian and Sassanian Babylonia in the 2nd through 7th centuries. Methods for reconstructing the history of a religion from primary sources and evidence.

JwSt 3115. Mishnah and Midrash in Translation. (4 cr, §RelA 3115)
Rabbinic writings in their original contexts and as living texts for the present. Interpretations of the Bible by early rabbis that address moral, theological, and literary problems. Jewish laws as a mirror of human culture. Knowledge of Hebrew not required.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

JwSt 3126. Modern Judaism. (4 cr, §RelA 3126) Jewish theology, religion, and ideology in the 19th and 20th centuries. American Judaism: orthodox, conservative, reform; religious and communal organizational structures. Zionism in Europe and America. Hasidism.

JwSt 3315. Contemporary Israeli Literature in Translation. (4 cr)
Modern short stories and poetry. Works of Agnon, Yizhar, Hazaz, Yehoshua, Greenberg, Amihai, Pagis, others. Alienation, crisis of faith, war, genocide, freedom.

JwSt 3521. The Holocaust. (4 cr, §RelA 3541) Nazi destruction of Jewish life in Europe, 1933-1945. Historical, social background of European Jewish communities. Anti-Semitism and Nazism. Ghettos under Nazi rule; social and cultural organization, government. Nazi terror and destruction; Jewish resistance; historical consequences.

Hist 3607. History of the Jews in Medieval Europe. (4 cr)
Institutions, thought, and major personalities of the Jewish people from the later Roman Empire until the expulsions from Western Europe.

Hist 3867. American Jewish History. (4 cr) Berman Jews in the United States from the colonial period to the present; migration patterns, economic adjustment, social arrangements, political participation, cultural and religious diversity. Intergroup contacts, anti-Semitism, and formation of voluntary communal associations viewed in context of American historical experience.

JwSt 5900. Topics in Jewish Studies. (4 cr per qtr) [12 cr max]; prereq #)
Historical, religious, sociological, anthropological, and humanistic study of Judaism and the Jewish people. Approach and method of study varies with topic.

JwSt 5970. Directed Readings. (1-12 cr per qtr) [12 cr max]; prereq #)
Guided individual reading or study.

International Study and Travel Center

See Foreign Study.

Journalism and Mass Communication (Jour)

Staff—*Director*, Robert Scott, 111 Murphy Hall; *Director of Graduate and Undergraduate Studies*, Albert Tims, 431 Murphy Hall; *Assistant to the Director*, Linda Wilson, 111 Murphy Hall; *Silva Professor for Study of Media Ethics and Law*, Donald Gillmor, 34 Murphy Hall; *Mithun Land Grant Professor in Advertising*, William Wells, 109 Murphy Hall; *Coordinator of Advising, Placement, and Internships*, Linda Lindholm, 15 Murphy Hall
Professors Emeriti: Carter, Gerald, Harris, Jones, Nixon, Tichenor

Professors: Dicken-Garcia, Faber, Fang, Gillmor, Lee, Wackman, Wells

Associate Professors: Babcock, Busterna, Chang, Doyle, Hansen, Roberts, Schwartz, Tims

Assistant Professor: Griffin

Lecturer: Huntzicker

Study in the School of Journalism and Mass Communication is concerned with the theories and practices of mass communication, historical and contemporary, and, for those who choose, the development of skills and techniques necessary for the successful practice of journalism (print or broadcast), advertising, and public relations.

The school offers a B.A. major program with two different tracks, professional and mass communication. The professional track prepares students for careers in journalism, public relations, and advertising. Among these careers are newspaper reporting and editing, magazine writing, broadcast news, corporate public relations, and advertising account services. The professional track is based on a broad liberal arts foundation, knowledge of the social and professional responsibilities of communicators, and basic competence in journalistic skills.

The mass communication track is for students who wish to study the economic, political, legal, and social aspects of mass communication. Students may wish to develop a program emphasis in areas such as history, law, media effects, media industry studies, international communications, or other aspects of mass communication studies represented in the school.

About three-fourths of the coursework for the B.A. degree is outside of journalism in the social sciences, humanities, and other liberal arts. A minimum of 131 non-journalism credits, including 94 CLA credits, must be completed in a 180-credit degree program.

General Education For the Nonmajor—Jour 1001, 3614, 3741, 3745, 3796, and each quarter some selected controlled Jour courses are open to nonmajors.

Study Abroad—Journalism and Mass Communication students are strongly encouraged to incorporate one or more overseas study experiences into their academic program. For the most part, such study should be in the liberal arts, which would contribute to the professional

journalism program here. With the approval of an adviser, it is possible to carry out independent study for journalism credit. For information on options and procedures, see Foreign Study.

B.A. Major Sequence

Admission—The school admits a limited number of undergraduates annually. A formal intention to major in journalism (professional or mass communication track) should be filed in the Undergraduate Studies Center, 15 Murphy Hall, before applying for major status. A student should apply for formal admission to the major after completing Jour 1001, taking the SAT II Writing Test, and completing at least 39 graded (A-F) credits and one quarter's study (12 credits with A-B-C grades) in CLA. Admission to major status is required before enrolling in Jour 3004, which is a prerequisite for most other journalism courses. Majors must pass a keyboarding test at 40 wpm with 6 or fewer errors before enrolling in Jour 3011 or any reporting, editing, or broadcast courses.

Students wishing to emphasize journalism in IDIM, BIS, and ICP must have a 2.80 overall GPA, a grade of C or higher in Jour 1001, and a score of 550 or above on the SAT II Writing Test to qualify for admission. A 2.80 overall GPA is required for students in the Program in Individualized Learning who wish to include journalism courses in their programs. Individualized program students must include Jour 3004 in their programs. With adviser approval, from 1 to 3 professional (skills) courses are permitted, not required.

Supporting Coursework—A minimum of 16 3xxx-5xxx credits (4 courses) from other University departments chosen in consultation with a faculty adviser after admission to the major.

Completion of freshman composition requirement (or exemption) and two additional composition courses certified by the school, one of which must be 3xxx.

Required Preparatory Course—Jour 1001 with at least a C

Required SJMC Core Course—Jour 3004 with at least a C

Requirements for Professional Track—A minimum of 44 additional 3xxx-5xxx credits and completion of either a journalism or advertising/public relations concentration.

Journalism Concentration—12 credits journalism core courses: 3011, 3101, and 3155 or 3451. C or higher grades are required for Jour 3011 and 3101.

12 credits professional (skills) courses chosen in consultation with faculty adviser from the following: 3121, 3159, 3173, 3179, 3321, 3980, 5131, 5155, 5159, 5171, 5174, 5321, 5441, 5442, 5990 (specialized reporting courses including Charnley course).

20 credits enrichment or independent study courses chosen in consultation with faculty adviser.

Advertising/Public Relations Concentration—12 credits advertising/public relations core courses: 3159 or 3201 with a C or higher grade, 3251, and 5263.

12 credits professional (skills) courses chosen in consultation with faculty advisers from the following: 3179, 3241, 3321, 3980, 5159, 5261, 5990 (specialized topics courses including Charnley course). With adviser's approval, one or two journalism core courses (3011 or 3101) may be used to meet this requirement.

20 credits enrichment or independent study courses chosen in consultation with faculty adviser.

Requirements for Mass Communication Track—A minimum of 44 additional 3xxx-5xxx credits.

16 credits mass communication core courses, including one course from each of these groups:

History: 3007, 3614, 5601, 5606, 5611, 5615

International/Multicultural: 3741, 5741, 5801, 5825

Media Effects: 3006, 3008, 5251, 5316, 5501, 5531, 5541

Media and Society: 3745, 3776, 3796, 5274, 5721, 5725, 5726, 5728, 5771, 5777

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

28 credits chosen in consultation with a faculty adviser from among the following: professional (skills) courses (up to 12 credits)*, enrichment and independent study courses.

* *With adviser's approval, from 1 to 3 professional (skills) courses are permitted, not required.*

Major Project—All journalism majors are required to complete a major project before graduation. For details about project options, contact the Undergraduate Studies Center.

Minor Requirements—Jour 1001, 3004, 3011 or 3159 or 3201, and three enrichment courses, one of which must be 5xxx.

Students must have a 2.80 overall GPA, a grade of C or higher in Jour 1001, and a score of 550 or above on the SAT II Writing Test to qualify for admission to the minor program.

Preregistration—Before the start of formal CLA registration for fall, winter, and spring quarters, and for summer sessions, the school has a preregistration period for admission into most courses. They are identified as “controlled courses,” which means enrollment is limited to majors only.

For more information about preregistration, consult the Undergraduate Studies Center, 15 Murphy Hall.

Preparatory Course

Jour 1001. Introduction to Mass Communication. (4 cr; open to non-jour majors) Nature, functions, and responsibilities of communication media and agencies from professional point of view. News, opinion, entertainment, and persuasion functions; current trends. Specialized communication; aspects of advertising.

Core Course

Jour 3004. Information for Mass Communication. (4 cr; prereq jour major or minor, fr composition or exemption, Δ) Information resources for professional and academic work in mass communication; techniques for locating, retrieving, appraising, and verifying information acquired from public records, libraries, research institutions, databases, and interviews.

I. Professional

Jour 3011. News Writing. (4 cr; prereq jour major or minor, freshman composition or exemption, pass 40 wpm keyboard test with 6 or fewer errors, Δ) Writing and producing news for newspapers, television, and magazines. Basic news writing style and methods for the different media.

Jour 3101. Reporting. (4 cr; prereq jour major, 3004, 3011; pass 40 wpm keyboarding test with 6 or fewer errors, Δ) Fact gathering and journalistic writing. Problems in judgment and handling of news and news features.

Jour 3121. Public Affairs Reporting. (4 cr; prereq jour major, 3004, C or higher in 3101; pass 40 wpm keyboard test with 6 or fewer errors, Δ) Reporting and editing news of courts and municipal, county, state, and federal administrative and legislative agencies.

Jour 3155. Publications Editing. (4 cr; prereq jour major, 3004, C or higher in 3101; pass 40 wpm keyboard test with 6 or fewer errors, Δ) Selection and editing of news-editorial content of newspapers, brochures, magazines. Newspaper makeup, magazine format. Press association teletype service. Lecture and lab.

Jour 3159. Public Relations. (4 cr; prereq jour major or minor, fr composition or exemption, Δ) History and development of public relations practice and principles. Professional writing assignments in a variety of institutional settings. Analysis and critique of public relations in contemporary society.

Jour 3173. Magazine Writing. (4 cr; prereq jour major, 3004, C or higher in 3101; pass 40 wpm keyboard test with 6 or fewer errors, Δ) Writing feature articles for general, class, and trade publications; study of market free-lance methods.

Jour 3179. Public Relations and Writing Campaign Tactics. (4 cr; prereq jour major, 3004, 3159 or 3201, Δ) Professional skills course designed to develop basic skills in public relations tactics, with a strong emphasis on professional skills in writing for a variety of audiences and purposes. Assumes a broad knowledge of public relations principles and strategic approaches.

Jour 3201. Principles of Advertising. (4 cr; prereq jour major or minor, fr composition or exemption, Δ) Theory, principles, and functions of advertising; its role in economic, social, and marketing structure. Newspapers, magazines, radio, television as advertising media.

Jour 3241. Advertising Copywriting. (4 cr; prereq jour major, 3004, 3201, Δ) Advertising appeals and strategy; advertising for print and broadcast. Individual and group projects.

Jour 3251. Advertising and Public Relations Research. (4 cr; prereq jour major, 3004, 3159 or 3201, Δ) Introduction to applied quantitative and qualitative research methods used in advertising and public relations campaign development.

Jour 3321. Basic Media Graphics. (4 cr; prereq jour major, 3004, Δ) Mass media graphics, including design principles and history, production technology, typographic legibility research, analysis of printing and production costs.

Jour 3451. Television and Radio News. (4 cr; prereq jour major, 3004, C or higher in 3101, Δ, pass 40 wpm keyboarding test with 6 or fewer errors; lect plus lab and news production hrs) News writing, reporting, video photography and editing, on-air delivery. Production of weekly University cable newscast.

Jour 5131. Interpretive Reporting. (4 cr; prereq jour major, 3004, 3121 or 3173 or 5155, Δ, pass 40 wpm keyboarding test with 6 or fewer errors) Advanced problems in reporting about government, politics, social problems, and the arts.

Jour 5155. Advanced Reporting Methods. (4 cr; prereq jour major, 3004, C or higher in 3101, Δ, pass 40 wpm keyboarding test with 6 or fewer errors) Investigative techniques for the mass media, including quantitative research methods, use of records and documents, analysis of statistics, advanced interviewing, and methods for adverse conditions.

Jour 5159. Case Studies in Public Relations. (4 cr; prereq jour major, 3004, 3159, Δ) Case study approach to application of public relations principles to solution of problems in business, government, education, and community. Enables students to sharpen their perceptions, insights, and judgments in examining practical and ethical questions.

Jour 5171. Arts Reviewing and Reporting. (4 cr; prereq jour major, 3004, C or higher in 3101, Δ, pass 40 wpm keyboarding test with 6 or fewer errors; #, Δ nonmajors) Covering the arts and entertainment beat, both as a reviewer and a reporter. Assignments follow Twin Cities arts/entertainment season, including its controversies. Weekly writing assignments, readings, field trips, guest lectures from artists and arts journalists.

Jour 5174. Magazine Editing and Production. (4 cr; prereq jour major, 3004, 3155 or 3173 or 3321 or 5302 or prof experience for 5302, #, Δ) Writing, editing, illustration, design, layout, photocomposition of a single-issue magazine.

Jour 5261. Advertising: Media Analysis. (4 cr; prereq jour major, 3004, 3201 or #, Δ) Print and electronic media, their role in advertising; selection and scheduling; rate structures and policies; evaluation and use of media and market measurements and data.

Jour 5263. Advertising and Public Relations Campaign Planning. (4 cr; prereq jour major, 3004, 5261, Mktg 3000 or #, Δ) The development of campaign strategy and tactics. Emphasis on planning and decision-making skills needed to design effective advertising campaigns.

Jour 5321. Publication Graphics. (4 cr; prereq jour major, 3004, 3321, Δ) Role of the design process as it applies to the production of magazines, brochures, and newsletters. Use of the computer in designing and preparing electronic documents for the printing process.

Jour 5441. Electronic Newsgathering. (4 cr; prereq jour major, 3004, 3451, Δ; lect plus lab and news production hrs)

Modern television news reporting. Demonstrations and field exercises in planning, lighting, shooting, editing, and scripting typical broadcast news assignments.

Jour 5442. Advanced Television News. (4 cr; prereq jour major, 3004, 3451, Δ, pass 40 wpm keyboarding test with 6 or fewer errors; lect plus lab and news production hrs)

Preparation and delivery of television newscasts. The industry's current problems; legal and ethical considerations. Social impact of electronic journalism.

II. Enrichment

Jour 3006. Visual Communication. (4 cr; prereq jour major or minor, 3004, Δ)

Form, content, and meaning in visual communication. Basic visual elements and techniques. Issues in perception, picture use, and sources of visual conventions. Organization and production of visual media. Applications to photography, film, television, advertising, and documentary work.

Jour 3007. The Media in American History and Law: Case Studies. (4 cr; prereq jour major or minor, 3004, Δ)

Legal and ethical issues; the media in the socioeconomic-political-technological context of a specific historical period.

Jour 3008. Mass Communication Processes and Structure. (4 cr; prereq jour major or minor, 3004, Δ)

Communication theories as they relate to mass communication processes; major structural aspects of mass communication systems as they affect mass communication processes.

Jour 3614. History of Mass Communication Technology. (4 cr; open to non-jour majors; jour majors must have course approved on program plan; pre-jour majors should not enroll in course)

How people have used the tools of communication from earliest times to the present. The impact of new technologies on society. The road to the information superhighway.

Jour 3741. Racial Minorities and the Mass Media. (4 cr; open to non-jour majors; jour majors must have course approved on program plan; pre-jour majors should not enroll in course)

Racial minority groups in United States as producers, subjects, and consumers of mass media. Twentieth-century developments, including the media reform movement that started with the campaign against *Birth of a Nation*.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Jour 3745. Mass Media and Popular Culture. (4 cr; open to non-jour majors; jour majors must have course approved on program plan; pre-jour majors should not enroll in course.)

Mass media's role in the formation of popular culture and cultural discourse. Traditional debate over "mass culture"; mass media representations, ethnicity, religion, social status, and gender. Prevalent media metaphors, caricatures, and stereotypes. Social and commercial pressures influencing media representation.

Jour 3776. Mass Communication Law. (4 cr; prereq jour major or minor, 3004, Δ)

Brief historical background, First Amendment rights, basic law of defamation, free press and fair trial, access to news, access to press, privacy, contempt, obscenity, regulation of broadcasting and advertising, antitrust controls, legal and ethical rules affecting journalistic practice.

Jour 3796. Mass Media and Politics. (4 cr; prereq 1001 or Pol 1001 or #; open to non-journalism majors; jour majors must have course approved on program plan; pre-jour majors should not enroll in course)

Analysis of role of mass media in politics; emphasis on television and electoral campaigns; news coverage vs. news making. Free press in democracy.

Jour 5251. Psychology of Advertising. (4 cr; prereq jour major or minor, 3004, Psy 1001, Δ)

Psychological principles, research techniques, and applications in advertising and selling. Consumer attitudes and behavior. Psychological mechanisms upon which effectiveness of advertisements and commercials depend.

Jour 5274. Advertising in Society. (4 cr; prereq jour major or minor, 3004, Δ)

Advertising as an institution. Social and economic criticism of advertising. Ethics in advertising. Advertising regulation and self-regulation.

Jour 5316. Theories of Visual Communication. (4 cr; prereq jour major or minor, 3004, 3006 or #, Δ)

Perspectives on the study and analysis of visual communication; contributions from sociology, anthropology, psychology, and history. Message structure, systems of production, and use of visual media.

Jour 5501. Communication and Public Opinion I. (4 cr; prereq jour major or minor, 3004, Δ)

Theories of the communication process and of persuasion and attitude change. Functions of interpersonal and mediated communication in diffusion of information and in opinion formation.

Jour 5531. Communication and Public Opinion II. (4 cr; prereq jour major or minor, 3004, 5501 or Soc 5355, Δ)

Advanced study of theories and research findings on opinion formation, persuasion, diffusion of information. Social science contributions to studies of the process and effects of mass communication.

Jour 5541. Mass Communication and Public Health. (3 cr, \$PubH 5394; prereq jour major or minor or grad, 12 cr social or behavioral sciences, 3004, Δ; 12 cr social or behavioral sciences, #, Δ for MPH and MS in epidemiology students)

Role, functions, and effects of mass media on public health; planned and unplanned effects; review and analysis of literature to understand how theories, models, and assumptions of mass communication research relate to public health.

Jour 5601. History of Journalism. (4 cr; prereq jour major or minor, 3004, Δ)

Development of American newspapers and periodicals from beginnings in Europe to present day; rise of radio and television; relation of communications developments to political, economic, and social trends.

Jour 5606. Literary Aspects of Journalism. (4 cr; prereq jour major or minor, 3004, #, Δ)

Literary aspects of journalism as exemplified in, and influenced by, works of English and American writers, past and present. Lectures, discussions, and weekly papers.

Jour 5611. Development of American Broadcasting. (4 cr; prereq jour major or minor, 3004, Δ)

Historical and economic development of radio and television in United States; government regulation, industry self-regulation, forms of social control; issues in contemporary broadcasting; the journalist as broadcaster.

Jour 5615. History of Visual Communication in the Mass Media. (4 cr; prereq jour major or minor, 3004, Δ)

Social history of photography, film, and video. Informational, documentary, propaganda, and entertainment functions of visual communication. The rise and influence of visual media industries and public image making.

Jour 5721. Mass Media and U.S. Society. (4 cr; prereq jour major or minor, 3004, Comp 3027 or #, Δ)

Economic, political, and social determinants of character and content of mass communication in U.S. Structure, functioning of mass media. Problems, prospects, and criticism. Professionalism, technology, reform.

Jour 5725. The Management of Media Organizations. (4 cr; prereq jour major or minor, 3004, Δ)

Examination and analysis of media organizations as businesses; economics of the mass media; markets, finances, organizational structure and management practices of principal media industries; issues in media management.

Jour 5726. Case Studies in Modern Media Management. (4 cr; prereq jour major or minor, 3004, 5725 recommended, Δ; #, Δ for nonmajors)

Case studies of how media managers make decisions dealing with money, marketing, product, personnel, and production information. Examination of the interaction between quality, price, service, and the limits of technology.

Jour 5728. News Media Economics. (4 cr; prereq jour major or minor, 3004, Δ; offered when feasible)

Political economy of news media with emphasis on United States. Effect of media ownership, competition, and advertising on the content and economic performance of news media outlets.

Jour 5731H. Honors Course: Communications Problems and Issues. (4 cr; prereq sr, jour major or minor, 3004, #, Δ; honors div regis)

Individual project and seminar of major problems and issues of communication.

Jour 5741. Minorities and Mass Media. (4 cr, \$Afro 5910; prereq jour major or minor, 3004, Δ)

Analysis of relationships between mass media and communities of color in United States. Focusing on issues of content and control.

Jour 5771. Media Ethics: Principles and Practice. (4 cr; prereq jour major or minor, 3004, #, Δ)
Designed to give students an understanding of what it means to act “ethically,” the tools to identify and analyze ethical issues, and knowledge of the ethical norms of print and broadcast journalism, photojournalism, public relations, and advertising.

Jour 5777. Contemporary Problems in Freedom of Speech and Press. (4 cr; prereq jour major or minor, 3004, Δ)
Legal and constitutional derivation of freedom of speech and press, with emphasis on case law, judicial theories, doctrines, tests, and values. Symbolic, commercial, compelled speech, speech plus, petition and assembly, leading press cases, and legal research techniques.

Jour 5801. International Communication. (4 cr; prereq jour major or minor, 3004, Δ)
Structures, processes, and consequences of international mass communication. Problems in free flow of information. Roles of international organizations. Mass communication in social, political, economic development; implications for conflict resolution.

Jour 5825. World Communication Systems. (4 cr; prereq jour major or minor, 3004, Δ)
Mass media systems of the world, described and analyzed regionally and nationally; historical roots; social, economic, and cultural context; contemporary conditions and prospects; and relevance of journalism and mass communication to international affairs.

III. Independent Study

Jour 3970. Projects in Journalism. (1-4 cr per qtr [8 cr max]; prereq jour major or minor, 3004, #, Δ, □)
Independent study; projects.

Jour 3980. Directed Instruction. (2 cr max; prereq jour major, adviser approval, one professional course for professional majors, one adviser approved course for mass comm majors, Δ, □)
Internship at graduate or undergraduate level supervised by communications organization at which the student is working and by student’s academic sponsor.

Jour 5970. Advanced Projects in Journalism. (1-4 cr per qtr [8 cr max]; prereq jour major or minor, 3004, B avg, #, Δ, □)
Independent study; projects.

Jour 5970H. Honors Course: Advanced Projects in Journalism. (1-4 cr per qtr [8 cr max]; prereq jour major or minor, 3004, B avg, #, Δ, □, honors registration)
Independent study; projects.

Jour 5990. Special Topics in Mass Communication. (1-4 cr per qtr [8 cr max]; prereq jour major or minor, 3004, #, Δ)
Topics announced in *Class Schedule*.

Latin

See Classical and Near Eastern Studies.

Latin American Studies

See Area Studies Programs.

Learning and Academic Skills

Department of Psychology

LASK 1001. Becoming a Master Student. (2 cr)
Practical assistance in developing efficient study and concentration methods, preparing for examinations, and improving reading skill. Student attitudes and motivations and their relation to satisfactory performance.

Linguistics

See Institute of Linguistics and Asian and Slavic Languages and Literatures.

Carlson School of Management

Credit for all courses listed in the *CLA Bulletin* and all courses approved for the University’s liberal education curriculum (see current *Class Schedule*) may be applied toward CLA baccalaureate degrees and the CLA residency requirement.

CLA students also may apply toward their degrees up to 28 credits of other colleges’ courses that are not part of the liberal education curriculum. In some cases, these credits may also be applied toward CLA’s former general education requirements.

Your college advising office maintains a list of courses from other colleges that are approved for the former general liberal education requirements. Descriptions of courses offered by the Carlson School of Management can be found in the bulletin for that college.

Marathi

See Institute of Linguistics and Asian and Slavic Languages and Literatures.

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This is the Mathematics through Zoology programs of the Major Requirements and Course Descriptions section from the 1996-1999 University of Minnesota College of Liberal Arts Bulletin.

Mathematics (Math)

Institute of Technology

Staff—Head, Naresh Jain, 127 Vincent Hall; **Associate Head**, John Baxter, 127 Vincent Hall; **Director of Undergraduate Studies**, David Frank, 4 Vincent Hall; **Director of Graduate Studies**, Wei-Ming Ni, 127 Vincent Hall

Ordway Professor: Krylov

Professors: Aeppli, Agard, Anderson, Aronson, Baxter, Berger, Eagon, Edelman, Fabes, Feshbach, Friedman, Fristedt, Garrett, Gil de Lamadrid, Goldman, Gray, Green, Gulliver, Harris, Hejhal, Jain, Jodeit, Joichi, Kahn, Keynes, Littman, Luskin, Lyubeznik, Marden, McCarthy, McGehee, Messing, Meyers, Miller, Moeckel, Ni, Nitsche, Olver, Pour-El, Prikry, Reich, Rejto, Roberts, Safonov, Santosa, Sattinger, Sell, Sibuya, Sperber, Stanton, Storvick, Sverak, Webb, Weinberger, White

Associate Professors: Brauer, Chow, Cockburn, Conn, Frank, Fuhrken, Gershenson, Harper, Jenkins, Lowengrub, Miracle, Richter

Assistant Professors: Adams, Kichenassamy, Leung, Reiner, Sullivan

General Education—The mathematics curriculum for the major begins with calculus (1251 or 1551H). However, the School of Mathematics offers “introductory” courses at a level below calculus. These courses include 1001 (Excursions in Mathematics), 1031 (College Algebra and Probability), and the pair 1051-1151 (Precalculus I-II). If you are considering one of these introductory courses, you must determine both the direction you wish to take in math and the appropriate level of entry.

The possible directions are finite mathematics (1131), short calculus (1142), or full calculus (1251 or 1351). The choice of direction is sometimes clarified by the requirements of your prospective major. If your direction is toward finite math or short calculus, then 1031 is the appropriate introductory course. If your direction is toward full calculus, then 1051-1151 is appropriate. Introductory courses are not required if your background and placement scores indicate otherwise. If you wish to change your direction after taking one of the introductory courses you may do so by taking one of the special 2-credit courses, 1038 or 1058.

To help determine the proper level of entry, you are required to take a mathematics placement exam. If you are a new CLA student, information about this exam is included in your orientation materials. The exam results will be combined with other background information about you, and you will be given an “index” and specific recommendations as to the appropriate level of your first University math course. Even if for any reason you do not receive testing information from other sources, you must still take the math placement test. This may be done in your college or department office according to its own conditions, or in the math office (4 Vincent Hall). There the exam, which takes 30-45 minutes, will be administered and graded promptly and a recommendation given.

If you are coming from another institution and are seeking advanced placement, a careful reading of the calculus course descriptions of both schools is necessary. The general rule is that you are not required to take any University course for which the subject matter has been covered in course(s) taken elsewhere, and for which credit has been granted. Credits for such courses taken elsewhere are usually awarded as part of the admissions process. If you wish to appeal the credit awards, you must initiate that process in your college office. Mathematics advisers, available by appointment (4 Vincent Hall, 612/625-4848), do not make rulings about credits, but will assist you for the purpose of placement or appeal. You may be asked to show materials (college bulletin and/or textbook and/or syllabus) to expedite these processes.

When negotiations fail, the math department may in some cases give exams for credit in certain Math courses at the level of calculus or above. If you wish to be tested on that basis (for credit) you must obtain a petition to that effect from your college office, bring it to the math office (4 Vincent Hall), and be prepared to explain to the director of undergraduate studies how you happened to learn the material without already receiving University credit. Exams for credit are not given in courses below the level of calculus or in 3105-6-7.

Degrees—The School of Mathematics offers a program leading to the B.A. degree in the College of Liberal Arts and one leading to the bachelor of science (B.S.Math) degree in the Institute of Technology. Information about the

B.S.Math program may be found in the *Institute of Technology Bulletin*.

By fulfilling certain requirements beyond those for the B.A., you can earn the additional phrase “with Actuarial Specialization” or “with Specialization in Mathematics Education” on your transcript.

Honors—Information about honors courses and graduation with honors may be obtained in the undergraduate mathematics office in Vincent Hall.

B.A. Major Sequence

Lower Division Requirements—You are required to complete the seven courses, 1251-1252-1261-3251-3252-3261-3262. The alternate sequence 1351-2-3 may be substituted for the first three. Honors students complete the five courses, 1551H-1552H-1553H-3551H-3552H. If you wish to take an honors course, you must be interviewed at the IT Honors office, 136 Lind Hall. An honors student who does not take 1552H at this University may be required to take 3262.

Upper Division Requirements—You are required to take a minimum of 10 approved upper division courses from this bulletin. There are also distribution requirements in the three categories of analysis, algebra, and depth, each of which is explained below.

A minimum of five courses is required in algebra and analysis (either 3-2 or 2-3). The depth requirement involves the selection of one or two “areas of specialization.” If three courses are taken in both algebra and analysis, the depth requirement is waived. If a total of five courses are taken in algebra and analysis (combined), the depth requirement is either three courses in a single area of specialization or two courses in each of a pair of areas of specialization.

Courses that fulfill the analysis requirement are 5606-5607-5608 or 5612-5613-5614. Courses that fulfill the algebra requirement are 5245-5246-5247 or 5282-5283-5284. In both categories, the second-named sequence is more intensive and intended primarily for students planning to go to graduate school.

The possible areas of specialization are as follows: logic (5162-5163-5164), geometry (5331-5332-5333-5337), topology (5341-5342-5343), differential geometry (5375-5376-5377), methods of applied mathematics (5457-5458-5459), numerical analysis (5473-5474-5475 or CSci 5301-5302-5304-5305-5306), ordinary differential equations (5521-5522-5523), dynamical systems (5531-5532-5533), partial differential equations (5571-5572-5573), probability (5681-5682-5683), statistics (Stat 5131-5132-5133), combinatorics/graph theory (5701-5702-5703), and actuarial mathematics (5056-5057-5058-5059). Other pairs or triples from the department offerings listed below may be substituted with adviser approval. No more than one of the following may be elected: Stat 5131, Math 5679, Math 5681.

General Requirements—A math course numbered over 5000 is approved for the major unless otherwise stated in the course description. A limited number of approved courses outside the math department are listed above among the areas of specialization. No other courses outside the mathematics department may be substituted. The total number of credits required for the B.A. is 180. Courses in the major must be taken A-F and must be completed with a grade of C or better.

Actuarial Science Specialization—This specialization has requirements in addition to those of the basic math major.

Additional lower division requirements: a course in computer science, such as 3113 or 3102; Econ 1104-1105 or 1101-1102-3101; Acct 1050; BFin 3000; Ins 5100.

Additional upper division requirements: one of the 5xxx algebra courses taken must include *linear* algebra as a topic. The areas of specialization are to be statistics and actuarial mathematics, and a minimum of three courses in each category is required. The statistics requirement may be fulfilled by either Stat 5131-5132-5133 or by the combination of Stat

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

5121-5122 and Math 5679 or 5681. Variations not explicitly stated may be substituted with adviser approval.

Mathematics Education Specialization—This specialization has requirements in addition to those of the basic math major.

Additional lower division requirement: a course in computer programming. CSci 3102 or 3113 are recommended.

Additional upper division depth requirements: there must be an area of specialization in geometry. Two additional courses must be chosen from the following list: Stat 5131-5132, Math 5209, 5679, 5681-5682, 5701-5702-5703. If a second area of specialization is required, the two courses selected from this list must be linked. Any other required math elective is to be taken from the previous list or the following list: 5151, 5152, 5162-5163-5164, 5341-5342, 5473, 5568. Some of the total 180 degree credits may be taken in the College of Education and Human Development.

Mathematics Minor—It is possible to obtain a minor in mathematics by completing the lower division requirements for the major, together with three of the 5xxx courses that are approved for the major. At least one of the 5xxx courses must be a prerequisite for one of the other two. At most one course in another department may be offered as part of a minor program. Courses in the minor must be taken A-F and completed with a grade of C or better.

Course Offerings—All prerequisites must be completed with a grade of C or better.

Math 1001. Excursions in Mathematics. (4 cr; prereq 3 yrs high school math, placement exam or GC 0631 with a grade of C or better)
Topics indicating breadth of mathematics, its applications, and nature and power of abstract reasoning. Not a prerequisite for any other mathematics course.

Math 1008. Trigonometry. (4 cr, \$1201, \$1151; prereq plane geometry, 2 yrs high school algebra)
Analytic trigonometry, identities, equations, properties of the trigonometric functions; right and oblique triangles.

Math 1031. College Algebra and Probability. (4 cr, \$1051, \$1111, \$1151, \$1201; prereq 3 yrs high school math, placement exam or GC 0631 with a grade of C or better)
Algebra and analytic geometry explored in greater depth than is usually done in three years of high school mathematics. Additional topics from combinations, permutations, and probability. A suitable prerequisite for 1131 or 1142, but not for 1251.

Math 1038. College Algebra and Probability Submodule. (2 cr, \$1031, \$1111; prereq 1051)
Same as 1031, strictly for students who have taken Math 1051 and thus covered about one half of the material already. Prerequisite strictly enforced.

Math 1051. Precalculus I. (4 cr, \$1031, \$1111, \$1201, \$1008, \$1151; prereq 3 yrs high school math, placement exam or GC 0631 with a grade of C or better)
Algebra, analytic geometry, and trigonometry beyond the usual coverage found in a three-year high school mathematics program. First of two courses (see 1151). Prepares students for the full calculus sequence. Not an acceptable prerequisite for 1131.

Math 1058. Precalculus I Submodule. (2 cr, \$1051, \$1151, \$1111, \$1201, \$1008; prereq 1031)
Same as 1051, strictly for students who have taken 1031 and thus covered about one half of the material already. Prerequisite strictly enforced.

Math 1131. Finite Mathematics. (5 cr; prereq 3½ yrs high school mathematics or a grade of C or better in 1031 or 1111; for students in prebusiness and social and behavioral sciences)
Elementary computer programming, financial mathematics, probability, linear algebra, linear programming, Markov chains.

Math 1142. Short Calculus. (5 cr, \$1251; prereq 3½ yrs high school mathematics or a grade of C or better in 1031 or 1111 or 1201; for students requiring a minimal amount of calculus)
Derivatives, integrals, differential equations, maxima and minima, partial differentiation, applications.

Math 1151. Precalculus II. (4 cr, \$1008, 1111, \$1201; prereq 3½ yrs high school mathematics, placement exam or Math 1051 with a grade of C or better)
Second of two courses (see 1051) in algebra, analytic geometry, and trigonometry. Prepares students for the full calculus sequence. Not an acceptable prerequisite for Math 1131.

Math 1251-1252. One-Variable Differential and Integral Calculus I-II. (4 cr per course, \$1142, \$1211-1221, \$1411H-1421H, \$1451H-1452H; prereq 4 yrs high school math including trigonometry, placement test or a grade of C or better in Math 1151 or equiv; a grade of C or better in 1251 required for 1252)
Calculus of functions of one variable and related geometry and applications.

Math 1261. Calculus III. (4 cr, \$1353; prereq 1252 or 1352 or equiv)
Further topics in calculus: parametric curves, polar coordinates, power series and the Taylor polynomial. Linear algebraic equations, Gaussian elimination, determinants. Applications.

Math 1268. Short Course: Introduction to Linear Algebra. (2 cr, \$1261, \$3221, \$3142; prereq any course in differential equations)
Matrices, Gaussian elimination, determinants. Course offers in isolation the linear algebra of Math 1261. Designed for transfer students who have already had a course in differential equations. Meets only for the first four weeks of the quarter, concurrent with Math 3221.

Math 1351-1352-1353. Calculus: Concepts, Explorations, and Applications. (4 cr each, \$1251 for 1351, \$1252 for 1352, \$1261 for 1353; prereq solid background in precalculus and geometry and visualization of functions and graphs, #, familiarity with graphing calculator recommended, grade of C or better required to continue in the sequence.)
Reformed approach to calculus: cooperative learning/ small groups, labs, projects. Technology and applications emphasized throughout, with interdisciplinary modules. Meets MW (50-minute) and TTh (75-minute workshops). *1351*: functions, differentiation; *1352*: antiderivatives, integration; *1353*: differential equations, parametric curves, series, basic linear algebra.

Math 1551H-1552H Honors: One-Variable Differential and Integral Calculus I-II. (4 cr per course, \$1251-1252, \$1411-1421, \$1211-1221; prereq consent of IT Honors Office, a grade of C or better in 1551H required for 1552H)
Honors-level treatment of calculus of functions of one variable and related geometry and applications, including infinite sequences and series.

Math 1553H-3551H-3552H. Honors: Linear and Nonlinear Analysis I-II-III. (4 cr per course; parts of this sequence may not be taken for credit by students with previous 3xxx Math courses—adviser approval required; prereq 1251-1252 or 1551H-1552H or equiv; a grade of C or better required to continue in sequence)
1553H: vector geometry and linear algebra; *3551H*: ordinary differential equations; *3551H-3552H*: multivariable differential calculus; *3552H*: multivariable integral calculus; recommend taking courses in consecutive quarters.

Math 1711H-1721H-1731H. Secondary Students Honors Calculus I-II-III. (4 cr per qtr; prereq #, Δ)
Accelerated honors sequence for selected mathematically talented high school students. Essentially the same as 1551H-1552H, plus applications to science and engineering. Emphasis on theory and computations. Students who complete 1731H take 3511H next.

Math 3001. Actuarial Science Seminar. (1 cr; prereq 48 cr; S-N only)
Actuarial science and related fields as careers. Lectures by practicing actuaries and others. Sample employment interviews at insurance or consulting companies.

Math 3105-3106-3107 (formerly 1105-1106). Topics in Elementary Mathematics. (4 cr; prereq Math 1031 or equiv, C or better to continue in sequence)
Topics suitable for elementary school teachers presented in a cooperative learning environment. *3105*: number sequences, counting, graph theory; *3106*: probability, statistics, number systems; *3107*: algebraic structures, matrices, rates of change, geometry.

Math 3142. Linear Algebra. (5 cr, \$1241, \$1261; prereq 1252 or 1221)
Practical course in linear algebra, including vector spaces, matrices, determinants, linear algebraic equations and Gaussian elimination, basis and dimension, linear transformation, eigenvalues and eigenvectors, bilinear forms, diagonalization.

Math 3221. Introduction to Linear Algebra and Differential Equations. (5 cr, \$3066, \$3261, \$3552H, \$1261; prereq one yr calculus)
Combines the linear algebra from Math 1261 with the major topics of Math 3261. Designed for transfer students with one year of calculus. Students who have some linear algebra, or who have taken Math 1261 at this University, should take 3261 instead. Algebra part available separately as Math 1268.

Math 3251. Multivariable Differential Calculus. (4 cr, \$3211, \$3311, \$3521H, \$3552H; prereq 1261 or 1353)
Algebra and geometry of vectors in 3-space. Velocity, acceleration, and curvature. Functions of several variables. Partial derivatives and the chain rule. Applications to max/min problems. Lagrange multipliers.

Math 3252. Multivariable Integral Calculus. (4 cr, \$for students with 3311, 3331 or 3211, 3331, \$3551H, \$3552H; prereq 1252, 3251 or ¶3251)
Double and triple integrals; change of variable procedures, emphasizes polar and spherical coordinates; mass and centroid; integration on curves and surfaces; vector fields and theorems of Green, Gauss, and Stokes.

Math 3261. Differential Equations With Linear Algebra. (4 cr, \$3221, \$3321, \$3531H, \$3551H; prereq 1252 or 1221, 1261 or 1241 or 3142)
Differential equations, including first order equations, linear equations with constant coefficients, and linear systems. Companion topics from linear algebra: general vector spaces, independence, spanning sets, basis, dimension, eigenvalues, and eigenvectors.

Math 3262. Sequences, Series, and Foundations. (4 cr; prereq 1261)
Elements of logic; mathematical induction; the real number system; general, monotone, and recursively defined sequences; convergence; infinite series and convergence; Taylor's series; power series with applications to differential equations; Newton's method.

Math 3354-3355-3356. Calculus Concepts, Explorations, and Applications. (4 cr; prereq Math 1353 for 3354, 3354 for 3355, 3355 for 3356)
Reformed approach to calculus: small groups, labs, projects. Technology and applications featuring interdisciplinary modules. *3354*: functions, differentiation, parametrization of curves/surfaces; *3355*: integration, systems of differential equations; *3356*: differential equations, vector analysis.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Math 3511H. Honors: Linear Analysis. (5 cr, \$1261; prereq 1731H)
Continuation of 1731H for mathematically talented high school students. Ideas and computations of linear algebra, including linear independence, linear transformations, matrices, and determinants. Students who complete this course may enter 3551H or any course for which 1261 is the prerequisite.

Math 3551H-3552H. Honors: Linear and Nonlinear Analysis II-III.
For description, see 1553H.

Math 5056. Theory of Interest. (4 cr; prereq 1252 or equiv)
Time value of money. Annuities, sinking funds, bonds, and similar items. Primarily for mathematics and business majors interested in actuarial science.

Math 5057-5058-5059. Actuarial Mathematics I-II-III. (4 cr; prereq 5056, one qtr 5xxx probability or statistics course)
Survival function; actuarial notation; actuarial present values for life insurance and life annuities; equivalence principle; net premiums and reserves; multiple life functions and multiple decrement models; valuation of pensions; expense modeling; modified reserves; other topics at instructor's discretion.

Math 5105-5106-5107 (formerly 5005-5006-5007) The Diversity of Mathematics. (4 cr ea, \$1105, \$3105 for 5105; \$1106, \$3106 for 5106; \$3107 for 5107; prereq 1031 or equiv or #; cr only for grad students in elementary education)
Mathematical enrichment for elementary school instructors. Topics such as number theory (primes and congruences), fractions and decimals, regular and semi-regular polyhedra, map coloring, graph theory, game theory. Additions and deletions at instructor's discretion.

Math 5151. Elementary Set Theory. (4 cr; prereq a 32xx math course or equiv or #)
Basic properties of operations on sets, cardinal numbers, simply ordered sets, well-ordered sets, ordinal numbers, axiom of choice, axiomatics.

Math 5152. Elementary Mathematical Logic. (4 cr, \$5162; prereq a 32xx math course or equiv or #)
Grammar and semantics of first- and second-order languages; relational structures; a deductive system for first-order logic; completeness theorem; axiomatics of formal theories.

Math 5162-5163-5164. Mathematical Logic. (4 cr per qtr; prereq 1 yr of calculus or equiv or Phil 5202 or #)
5162: Theory of computability, notion of algorithm, Turing machines, primitive recursive functions, recursive functions, Kleene Normal form, recursion theorem. 5163: Probability and truth in formal systems: propositional and predicate logic, models of axiom systems, Gödel completeness theorem, nonstandard analysis. 5164: Gödel incompleteness theorem: decidable and undecidable theories, models of arithmetic.

Math 5209. Theory of Numbers. (4 cr; prereq a 32xx math course or equiv or #)
Elementary theory of numbers up to classical results about congruences to a prime modulus (e.g., Fermat's theorem). Usually covers one more advanced topic such as continued fractions, Gaussian integers, or quadratic reciprocity.

Math 5242-5243. Linear Algebra With Applications. (4 cr per qtr, \$5247, \$5284; prereq 1261 or 3142 or equiv)
Systems of linear equations, finite dimensional linear spaces, bases, linear transformations, matrices, determinants, eigenvalues, reduction to canonical forms, quadratic and bilinear forms, applications.

Math 5245-5246-5247. Introduction to Modern Algebra I-II-III. (4 cr per qtr, \$5282 for 5245, \$5283 for 5246, \$5284 for 5247; prereq 32xx math sequence or equiv or #)
Algebra at a more concrete level than 5282-5283-5284. Group theory, including normal subgroups, homomorphism, theories of Lagrange and Cayley. Ring theory including ideals, integral domains, Euclidean rings, polynomial rings; fields. Linear algebra including an abstract approach to vector spaces; linear transformations and their structure. Taking this course nonsequentially is not recommended.

Math 5282H-5283H-5284H. Fundamental Structures of Algebra. (4 cr per qtr; prereq 32xx math sequence or equiv or #; some previous abstract math recommended)
Theory course, principally for students planning mathematics graduate work. Group theory: normal subgroups, homomorphism, automorphism, the theorems of Lagrange, Cayley, and Sylow. Ring theory: rings, ideals, integral domains, Euclidean rings, polynomial rings, fields. Linear algebra: abstract approach to vector spaces, linear transformations; the theory of canonical forms, including the Jordan and rational.

Math 5331-5332-5333. Geometry I-II-III. (4 cr per qtr, \$3161 for 5331, \$5083 for 5332; prereq 1261 or equiv)
Advanced Euclidean geometry; axiomatic and analytic hyperbolic geometry; projective geometry; symmetry and geometric transformations and their connections to linear algebra, group theory, and complex arithmetic; finite geometries; convex geometrical figures.

Math 5337. Computational Methods in Elementary Geometry. (4 cr; prereq multivariable calculus [e.g., 3251] or #)
Technological tools such as interactive computer graphics programs and videos of computer animations introduced and used to explore mathematical concepts from various branches of geometry.

Math 5341-5342. Introduction to Topology. (4 cr per qtr; prereq one soph sequence or #; some previous abstract mathematics recommended)
Set theory: axiom of choice, Zorn's lemma. Metric spaces: completeness, compactness, continuity. Basic point set topology: countability and separation axioms, Urysohn's lemma, compactness, connectedness, product spaces.

Math 5343. Introduction to Algebraic Topology. (4 cr; prereq 5342)
Classification of two-manifolds, fundamental group, homology theory.

Math 5375. Differential Geometry. (4 cr; prereq 3252 or equiv or #)
Plane and space curves. Frenet formulas, elementary theory of surfaces.

Math 5376-5377. Differential Geometry. (4 cr per qtr; prereq 5375, 3261 or 3142 or equiv) Differential forms. Advanced theory of surfaces, integral geometry, Riemannian geometry.

Math 5381-5382-5383. Introduction to Computational Algebraic Geometry. (4 cr ea; prereq multivariable differential calculus [e.g., 1261 and 3251]) Geometry of curves and surfaces defined by polynomial equations. Emphasis on concrete computations with polynomials using computer algebra packages, and on interplay between algebra and geometry. Abstract algebra presented as needed.

Math 5404. Variational Problems. (4 cr; prereq 3252, 3261 or equiv or #)

The calculus of variations and its applications. Topics may include fundamental theory, Euler-Lagrange equations, necessary and sufficient conditions, stability, isoperimetric problems, rudiments of the Mayer-Lagrange-Bolza problem, multiplier rule, direct methods, Rayleigh-Ritz method, eigenvalue problems, multiple integrals.

Math 5428. Mathematical Modeling. (4 cr; prereq 2 yrs of elementary calculus)

Methodology and practice in developing and analyzing mathematical models of problems which arise in physical, social, and engineering sciences. Team approach to case studies.

Math 5457-5458-5459. Methods of Applied Mathematics. (4 cr per qtr; prereq 3252, 3261 or equiv; 3262 recommended)

Modern analytic tools used in applications of mathematics; emphasis on technique. Linear algebra, ordinary and partial differential equations, calculus of variations, Fourier series, complex variables, optimization, numerical methods.

Math 5463-5464-5465. The Mathematics of Industrial Problems. (4 cr per qtr; prereq 2 yrs of calculus including 3262 or equiv, familiarity with FORTRAN or PASCAL or C)

Industrial problems such as crystal precipitation, air quality modeling, color film developing, laser semiconductors. Theoretical foundations and computational methods involving ordinary and partial differential equations, calculus of variations, and numerical analysis.

Math 5467. Introduction to the Mathematical Theory of Wavelets. (4 cr; prereq 2 yrs of calculus or #)

Background theory and experience in wavelets (families of functions useful for representing and approximating other functions). Inner product spaces, operator theory, Fourier transform, Gabor transform, multiscale analysis, discrete wavelets, self-similarity. Computing techniques.

Math 5473-5474-5475. Analysis of Numerical Methods. (4 cr per qtr; prereq 3252, 3261 or equiv; some computer skill recommended)

Interpolation, approximation by polynomials; solution of linear, nonlinear systems of equations; methods for eigenvalue problems; numerical integration; numerical solution of ordinary differential equations. Selected topics if time permits.

Math 5477-5478-5479. Applied Numerical Analysis of Partial Differential Equations. (4 cr per qtr; prereq 5242 or equiv, 5608 or equiv, 5513 or equiv, computer skills or #)

Numerical methods for partial differential equations of fluid dynamics, elasticity, electrostatics, and other selected systems. Computer experiments.

Math 5512. Differential Equations with Applications. (4 cr; prereq 3261 or equiv)

Further topics in basic differential equations: Laplace transform, series solutions, systems, numerical methods, plane autonomous systems and stability.

Math 5514. Integral Equations. (4 cr; prereq 3261 or 5512 or equiv or #)

Integral equations; Fredholm formula, Neumann series, Laplace transforms, successive approximations and numerical methods. Relation of integral equations to systems of linear algebraic equations and to differential equations.

Math 5521-5522-5523. Introduction to Ordinary Differential Equations. (4 cr per qtr; prereq one soph math sequence or #)

5521: Brief coverage of elementary methods for general differential equations; linear systems with constant coefficients, including fundamental matrix solutions; variation of parameters in linear systems; existence and uniqueness of solutions. 5522: Basic local existence and uniqueness theory for initial value problems; stability of equilibria, flows and dynamical systems; nonlinear oscillations, particularly van der Pol's equation. 5523: Poincare-Bendixon theory; applications to ecology, differentiation of flows and stability of periodic orbits.

Math 5531-5532-5533 Dynamical Systems and Chaos. (4 cr per course; prereq multivariable calc and linear algebra [e.g., 1261-3251-3252-3261 or equiv])

Dynamical systems theory with emphasis on iteration of mappings of the line, the circle, and the plane. Fixed points, periodic points, stability, bifurcations, invariant Cantor sets, rotation number, Smale horseshoe, fractal dimension, Julia sets, Mandelbrot set, nonlinear oscillations, computer experiments.

Math 5553H (formerly 3541H). Honors: Complex Analysis and Related Topics. (4 cr, \$3331, \$5568; prereq 3531H or 3552H)

Differentiation of complex-valued functions of a complex variable; major theorems on analytic functions; power series, Laurent series, and topics in sequences and series.

Math 5567. Fourier Series and Boundary Value Problems. (4 cr, \$5571; prereq 3261 or equiv or #)

Partial differential equations of theoretical physics. Fourier series, orthogonal systems. Sturm-Liouville systems, solution of boundary value problems by separation of variables, applications.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Math 5568. Elementary Theory of Complex Variables. (4 cr, §3541H, §5553H, §5572; prereq 3252 or equiv)

Derivative and integral of a function of a complex variable. Cauchy integral theorem and formula, residues. Application to evaluation of integrals, conformal mapping.

Math 5569. Operational Mathematics. (4 cr, §5573; prereq 5568)

Laplace transforms, Fourier transforms, inversion theorems; applications to differential equations.

Math 5571-5572-5573. Elementary Partial Differential Equations. (4 cr per qtr, §5568 for 5572, 5573; prereq ¶15608 or 5613 or equiv)

Partial differential equations of theoretical physics, one-dimensional wave equations, characteristics, classification of second-order equations, heat and Laplace equations, uniqueness, maximum principle, orthogonal systems, Fourier series, separation of variables. Complex numbers, derivatives and integrals of analytic functions, elementary functions and their geometry. Cauchy integral theorem and formula, Laurent expansions, evaluation of contour integrals by residues, Fourier and Laplace transforms and their inversion, method of residues, applications to ordinary and partial differential equations, applications of heat, wave, and Laplace equations.

Math 5606-5607. Advanced Calculus: A Rigorous Approach. (4 cr per course, §5612 for 5606, §5613 for 5607; prereq 2 yrs calc)

Analysis on the real line: introduction to logic and proof, construction of the real numbers, completeness of the real numbers, infinite sequences and series; continuity for functions, derivatives, Riemann integrals, convergence of sequences and series of functions.

Math 5608. Multivariable Advanced Calculus. (4 cr; §5614; prereq 3252; 5606-5607 recommended)

Continuity for vector valued functions; the derivative as a linear mapping; the differential matrix; implicit function theory; multivariable integration theory and related topics. Course is slightly below the level of 5612-13-14 but well above 3xxx courses.

Math 5612H-5613H-5614H. Introduction to Analysis (4 cr per qtr; prereq 3252, ¶13262, or 3552H; principally for students planning grad work in math, as preparation for grad courses in analysis)

Theory, construction, and models of the real numbers. Elements of topology. Theory and practice of differentiation and integration. Sequences and series of functions, and uniform convergence. Additional topics at instructor's discretion.

Math 5679. Probability. (4 cr, §5681, §Stat 5131; prereq 3252 or equiv)

A one-quarter course in probability, not recommended for those going on in probability or statistics. Probability spaces, expectation; conditional probability and expectation, probability distributions and densities, repeated trials and independence. Mathematics majors cannot get credit for more than one of the trio 5679, 5681, Stat 5131.

Math 5681-5682-5683. Probability and Stochastic Processes. (4 cr, §5679, §Stat 5131 for 5681; prereq 3252)

Logical development and various applications of probability. Probability spaces, random variables and their distributions, expected values, law of large numbers and central limit theorem, generating functions. Topics from random walks and Markov chains, branching processes. Poisson point processes, martingales, stationary sequences, second-order processes, stochastic differential equations.

Math 5701. Enumerative Combinatorics. (4 cr; prereq 3251 or equiv, jr; soph level linear algebra helpful)

Basic enumeration. Sets, permutations, distributions, partitions, generating functions (exponential and ordinary), recurrence relations, the method of inclusion-exclusion, and Polya theory.

Math 5702. Graph Theory and Optimization. (4 cr; prereq 3251 or equiv, jr; soph level linear algebra helpful)

Basic concepts in graph theory. Connectedness, Hamiltonian and Eulerian paths, trees, coloring, and matchings. Topics in optimizations: networks, flows, spanning trees, and graph algorithms.

Math 5703. Constructive Combinatorics. (4 cr; prereq 5701 or equiv, some knowledge of a programming language)

Algorithmic and bijective approaches to permutations, subsets, trees, tableaux, and partitions, ranking and unranking algorithms. Connections with generating functions. The Lagrange inversion formula.

Math 5711. Linear Programming and Application. (4 cr; prereq a course in linear algebra)

Geometry of linear programming, interpretation of solutions to linear programs, applications. Simplex method; connections to geometry; duality theory; sensitivity analysis; applications to cutting stock, allocation of resources, and scheduling problems; Dantzig-Wolfe decomposition; interior methods.

Math 5712. Combinatorial Optimization. (4 cr; prereq Math 5711)

Graph algorithms and integer programming techniques. Flows; matching and transportation problems; spanning trees, distance in graphs; branch and bound; cutting planes; heuristics; applications to traveling salesman and knapsack problems.

Math 5900. Tutorial Course in Advanced Mathematics. (Cr ar; prereq #)

Qualified students whose needs are not met by courses offered may make arrangements to study content of other courses.

Microbiology (MicB)

Medical School

Staff—Head, Ashley T. Haase, 1460 Mayo Memorial Building; *Director of Undergraduate Studies,* Palmer Rogers, 925 Mayo Memorial Building

Professors: Anderson, Cleary, Dunny, Dworkin, Faras, Germaine, Gray, Haase, Hanson, Johnson, Plagemann, Rogers, Schlievert, Zissler

Associate Professors: Bey, Conklin, Flickinger, Jemmerson, Jenkins, Reilly, Sadowsky, Scherer, Schiff, Sherman, Southern

Assistant Professor: Mathur

Microbiology is the branch of biological science that deals with the nature and activities of microorganisms, the distinctive microscopic life forms that recycle the elements in aquatic, atmospheric, and soil environments. Their potentials may be directed to the benefit of people through applications in industry, agriculture, and medicine, or to their harm in disease and spoilage. As remarkably useful model systems for research, microorganisms play a key role in the development of modern biology.

The Department of Microbiology offers a program leading to the B.A. degree in the College of Liberal Arts and one leading to the B.S. degree in the College of Biological Sciences. Information about the B.S. program may be found in the *College of Biological Sciences Bulletin*.

The major sequence leading to the B.A. degree permits the selection of microbiology or related courses appropriate to your interests in such areas as pathogenic mechanisms, ecology of microorganisms, or microbes and humans.

B.A. Major Sequence

Required Preparatory Courses—Biol 1201-1202-1203 or Biol 1009, 1103 or 1106 or 3011 or 3012; Chem 1051-1052, 3100-3101, 3301-3302, 3305-3306, and 3303 or BioC 3021 or BioC 5331; Math 1251-1252, 1261 or Stat 3011-3012 or PubH 5450-5452; Phys 1041-1042

or 1104-1105-1106-1107-1108-1109 or 1251-1252-1253-1254 or 1451-1452-1453-1454

Major Requirements—3103 or 5105 or VPB 3103 or Biol 5013; three of the following: MicB 5218, 5232, 5321, 5352, 5424, 5611; two of the following: MicB 5234, 5322, 5425, 5990 (minimum of two 4 cr qtrs in one faculty lab); 5900

8-10 3xxx-5xxx cr in microbiology or related courses (depending on your interests; related courses may be in biology, plant biology, food science and nutrition, genetics and cell biology, medical technology, public health, lab medicine, or ecology, evolution, and behavior). A minimum of two courses will complete the major. Students are urged to include genetics and ecology in their programs; Genetics: GCB 3022, Biol 5003, EEB 5044; Ecology: Biol 5041, EEB 3001 .

MicB 3103.¹ General Microbiology. (5 cr, §5015, §Biol 5013, §VPB 3103; prereq soph with C average in prereq courses to major sequence or jr with 10 cr chemistry and 5 cr biological sciences or #; UC only) Morphology, physiology, taxonomy, and ecology of bacteria. Applications of fundamental principles. Lab.

VPB 3103f.s.¹ General Microbiology. (5 cr, §Biol 5013, §MicB 3103, §MicB 5105, §Biol 5013; not open to veterinary medical students; prereq 10 cr chemistry, 4 cr biological sciences) Morphology, genetics, physiology, and ecology of microorganisms. Application of principles of microbiology to immunity and medicine.

Biol 5013f,w.s.¹ Microbiology. (5 cr, §Biol 3013, §MicB 3103, §MicB 5105, §VPB 3103; prereq 5 cr biological sciences, 10 cr organic chemistry or #) Dunny, Hanson, Sherman Taxonomy, anatomy, physiology, biochemistry, and ecology of microbes. Molecular structure in relation to bacterial function. Lab.

MicB 5105f,w.s.¹ Biology of Microorganisms. (5 cr, §3103, §Biol 5013, §VPB 3103; prereq 5 cr biological sciences, 10 cr organic chemistry or #) Dunny, Hanson, Sherman Taxonomy, anatomy, physiology, biochemistry, and ecology of microbes. Molecular structure in relation to bacterial function. Lab.

FScN 5120w. Food Microbiology. (5 cr; prereq MicB 3103)

Relationship of environment to occurrence, growth, and survival of microorganisms in foods; evaluation of microbiological quality of dairy and food products; characteristics and activities of bacteria, yeasts, and molds related to food spoilage; use of microorganisms in manufacture of dairy and food products; recognition and control of food-borne pathogens and food poisoning.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

FScN 5122. Control Systems in Food Microbiology. (2 cr; prereq 5120)

Control and destruction of microorganisms in foods; hazard analysis; critical control points; chemical, physical, and microbiological considerations in cleaning and sanitizing food contact surfaces and equipment; microbiological criteria for raw and processed foods; sampling methodologies.

FScN 5123. Food Fermentations and Biotechnology. (4 cr; prereq 5120, 5122)

Characteristics of microorganisms involved in dairy and food fermentations and factors influencing their activity; natural and controlled fermentations; lactic bacteriophages and their control; application of biotechnology to food-grade microorganisms; rapid detection systems; regulation of microbial products derived from biotechnology.

Biol 5125s. Recombinant DNA Laboratory. (4 cr, \$Biol 5125; prereq #: application necessary)

Basic recombinant DNA techniques. Methods for growing, isolating, and purifying recombinant DNAs and cloning vectors.

PubH 5171f. Environmental Microbiology. (3 cr; prereq MicB 3103 or #)

Survival, dissemination, transportation, and significance of microorganisms in the environment; application of principles to environmental health problems.

MicB 5218w. Immunology. (3 cr; prereq Biol 5001) Gray

Cellular, protein, and genetic bases of humoral immunity; methods used to measure antibodies and antigens. T lymphocytes: interaction of T helper cells with B lymphocytes and other T cells in cell-mediated immunity. Clinical immunology: immunodeficiency, allergy, auto-immunity, transplantation.

MicB 5232w. Medical Microbiology. (3 cr; prereq 5216 or 5218, 5105 or 3103 or 8110 or Biol 5013; not open to medical students) Cleary

Pathogenic bacteria and fungi, mechanisms of pathogenicity and virulence; properties of microorganisms and their animal hosts that influence the outcome of host-parasite relations analyzed from genetic and metabolic view.

MicB 5234w.¹ Immunology and Medical Microbiology Laboratory. (3 cr; prereq 5218 or ¶5218, 5232 or ¶5232) Cleary, Gray

Exercises demonstrating the principles that determine the outcome of host-parasite interactions. Experiments focus on methods basic to host defense and immunology, including the immunochemical and microbiological methods used to diagnose infectious disease.

MicB 5235f. Microorganisms and Disease. (3 cr; prereq 10 cr chemistry, 5 cr biological sciences or #: not open to microbiology majors) Johnson

Nature of microorganisms, immunology, medical bacteriology, virology, mycology, parasitology, and principles of disease control.

MicB 5321f. Physiology of Bacteria. (3 cr; prereq 3103 or 5105 or Biol 5013 or VPB 3103, Biol 5001, 3 cr genetics) Rogers

Chemical and physical organization of bacteria as related to function; growth; energy metabolism, including oxidations and fermentations; nutritional requirements; antimicrobial agents; autotrophic mechanisms; microbial differentiation.

MicB 5322f.¹ Microbial Diversity and Physiology Laboratory. (2 cr; prereq 5321 or ¶5321 or equiv) Dworkin, Rogers

Isolation from natural sources and study of the physiology and metabolism of a wide variety of microorganisms such as *Clostridium*, yeast, *Caulobacter*, myxobacteria, *Leptospira*, photosynthetic bacteria, *Bdellovibrio*, luminescent bacteria, others.

MicB 5352s. Applied Microbiology. (4 cr; prereq 5321 or #: offered 1997-98 and alt yrs) Flickinger

Microbial adaptation to various environments; role of microorganisms in the earth's biogeochemical cycles. Application of microbial systems to industrial processes; basic principles of fermentation technology; microbial bioconversions and product formation. Biodegradation of chemicals.

MicB 5424s. Biology of Viruses. (3 cr; prereq 5321 or Biol 5001 or #) Plagemann

Structure, composition, and properties of bacterial, plant, and animal viruses; interaction with cells, effects on host cell metabolism; biochemistry of viral replication; techniques in study of viruses and viral infections; viral tumorigenesis.

MicB 5425s.1 Virology and Microbial Genetics Laboratory. (3 cr; prereq 5424 or equiv, Biol 5001 or 5003, GCB 3022 or 5022 or #) Plagemann, Schiff

Lab course familiarizes students with modern techniques in virology and microbial genetics: animal cell culture, virus infectivity titrations, analysis of viral nucleic acids and proteins by radiolabeling, gel electrophoresis and blot hybridizations, cell transformation by tumor viruses and DNA, analysis and mapping of mutants in microorganisms.

MicB 5611s. Microbial Ecology. (3 cr, \$Soil 5605; prereq 3103 or 5105 or Biol 5013 or Soil 5610 or #: A-F only) Sadowsky

Interrelationship of microorganisms with terrestrial, aquatic, and organismal environments; survey of bacterial, fungal, and algal components of ecosystems; evolution and structure of microbial communities; population interactions within ecosystems; quantitative and habitat ecology; biogeochemical cycling; and biotechnological approaches to study of microbial ecology.

MicB 5900f,s. Topics in Microbiology. (1 cr per qtr; prereq sr microbiology major, MicB 5105 or Biol 5013; A-F only)

Seminars on research programs, historical perspectives, significant emerging fields, professional societies and publications, career opportunities.

MicB 5970f,w,s,su. Directed Studies. (Cr ar; prereq #, Δ) Rogers, staff

Guided individual studies.

MicB 5990f,w,s,su. Undergraduate Research. (Cr ar; prereq #, Δ) Rogers, staff

Guided individual research.

¹ *Microscope fee charged.*

Middle Eastern Studies

See Area Studies Programs and Institute of Linguistics and Asian and Slavic Languages and Literatures.

Military Science

See Reserve Officers Training Corps.

Modern Greek

See Classical and Near Eastern Studies.

Music (Mus)

Staff—*Director*, Vern Sutton, 200 Ferguson Hall; *Director of Undergraduate Studies*, Stephen Schultz; *Associate Director/Director of Graduate Studies*, David Grayson; *Assistant Director*, Rodney Loeffler; *Assistant to the Director*, Linda Fisher; *Music Librarian*, Laura Probst; *Head, Band/Winds/Jazz Studies*, David Baldwin; *Head, Orchestra/Strings*, Mark Bjork; *Head, Choral/Opera/Vocal Studies*, Lawrence Weller; *Head, Composition/Theory*, Michael Cherlin; *Head, Keyboard*, Dean Billmeyer; *Head, Music Education/Therapy*, Paul Haack; *Head, Musicology/Ethnomusicology*, James Hepokoski

Regents' Professor: Argento

Ethel Hitchcock Endowed Chair in

Accompanying and Coaching: Garrett

Professors: Anderson, Artymiw, Baldwin, Braginsky, Haack, Hepokoski, Jackson, Kirchhoff, T. Lancaster, Lubet, Maurice, McCurdy, O'Reilly, Remenikova, Sutton, Zaimont

Associate Professors: Ashworth, Billmeyer, Cherlin, Damschroder, del Santo, Furman, Grayson, Kagan, Kim, Konkol, McCoy, McNab, Schultz, Shockley, Ware, Weller

Assistant Professors: Becher, Bjork, Meza, Shaw

Affiliated Faculty—Betts, Bogorad, Bordner, Brown, Clute, Dirlam, D. Eagle, E. Eagle, Fleezanis, Greenbank, Grivna, Hamilton, Herring, Hey, Kamminga, Kierig, Kite, Kuenzel, N. Lancaster, Laskin, Lloyd,

McGuire, F. Miller, Nielubowski, Paradise, J. Miller, Raynor, Reeve, Romey, Straka, Tolbert, Ullery, Van, Winslow

The School of Music offers the B.A. and B.M. degrees in music, music education and in music therapy.

The B.A. program is for students who wish to major in music while enrolling in a diversified program of elective coursework outside the major. The program is divided into two tracks allowing for concentration of study in either an academic area or in performance.

The B.M. program is for students who wish to complete professional studies in performance, jazz studies, music education, or music therapy. A total of 180 credits (200 for instrumental music education, 191-197 for vocal/choral music education, and 190 for music therapy), including electives in music and nonmusic studies, are required for graduation; a minimum of 117 of these credits must be in music. Before entering the junior year of applied study, you must take a qualifying examination in which you perform (play or sing) in the area of your specialty.

The B.M. program in music education is offered in the College of Liberal Arts, with teaching licensure through the College of Education and Human Development. There are two undergraduate majors in music education: music education (with concentrations in instrumental or choral/general music) and music therapy.

To be admitted to the major for any of the degree programs, you must audition and be placed in a suitable level of applied music study. Transfer students are placed on the basis of an entrance audition and examinations in music theory, music history, and piano.

You should consult with a School of Music adviser in selecting appropriate courses. All music and music education courses required for a degree must be taken with the A-F grading option; no S-N credits will be counted toward the fulfillment of degree requirements (MuEd

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3850 in music therapy is the one exception to this rule [S-N required].) You must earn a grade of C or better in major courses in order to satisfy degree requirements and to be allowed to continue in sequence courses.

Requirements for the B.A. and B.M. degrees are outlined on page 8 of this bulletin. Note that B.M. students are exempt from the second language proficiency requirement.

The School of Music is a full member of the National Association of Schools of Music.

Note: Courses preceded by the concurrent symbol (¶) in School of Music course listings must be taken simultaneously with the course being described.

Study Abroad—Applied music studies or relevant academic research in Europe or a non-Western country is encouraged. Upon faculty review, credits can be applied toward the B.M. or B.A. degrees. For more information on study abroad opportunities and procedures, see the Foreign Study section of this bulletin.

Core Curriculum for all B.A. and B.M. degrees in music: (46 cr)

(Preparatory courses in music theory [1003, 2 cr] and ear training [1004, 2 cr] will be required of all students not able to pass diagnostic examinations upon entrance to the program. These credits may not be counted toward graduation requirements in music.)

Music theory: 1531-1532; 1533-3531-3532 (3 cr per qtr)

Ear training: 1511-1512; 1513-3511-3512 (1 cr per qtr)

Class piano: 1151-1152-1153 or 1521-1522-1523 (2 cr per qtr)

Music history: 1602 (3 cr); 3604-3605-3606 (5 cr per qtr)

Basic conducting: 3441 (2 cr)

Ensembles: see departmental guidelines for ensemble classification/requirements; total credits required are listed below. *Note:* A primary ensemble must be taken concurrently with major level applied lessons.

B.A. Major Sequence—
Academic Track

Major Requirements in addition to core curriculum

—Applied music (major instrument or voice): 6 qtrs (12 cr min) of 12xx or higher

Ensemble: 6 qtrs (6 cr min)

Major project (paper): 3995

Music electives: 18 cr of 3xxx-5xxx (15 cr min in musicology/theory; remaining 3 cr may not be applied or ensemble study)

B.A. Major Sequence—
Performance Track

Major Requirements in addition to core curriculum

—Applied music (major instrument or voice): 9 qtrs (18 cr) (6 qtrs min at 12xx; 3 qtrs at 32xx)

Ensemble: 9 qtrs (9 cr min)

Major project (recital): 3995 (2 cr)

Music electives: 9 cr (4 cr min in musicology/theory; remaining 5 cr may not be applied or ensemble study)

B.M. Major Sequence—
Performance

Major requirements in addition to core curriculum

—Applied music (major instrument or voice): 3 qtrs (12 cr min) of 12xx; 3 qtrs (12 cr min) of 13xx; 6 qtrs (24 cr min) of 33xx

Advanced music theory: 3534, 5532 (3 cr per qtr)

Major project (recital): 3995 (2 cr)

Music electives: to total a minimum of 117 credits in music

Special Requirements:

String, Woodwind, Brass, and Percussion majors:

Ensemble: 12 qtrs

Chamber Ensemble: 5 cr

Piano major:

Ensemble: 3 qtrs

Accompanying: 3451-2-3 (1 cr per qtr)

Piano Literature: 5744, 5745, 5746 (2 cr per qtr)

Additional recital (jr yr): no credit

Voice major:

Ensemble: 12 qtrs

Diction for Singers: Mus 1161-1162-1163, 1164-1165-1166 (1 cr per qtr) Languages: French, German, Italian (5 cr each; substitutes for the 12 cr of upper division, elective coursework required outside the major)

Vocal Repertoire: 3741-2 (2 cr per qtr)

Classical Guitar major:

Ensemble: 6 qtrs

Baroque Performance Practices: 5182 (4 cr)

Organ major:

Ensemble: 6 qtrs

Organ Literature: 5747, 5748, 5749 (2 cr per qtr)

Harp major:

Ensemble: 12 qtrs

B.M. Major Sequence—Jazz Studies

Major Requirements in addition to the core curriculum—Applied music (major instrument or voice): 6 qtrs (12 cr min) of 12xx or higher; 3-6 qtrs (6 cr min) of 32xx

Band/Choir: 3 qtrs (3 cr min)

Jazz Ensemble: 1340, 5340 5 qtrs (5 cr min)

Jazz Combo: 4 qtrs (4 cr)

Jazz Improvisation: 3331, 3332, 3333 (2 cr each)

Afro-American and African studies: Afro 1301, 3108

Jazz Pedagogy: 5341 (2 cr)

Jazz Theory: 5342 (2 cr)

Jazz Class piano: 3351, 3352

Jazz Arranging: 5336; 5337 (2 cr per qtr)

Recital (sr year): 3995 (2 cr)

Music electives: to total a minimum of 117 cr in music

B.M. Major Sequence—
Music Education and Music Therapy

The B.M. in music education is offered in the College of Liberal Arts, with teaching licensure through the College of Education and Human Development. There are two undergraduate majors in music education: music education (with concentrations in instrumental/general or choral/general music) and music therapy.

Precollege Music Preparation—An extensive background in high school instrumental or vocal music ensembles is expected. Private lessons in voice or on a band/orchestral instrument are a very desirable aspect of preparation. You must meet the School of Music entrance requirements for performance in one of the following areas of applied music: voice, piano, organ, classical

guitar (for the choral/general concentration); a standard band or orchestral instrument (for the instrumental concentration); and either of those for the therapy concentration. Piano lessons as well as beginning-level music theory (fundamentals) and music history/literature preparation via classes or individual study with texts, computer programs, and recordings will be advantageous. Conducting and leadership experiences also prove helpful.

Admission—You must complete two years (90 credits) of coursework in music and liberal arts areas before admission to the music education program. A minimum cumulative grade average of C+ (2.50) must be earned in all music coursework. An overall grade average of C (2.00) must be earned for all courses (music and nonmusic).

You must also complete an interview with a major adviser in music education or music therapy before your application for admission will be given final consideration.

Major requirements in addition to core curriculum in the first two years:

General Psychology: Psy 1001 (5 cr)

Music Education majors: MuEd 1201—Introduction to Music Education (1 cr)

Music Therapy majors: MuEd 1801—Introduction to Music Therapy (1 cr)

Choral/General Music
Education Concentration

This program is for vocalists, keyboard performers, or classical guitarists desiring to teach choral and classroom music in the elementary and secondary schools. Students completing this program will meet the requirements for licensure to teach choral and general classroom music grades K-12 in Minnesota.

Music Courses

Applied Music: Min 11 qtrs (22 cr) with majors in voice, piano, organ, or guitar:

12 cr lower division lessons: MusA 1201—Piano, MusA 1203—Organ, MusA 1204—Voice or MusA 1223—Guitar

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

10 cr upper division lessons: MusA 3201—Piano, MusA 3203—Organ, MusA 3204—Voice or MusA 3223—Guitar
Secondary Applied Study: (min 6 cr)

For non-voice majors: MusA 1404—Voice, Secondary Required (6 cr)

For non-keyboard majors: Mus 1151-1152-1153—Piano Class Lessons (2 cr/qtr) and MusA 1401—Piano, Secondary Required (6 cr)

For keyboard majors: Mus 1521-1522-1523—Keyboard Skills (2 cr/qtr)
Ensemble: Minimum of 11 quarters required, to be selected in consultation with your adviser.

Mus 3331—Jazz Improvisation I (2 cr)

Mus 1161-66—Diction for Singers I-VI (1 cr/qtr)

Professional Education Courses

MuEd 3301—Teaching Elementary Vocal and General Music (4 cr)

MuEd 3302—Teaching Secondary General Music (4 cr)

MuEd 3322—Techniques of Classroom Instruments (2 cr)

MuEd 3415—Choral Laboratory I (4 cr)

MuEd 3416—Choral Laboratory II (4 cr)

MuEd 3650—Student Teaching in Music (18 cr)

EPsy 5119—Learning and Cognition (4 cr)

EPsy 5139—Interpersonal and Personality Effects on Learning (4 cr)

EPsy 5229—Measurement and Assessment (2 cr)

Kin 5530—Biological and Physical Foundations of Education (2 cr)

EdPA 5090—School and Society (3 cr)

PubH 3004—Basic Concepts in Personal and Community Health (5 cr)

Admission to Student Teaching

You should meet with your major adviser early in the spring quarter of your junior year to plan your student teaching experience. You must have completed all professional education courses (with the exception of EdPA 5090 and EPsy 5229), all major courses in theory, ear-training, music history, secondary applied study, and a minimum of 9 credits in ensembles with a GPA of C+ (2.50) in all major and

professional education courses. Grades for ensemble courses are not counted in calculating the GPA. Twelve credits of applied music in 1xxx courses and a minimum of 6 credits in 3xxx courses must be completed in the study of the major instrument or voice.

Instrumental/General Music Education Concentration

This program prepares you to teach band, orchestra, and general music in elementary and secondary schools. Students successfully completing the program will meet licensure requirements to teach band, orchestra, and general classroom music grades K-12 in Minnesota.

Music Courses

Applied Music: Min. 9 qtrs (18 cr) on principal instrument (standard band or orchestral instrument)

12 cr lower division principal lessons (12xx or higher)

6 cr upper division principal lessons (32xx)
(See *Applied Music* listings for specific course numbers.)

Secondary Applied Study: (min. 6 cr)

You must select two secondary instruments as well as voice for study for one quarter each (MusA 14xx, 2 cr/qtr; see *Applied Music* listings for specific course numbers).

Mus 3331—Jazz Improvisation I (2 cr)

Ensemble: required during 10 quarters of on-campus study (minimum 12 cr) to be selected in consultation with your adviser. Marching band experience is recommended if your major performance instrument is in brass, woodwind, or percussion. Chamber ensemble experience is required during two quarters of on-campus study (minimum 2 cr).

10 credits from Mus 3410—Concert Band, Mus 1480—Marching Band, or Mus 3420—Orchestra

2 credits from any of the following: Mus 5360—Woodwind Ensemble, Mus 5380—Brass Choir, Mus 5390—Percussion Ensemble, Mus 3440—Ensemble, Mus 5340—Jazz Ensemble (1 cr each).

Professional Education Courses

MuEd 3301—Teaching Elementary Vocal and General Music (4 cr)

MuEd 3302—Teaching Secondary General Music (4 cr)
 MuEd 3322—Techniques of Classroom Instruments (2 cr)
 MuEd 3500—String Techniques I (3 cr)
 MuEd 3501—String Techniques II (3 cr)
 MuEd 3503—Woodwind Techniques (4 cr)
 MuEd 3504—Brass Techniques (4 cr)
 MuEd 3505—Percussion Techniques (4 cr)
 MuEd 3515, 3516—Instrumental Laboratory I, II (4 cr each)
 MuEd 3650—Student Teaching in Music (18 cr)
 EPsy 5119—Learning and Cognition (4 cr)
 EPsy 5139—Interpersonal and Personality Effects on Learning (4 cr)
 EPsy 5229—Measurement and Assessment (2 cr)
 Kin 5530—Biological and Physical Foundations of Education (2 cr)
 EdPA 5090—School and Society (3 cr)
 PubH 3004—Basic Concepts in Personal and Community Health (5 cr)

Admission to Student Teaching

See information above for *Choral/General Concentration*.

Major in Music Therapy

The music therapy program prepares you to serve in educational and medical environments to influence changes in the behavior of children and adults through music. Upon successful completion of the course of study and the six-month internship, you are eligible to become a registered music therapist through application to the National Association for Music Therapy (NAMT).

Music Courses

Applied Music: Min 9 qtrs (18 cr) selected in consultation with your adviser.

6-12 cr of 12xx (principal study in a standard band or orchestral instrument or voice, piano, organ or guitar)

6-12 cr of 14xx (secondary required study) or class lessons.

(See *Applied Music* listing for course numbers.)

Guitar Proficiency
 Mus 3331—Jazz Improvisation I (2 cr)
 Ensemble: Minimum 9 credits (1 cr/qtr for 9 quarters; 3 qtrs primary ensemble, 6 qtrs elective ensemble)

Related Course Requirement

Psy 3604—Abnormal Psychology (4 cr)
 Biol 1009—General Biology (5 cr)
 CBN 3001—Elementary Anatomy (4 cr) *or*
 CBN 1027—Anatomy for Physical Education Students (4 cr)

Behavioral/Social/Health Science; Special Education Courses

Total of 14 credits required to include:

EPsy 5139—Effects on Learning (4 cr)

Professional Education Courses

MuEd 3322—Techniques of Classroom Instruments (2 cr)
 MuEd 3415—Choral Laboratory I (4 cr)
 MuEd 3500—String Techniques I (3 cr) *or*
 MuEd 3501—String Techniques II (3 cr)
 MuEd 3503—Woodwind Techniques (4 cr)
 MuEd 3504—Brass Techniques (4 cr)
 MuEd 3505—Percussion Techniques (4 cr)
 MuEd 3515—Instrumental Laboratory I (4 cr)
 MuEd 3800—Observation in Music Therapy (2 cr)
 MuEd 3801, 5802—Psychology of Music I, II (4 cr each)
 MuEd 3804—Music Therapy Techniques I (4 cr)
 MuEd 3805, 3806—Music Therapy Techniques II, III (3 cr each)
 MuEd 3850—Field Experiences: Music Therapy (6 cr; 1-2 cr per qtr)
 MuEd 3851, 3852—Internship: Music Therapy (6 cr each)
 Courses in dance and dance therapy are recommended.

Admission to Internship

You should meet with your major adviser early in the spring quarter of your junior year to plan your

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

internship experience. You must have completed all coursework to be eligible to register for MuEd 3851, 3852. A GPA of C+ (2.50) is required in all related courses and professional education courses, and you must have satisfactorily completed all field experience requirements.

Minor Sequence

All three plans for the music minor require the following preparatory courses in music theory, ear-training, and class piano: Mus 1531-1532, Mus 1511-1512, Mus 1151-1152-1153 (14 cr).

All music minor programs must be approved by the director of undergraduate studies; all credits must be taken A-F; a maximum of 4 upper division credits (2 of applied lessons) may be transferred to the minor.

Plan A:

Music in Society and Culture (15 cr)

Minor Requirements—15 upper division credits in musicology (cannot include nonmajor courses).

Plan B: Performance (16 cr)

Admission to the performance minor requires successful completion of an entrance audition.

Minor Requirements—8 cr applied music (MusA 38xx) with concurrent registration in ensembles; 4 cr ensembles; 4 cr upper division musicology or theory course(s) (cannot include nonmajor courses)

Plan C: Jazz Studies (15 cr)

Admission to jazz studies requires successful completion of an entrance audition.

Minor Requirements—6 cr applied music (MusA 38xx) with concurrent registration in ensembles required; 3 cr jazz ensemble; 6 cr chosen from: Jazz Improvisation (Mus 3331-3332-3333, 2 cr per qtr) and/or Black Music: A History of Jazz (Afro 3108, 4 cr).

Introductory and Survey Courses (For Nonmusic Majors) (Mus)

Mus 1001f,w,s. Fundamentals of Music. (4 cr, §1003, §1004; for nonmusic majors)
Investigation of music notation and fundamental concepts underlying musical structure. Intervals, clefs, chords, scales, cadences, harmonic analysis; rhythm and meter. Emphasis on active participation: playing the piano, singing, clapping rhythms, aural perception. Weekly lab assignments in vocal and piano performance.

Mus 1051-1052-1053. Piano Class for Nonmusic Majors. (2 cr per qtr)
For nonmusic majors with little or no keyboard background. Functional skills such as reading, harmonizing, playing by ear, and improvising; basic technique and elementary repertoire.

Mus 1804. World Music. (4 cr) Kagan
Music in universal perspective. Traits, distinguishing styles, and cultural factors that influence musical creativity. Music of different cultures compared to examine forms and traits, to develop listening abilities, and to develop an understanding of human musical expressions.

Mus 3021 Introduction to Music. (5 cr)
Survey of European and American “art” and “popular” music in the context of those cultures; aural analyses of musical styles and forms.

Mus 3027. Lyric Song in Medieval and Renaissance Culture. (4 cr; for nonmusic majors) Jackson
Oral, popular, and courtly song traditions in sociocultural contexts. Status and roles of women. Analysis and criticism approached from different disciplinary perspectives.

Mus 3029. Music in the 20th Century. (4 cr; for nonmusic majors) Jackson
Aural perception of modern styles; cultural perspectives through primary source readings.

Instrumental and Jazz Ensembles (Mus)

Mus 1340f,w,s. Jazz Ensemble. (1 cr per qtr [6 cr max]; prereq audition, #) McCurdy
A 20-member performing organization covering significant jazz compositions and arrangements written specifically for this medium.

Mus 1440f,w,s. Ensemble. (1 cr per qtr; prereq #)
Performance of chamber music: duos, (sonatas), trios, quartets, quintets, and other ensemble combinations for instruments and/or voices.

Mus 1480. Marching Band. (1 cr per qtr; prereq #) Becher
A 250-member performing organization open to players from all colleges; performs at University football games and other athletic functions.

Mus 3020. Campus Orchestra. (1 cr; prereq audition, #)
An orchestra for interested players who are not music majors and/or are unable to register for University Orchestra. Standard chamber orchestra and string orchestra literature rehearsed and performed.

Mus 3290. Jazz Singers. (1 cr per qtr; prereq #) McCurdy
Sight reading, study and performance of representative vocal jazz literature.

Mus 3410f,w,s. University Wind Bands. (1 cr per qtr; prereq audition, #)
Wind ensemble and symphony bands perform standard and contemporary literature; concerts and tour appearances. Players from all colleges may participate.

Mus 3420f,w,s. Orchestra. (1 cr per qtr; prereq audition, #)
Symphony orchestra performs standard repertory and major works with chorus; concerts and tour appearances. Players from all colleges may participate.

Mus 3440f,w,s. Ensemble. (1 cr per qtr; prereq audition)
For description, see Mus 1440.

Mus 5330. Concerto Grosso Ensemble. (1 cr; prereq #) Kim
Study and performance of string orchestra and small chamber orchestra literature.

Mus 5340f,w,s. Jazz Ensemble. (1 cr per qtr [6 cr max]; prereq audition, #) McCurdy
For description, see Mus 1340.

Mus 5360. Woodwind Ensemble. (1 cr per qtr; prereq audition) Anderson
Practice and performance of chamber music for combinations of woodwind instruments in small groups (three or more players) and in large homogeneous instrumental choirs.

Mus 5380f,w,s. Brass Choir. (1 cr per qtr; prereq #) Baldwin
Practice and performance of brass ensemble literature from the antiphonal music of Giovanni Gabrieli to works of the 20th century.

Mus 5390f,w,s. Percussion Ensemble. (1 cr per qtr; prereq #) Meza
Practice and performance of standard and contemporary compositions for percussion ensembles in various combinations.

Mus 5460f,w,s. New Music Ensemble. (1 cr per qtr; prereq #) Lubet
Practice and performance of recent music for various combinations of vocal and instrumental ensembles.

Instrumental and Jazz Studies (Mus)

Mus 3331. Jazz Improvisation I. (2 cr; prereq #) Hamilton
Rudiments; analysis; improvisation on blues in three major keys and standard American popular jazz compositions from swing era to early bebop; application of major and minor scales; ear training.

Mus 3332. Jazz Improvisation II. (2 cr; prereq 3331 or #) McCurdy
Transposition; analysis; improvisation on blues in three major keys and standard American popular jazz compositions from swing era to early bebop; II-V7-I progressions; ear training.

Mus 3333. Jazz Improvisation III. (2 cr; prereq 3332 or #) McCurdy
Transcriptions; analysis; improvisation on blues in minor keys and standard American popular jazz compositions from swing era to early bebop: turnbacks; original compositions.

Mus 3351, 3352, 3353. Jazz Class Piano. (2 cr per qtr; prereq 1153 or #) Hamilton
Keyboard skill development in chord-style symbology, reading chord progressions, translating chord symbols into formula voicings, expanded harmonies, aural development, jazz style “comping.”

Mus 3441. Basic Conducting. (2 cr; prereq music major, Mus 1533) Becher
Beginning course in basic conducting techniques and role of the conductor.

Mus 5016s. Trumpet Pedagogy. (2 cr; prereq 12 cr lower div trumpet lessons) Baldwin
Principles of trumpet pedagogy. Discussion of literature, history, and current teaching aids.

Mus 5150. Body Awareness in Activity—The Alexander Technique for Musicians. (2 cr) Lightner
Alexander technique with applications to music performance. Emphasizes body/mind awareness to promote technical ease and freedom.

Mus 5300. Jazz Rhythm Section Techniques. (1 cr per qtr; prereq Jazz Studies major or #) McCurdy
Study and function of instruments in the jazz rhythm section. Bass line construction, voicings for piano and guitar, and style patterns for percussion will be addressed in this course.

Mus 5301-5302-5303. Advanced Jazz Class Piano. (2 cr per qtr; prereq keyboard major, #) Hamilton
Jazz harmony and keyboard techniques for the advanced pianist with extensive knowledge of keyboard theory; reading chord progressions, realizing chord symbols, formula voicings, expanded harmonies, aural development, jazz style “comping” and improvisation techniques.

Mus 5321-5322-5323. Suzuki Violin Pedagogy. (2 cr per qtr; prereq undergrad or grad string major with violin as principal or #) Bjork
Philosophy and teaching techniques of Japanese pedagogue Shinichi Suzuki and their application in Western culture. Discussions, playing experience, and observation of children’s lessons in the MacPhail Center Suzuki program.

Mus 5324-5325-5326. Advanced Suzuki Violin Pedagogy. (2 cr per qtr; prereq 5321-5322-5323 or equiv, audition) Bjork
Intensive examination of Suzuki techniques for intermediate and advanced violin students in Western society. Discussion, playing experience, observation of children’s lessons in the MacPhail Center Suzuki program, and practical teaching experience.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Mus 5336. Jazz Arranging I. (2 cr; prereq 3532 or #) McCurdy

Beginning techniques of arranging for chamber jazz ensemble; vocal and instrumental.

Mus 5337. Jazz Arranging II. (2 cr; prereq 3532, 5336 or #) McCurdy

Intermediate and advanced techniques of arranging for chamber jazz ensemble; vocal and instrumental.

Mus 5341. Jazz Pedagogy. (2 cr; prereq #) McCurdy

Principles of jazz pedagogy. Teaching methods of jazz improvisation (vocal and instrumental), arranging, jazz history, bibliographies.

Mus 5342. Jazz Theory. (2 cr; prereq Mus 3532 or #) McCurdy

Beginning techniques for basic chord construction, extended chords, and nomenclature in jazz idiom.

Mus 5350. Orchestral Repertoire. (1 cr)

Investigation of practical and performance problems in standard orchestral repertoire with regard to style and interpretation.

Mus 5361-5362. Violin Pedagogy I-II. (2 cr per qtr; prereq 12 cr in 1205 or 1206 or 1305 or 1306 or #)

Private and group teaching of violin students at beginning, intermediate, and advanced levels. Discussion and demonstrations of pedagogical techniques.

Mus 5364. Cello Pedagogy. (2 cr; prereq 12 cr in applied cello or MuEd 3501 or #) Remenikova

Principles of cello pedagogy. Private teaching of cello students at beginning, intermediate, and advanced levels. Discussion of problems, materials, theory, and methods in cello study.

Mus 5366. Guitar Pedagogy. (2 cr; prereq guitar principal or major or #) Van

Historical survey of methods and etudes from late eighteenth century to present, reflecting variety of content and approach.

Mus 5391. History and Acoustics of Single Reed Instruments. (2 cr; prereq upper div standing in major instrument or #) Anderson

Clarinet and saxophone history and literature, mechanical design and development, acoustics, modern schools of performance.

Mus 5392, 5393. Woodwind Literature and Pedagogy I and II. (3 cr per qtr; prereq upper div standing in major instrument, grad or #) Anderson

5392: Study of the major teaching methods for woodwind instruments including solos and ensembles used primarily for pedagogical reasons. 5393: Study of major solo and chamber literature for five woodwind instruments.

Mus 5731-5732-5733. Percussion Literature. (2 cr per qtr; prereq upper div or grad perc major or #) Meza

Study, analysis, and performance of: 5731—orchestral/band repertoire for snare drum and percussion accessories, solo literature for percussion instruments; 5732—orchestral/band repertoire for mallet instruments, literature for percussion ensemble; 5733—orchestral/band repertoire for timpani, chamber music for mixed ensembles of percussion and non-percussion instruments.

Mus 5971w. Music Transcription for Winds. (2 cr; prereq 3532) Baldwin

Transcription of three works with score and parts copied in ink. Principles of music manuscript and examination of examples of transcription.

Choral/Opera/Vocal Studies (Mus) (See also Applied Music)

Mus 1160f,w,s. Voice: Class Lessons. (2 cr per qtr [6 cr max])

Fundamentals of vocal production—posture, respiration, phonation, articulation.

Mus 1161-1162-1163. Diction for Singers I-II-III. (1 cr per qtr; prereq 1161 for 1162, 1162 for 1163, premusic or music major or minor or #)

Principles and practices of singing in classical vocal repertoire. Phonetic alphabet. 1161: Italian. 1162: Italian/English. 1163: English.

Mus 1164-1165-1166. Diction for Singers IV-V-VI. (1 cr per qtr; prereq 1164 for 1165, 1165 for 1166, premusic or music major or minor or #)

Principles and practice of singing in classical vocal repertoire. Phonetic alphabet. 1164: German. 1165: German/French. 1166: French.

Mus 1440f,w,s. Ensemble. (1 cr per qtr; prereq #)

Performance of chamber music of major and minor composers; sonatas, trios, quartets, quintets, other forms. Combinations of vocal and instrumental chamber ensemble materials.

Mus 3430f,w,s. Chorus. (1 cr; prereq #)

Sec 1—Women's Chorus: Performance of concert music for women's voices, 16th to 20th century.

Sec 2—Men's Chorus: Performance of concert music for men's voices, 16th to 20th century.

Sec 3—Concert Choir: Performance of concert music for mixed ensemble, 16-20th century.

Sec 4—Choral Union: Large oratorio chorus that performs major works for chorus with orchestra.

Sec 5—Conducting Class Ensemble: Participation in a lab ensemble for choral conducting class.

Mus 3440f,w,s. Ensemble. (1 cr per qtr; prereq audition)

For description, see 1440.

Mus 3741, 3742. Vocal Repertoire Survey. (2 cr per qtr; prereq upper div music major or #) del Santo

Survey of major vocal solo and chamber works from Classical through contemporary era. 3741: Classic through late-Romantic. 3742: Impressionists to present.

Mus 5150. Body Awareness in Activity—The Alexander Technique for Musicians. (2 cr) Lightner

Alexander technique with applications to music performance. Emphasizes body/mind awareness to promote technical ease and freedom.

Mus 5270. Stage Movement and Acting for Singers. (2 cr; prereq audition, #)

Basic techniques of stage movement and acting styles, application to various forms of music theatre.

Mus 5370. Vocal Pedagogy Practicum. (1 cr per qtr (max 3 cr); prereq sr or grad, #) Ware
Application of principles and techniques for group or individual adult instruction at beginning, intermediate, and advanced levels. Observation of faculty teaching students. Repeatable for a maximum of 3 credits.

Mus 5371f, 5372w, 5373s. Diction for Singers. (2 cr per qtr; prereq 12 cr of 1204 or #) Weller
Principles and techniques of singing the English, Italian, German, and French languages. International Phonetic Association alphabet is used. 5371: English and Italian. 5372: German. 5373: French.

5374. Text and Language: A Singer's Tools for Interpretation. (2 cr; prereq #) Maurice
Study of the specific meanings, properties, and inflections of words as used by singers for artistic interpretation; study of the role of the musical setting in defining meaning. Performance required.

Mus 5375. The Vocal Mechanism. (2-3 cr [var]; prereq sr or grad, #) Ware
Mental and physical preparations for singing. Voice production basics of singing and speaking—respiration, phonation, registration, resonance, articulation. Anatomy and physiology of the vocal mechanism. Efficient, healthy voice methods and techniques. Optional 1-credit research project related to course topics.

Mus 5376. Vocal Performance. (2-3 cr (var); prereq sr or grad, #) Ware
Analysis and interpretation of art songs. Performance skills, styles, methods, and techniques. Recital programming. Career opportunities. Pedagogical application of subject matter to art song performance. Optional 1-credit research project related to course topics.

Mus 5377. Vocal Pedagogy. (2-3 cr (var); prereq sr or grad, 5375, #) Ware
Historical survey of voice pedagogues and comparative teaching methodology. Learning theory. General teaching methods and techniques. Teaching child, adolescent, and aging voice. Teaching pedagogy classes, individuals, and group voice. Optional 1-credit research project related to course topics.

Mus 5378. Vocal Conference/Workshop. (1-2 cr (var); prereq sr or grad, #) Ware
Specific thematic content for each conference or workshop. Anatomy and physiology of vocal mechanism. Scientific research and applications. Vocal methods and techniques. Voice use and care.

Mus 5383. Choral Conducting Techniques. (2 cr; prereq #) Lancaster
Conducting technique, rehearsal procedure, choral techniques. Shorter works from various eras.

Mus 5384, 5385. Choral Conducting. (4 cr per qtr; prereq #) Lancaster
Conducting technique, rehearsal procedure, choral techniques. 5384: Music before 1750. 5385: Music after 1750.

Mus 5460f,w,s. New Music Ensemble. (1 cr per qtr; prereq #) Lubet
Practice and performance of recent music for various combinations of vocal and instrumental ensembles.

Mus 5470f,w,s. Opera Workshop and Ensemble. (1 cr per qtr; prereq ability to sing arias satisfactorily by audition, #) Sutton
Preparation and performance of operatic arias, choruses, and scenes. Participation in fully staged or workshop productions of music-theatre repertoire.

Mus 5480. Opera Theatre. (2 cr; prereq advanced ability to sing arias satisfactorily by audition, #) Sutton
Preparation and performance of a fully staged operatic production. Major involvement in singing, acting, and technical aspects of opera.

Mus 5490f,w,s. Chamber Singers. (1 cr per qtr; prereq audition) Lancaster
Mixed chorus of 24 voices. Performances each quarter.

Mus 5741, 5742. Vocal Literature. (4 cr per qtr; prereq 12 cr in 1104 or 1204 or 1304 or #) Weller
Performance of representative songs from major and minor composers. Examination of solo art song repertoire of major national schools.

Composition/Theory (Mus)

Mus 1003. Introduction to Music Theory. (2 cr, §1001; prereq music major or #)
Fundamental concepts of music theory and notation, including key signatures, scales, rhythm, and chordal construction.

Mus 1004. Introduction to Ear Training. (2 cr, §1001; prereq music major or #)
Fundamental concepts of ear training and sight singing, with emphasis on intervals, scales, and basic rhythmic patterns.

Mus 1511w-1512s-1513f. Ear Training and Sight Singing I-II-III. (1 cr per qtr; prereq for 1511: 1004 or #, ¶1531; prereq for 1512: 1511, ¶1532; prereq for 1513: 1512, ¶1533)
Melodic, harmonic, and rhythmic dictation; sight singing; clef reading; musicianship drills.

Mus 1531. Theory I: Foundations of Tonal Music. (3 cr; prereq 1003, 1151 or 1521 or #, ¶1511)
Two-part counterpoint (species approach); consonance and dissonance; melodic contours; review of music fundamentals.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Mus 1532. Theory II: Diatonic Tonality. (3 cr; prereq 1531, 1152 or 1522 or equiv, ¶1512)
Writing and analysis of basic diatonic tonal structures. Basic harmonic and contrapuntal relationships.

Mus 1533. Theory III: Harmony and Voice Leading. (3 cr; prereq 1532, 1153 or 1523 or equiv, ¶1513)
Writing and analysis of diatonic and basic chromatic tonal structures. Binary and ternary form.

Mus 3511. Ear-Training and Sight-Singing IV. (1 cr; prereq 1513, 3531)
Further development of aural skills presented in 1513.

Mus 3512. Ear-Training and Sight-Singing V. (1 cr; prereq 1513, 3532) Cherlin
Development of aural skills for 20th-century music.

Mus 3531. Theory IV: Chromaticism. (3 cr; prereq 1533, ¶13511)
Chromatic tonal practices; expanded chordal vocabulary; voice leading and analysis.

Mus 3532. Theory V: 20th-Century Theory. (3 cr; prereq 3531 or 1508, ¶13512) Cherlin
Theories of 20th-century music.

Mus 3534. Form and Structure of Tonal Music. (3 cr; prereq 3531, 3511 or 1508, 1518 or placement exam) Cherlin, Damschroder
Formal and structural analysis of the sonata, rondo, variation, minuet, and other standard categories of tonal composition. Exploration of text-music relationships in song, of 19th-century character pieces, and of motivic coherence in music. Intermediate ear-training.

Mus 3551-3552-3553. Composition. (2 cr per qtr; prereq 3532, #) Argento, Lubet, Zaimont
Original works in various forms. Techniques and styles of composition; development of original approaches.

Mus 5460. New Music Ensemble. (1 cr; prereq #) Lubet
Practice and performance of recent music for various combinations of vocal and instrumental ensembles.

Mus 5529. 20th-Century Music Theory and Analysis. (4 cr; co-req Mus 3512 or equiv exam, grad or #) Cherlin
Introduction to topics in 20th-century theory and analysis designed for graduate student music majors.

Mus 5532. Analysis of 20th-Century Music. (3 cr; prereq 3532) Cherlin
Analysis of 20th-century music.

Mus 5533. Music Since 1945. (4 cr; prereq 3532, #) Lubet
Procedures and techniques of music composed since 1945.

Mus 5541. Counterpoint. (4 cr; prereq 3531, 3511 or equiv) Lubet
Practice writing in polyphonic styles of Renaissance and Baroque.

Mus 5550. Composition. (2 cr per qtr [12 cr max]; prereq 3532 or equiv, 3553 or grad, #) Argento, Lubet, Zaimont
Original works in various forms.

Mus 5561f-5562w-5563s. Orchestration. (2 cr per qtr; prereq 3532) Argento, Zaimont
Scoring instruments for ensemble combinations and full orchestra.

Mus 5571. Schenkerian Analysis for Performers. (4 cr; prereq 3534; offered alt yrs) Damschroder
Theory and analysis of tonal music using principles developed by Heinrich Schenker. Basic concepts, notation, and their application to excerpts and short pieces from the 18th and 19th centuries.

Mus 5572. Chromaticism in Late-Tonal Music. (4 cr; prereq 3534; offered alt yrs) Damschroder
Exploration of late-tonal chromatic practice through analysis of selected repertory, completion of written exercises (figured bass, harmonization of melodies, model composition), ear training, and keyboard drill.

Mus 5791. Electronic Music: History, Literature, Principles. (4 cr)
The history of technological developments that made electronic music possible; composers and compositions reflecting an evolution of craft and connection with prevailing aesthetic values; study of the equipment, principles, and techniques used in the production of music through electronic means.

Mus 5793. Analog Synthesis and Recording Techniques. (2 cr; prereq 5791 or ¶5791)
Studio work with stereo and quadraphonic tape recorders and selected microphones directed toward development of recording skills (e.g., splicing, dubbing, preparation of tape loops, and synchronization of recording on discrete channels); exploration of analog synthesis equipment and its compositional possibilities and techniques.

Mus 5795. Digital Music Synthesis and Processing Techniques. (2 cr; prereq 5793)
Studio work with digital synthesizers and processors, recording equipment, and computers (using a variety of different software materials) directed toward the development of skills in the use of digital equipment for composition, teaching, and performance.

Mus 5797. Music and Text: Seminar on the Interrelations of Text and Music. (4 cr; prereq 3531, 3532) Cherlin
Interrelations of poetic imagery, form, metrics, and sonic characteristics with aspects of musical form; including repertory from 18th through 20th centuries.

Keyboard Instruments (Mus) (See also Applied Music)

Mus 1051-1052-1053. Piano Class for Nonmusic Majors. (2 cr per qtr)
For nonmusic majors with little or no keyboard background. Functional skills such as reading, harmonizing, playing by ear, and improvising; basic technique and elementary repertoire.

Mus 1151f-1152w-1153s. Piano: Class Lessons. (2 cr per qtr; prereq for 1151 music major, #) Shockley
Keyboard skills in harmonization, improvisation, sight reading, accompaniment, repertory, technique. Group learning.

Mus 1440f,w,s. Ensemble. (1 cr per qtr; prereq #)
Performance of chamber music: duos (sonatas), trios, quartets, quintets, and other combinations for instruments and/or voices.

Mus 1521f-1522w-1523s. Keyboard Skills. (2 cr per qtr; prereq keyboard major, #)

Applied keyboard theory for harmonization, improvisation, playing by ear, transposition, and introductory score reading.

Mus 3440f,w,s. Ensemble. (1 cr per qtr; prereq audition)
For description, see 1440.

Mus 3451-2-3. Accompanying Skills. (1 cr per qtr; prereq upper div piano or organ student or #)
A practical introduction to every facet of the art of piano as an accompaniment and collaborative instrument.

Mus 5150. Body Awareness in Activity—The Alexander Technique for Musicians. (2 cr)
Lightner

Alexander technique with applications to music performance. Emphasizes body/mind awareness to promote technical ease and freedom.

Mus 5310. Piano Pedagogy Practicum. (1 cr per qtr [3 cr max]; ¶15351-5352-5353 or ¶15354-5355-5356 or #)
Shockley

Application of principles and techniques for group or individual instruction at elementary, early intermediate, and late intermediate levels in directed teaching setting.

Mus 5351f-5352w-5353s. Piano Pedagogy. (2 cr per qtr; prereq 12 cr in MusA 1201 or 1301 or #)
Shockley
Demonstration and discussion of teaching techniques, methods, and materials for group and individual instruction at the elementary, early intermediate, and late intermediate levels.

Mus 5354-5355-5356. Advanced Piano Pedagogy. (2 cr per qtr; prereq grad piano major or 5353 or #; offered alt yrs)
Shockley
Demonstration and discussion of teaching techniques, methods, and materials for group and individual instruction at intermediate and early advanced levels.

Mus 5411. Instrumental Accompanying Skills and Repertoire. (2 cr; prereq accomp major)
Garrett
Performance class in accompanying skills particular to orchestral reductions and “non-sonata” instrumental accompanying. Repertoire to include, but not to be limited to, classical and romantic string concerti, and “encore” pieces.

Mus 5421,5422,5423. Vocal Accompanying Skills and Repertoire. (2 cr per qtr; prereq Italian, German, French diction; accomp or grad vocal major)
Garrett

Performance class in skills of vocal accompanying (*Lieder*, *mélodie*, opera) with emphasis on coaching techniques and performance skills of both pianists and singers.

Mus 5460f,w,s. New Music Ensemble. (1 cr per qtr; prereq #)
Lubet

Practice and performance of recent music for various combinations of vocal and instrumental ensembles.

Mus 5521f-5522w-5523s. Advanced Keyboard Skills. (2 cr per qtr; prereq 3532, sr or grad)
Billmeyer
Diatonic and chromatic harmony at the piano. Realization of figured basses of the 17th and 18th centuries.

Performance of choral, orchestral, and chamber music of the 17th-20th centuries, from open score, using all clefs.

Mus 5744f, 5745w, 5746s. Piano Literature. (2 cr per qtr; prereq 12 cr MusA 1201 or 1301 or #; offered alt yrs)
McNab
Literature for the piano from the late baroque period to the mid-20th century.

Mus 5747, 5748, 5749. Organ Literature. (2 cr per qtr; prereq 3606, 3532, or #)
Billmeyer
Organ literature from the 14th century to present. Influence of organ design of various periods and national schools upon the literature and its performance.

Music Education/Music Therapy (MuEd)

MuEd 1201. Introduction to Music Education. (1 cr)
McCoy
Orientation to various areas and levels of music teaching through observation and school-centered experiences.

MuEd 1801. Introduction to Music Therapy. (1 cr)
Furman
Methods, materials, and applications of music therapy in various clinical settings with emphasis on field observations.

MuEd 3011. Teaching Music in the Elementary School. (4 cr; prereq Mus 1001, elem ed major)
For nonmusic majors; methods and materials in teaching singing, rhythm, music reading, creativity, classroom instruments, fundamentals, appreciation in K-6.

MuEd 3301. Teaching Elementary Vocal and General Music. (4 cr; prereq music ed major or #)
McCoy
Methods, materials, curriculum development, principles of learning; child voice; music reading, history, and appreciation; classroom instruments, creativity, and rhythm.

MuEd 3302. Teaching Secondary General Music. (4 cr; prereq music ed major or #)
McCoy
Methods, materials, curriculum, principles of learning; the adolescent voice; music reading, history, and appreciation; creativity; applications of technology for teaching middle, junior, and senior high school music.

MuEd 3322. Techniques of Classroom Instruments. (2 cr; prereq Mus 1001 or music or music ed major)
McCoy
Beginning and intermediate class and small group recorder and guitar instruction; techniques for using Orff instruments, auto-harps, keyboards, and other classroom instruments.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

MuEd 3415. Choral Laboratory I. (4 cr; prereq music ed major or #) McCoy
Development of basic conducting skills and rehearsal techniques; methods and materials for school choral ensembles; school-based experiences; score reading and arranging.

MuEd 3416. Choral Laboratory II. (4 cr; prereq music education major) McCoy
Development of conducting skills and rehearsal techniques; emphasizes interpretation of choral compositions; methods and materials for choral ensembles.

MuEd 3500. String Techniques I. (3 cr; prereq music ed major or #) Bjork
Playing experience on violin and viola; basic concepts of teaching with study of methods and materials; techniques of individual and class instruction.

MuEd 3501. String Techniques II. (3 cr; prereq music ed major or #) Remenikova
Playing experience on cello and bass; basic concepts of teaching with study of methods and materials; techniques of individual and class instruction.

MuEd 3503. Woodwind Techniques. (4 cr; prereq music ed major or #) Schultz
Playing experience on all woodwind instruments; basic concepts of teaching; study of methods and materials; class instruction.

MuEd 3504. Brass Techniques. (4 cr; prereq music ed major or #) Haack
Theory and technical development of instruments, elementary instruction in performing, special attention to routine class instruction.

MuEd 3505. Percussion Techniques. (4 cr; prereq music ed major) Schultz
Playing experience on snare drum, timpani, keyboard mallet instruments, drum set; basic concepts of teaching; study of methods and materials; class instruction.

MuEd 3515, 3516. Instrumental Laboratory I, II. (4 cr each; prereq music ed major or #) Schultz
Fundamentals of conducting; emphasizes rehearsal techniques for bands and orchestras; literature and materials for school use; school-based experiences; orchestration and arranging.

MuEd 3650. Student Teaching in Music. (6-18 cr; prereq #)
Supervised teaching and observing in elementary, junior high, and senior high schools. Weekly seminar emphasizing classroom management, curriculum development, administration of music programs.

MuEd 3800. Observation in Music Therapy. (2 cr; prereq ed student) Furman
Elementary lab and field studies of music therapy and music behavior.

MuEd 3801. Psychology of Music I. (4 cr; prereq Psy 1001, 3604 or #) Haack
Basic study of acoustics, ear and hearing, musical systems, and psycho-socio-physiological processes involved in musical behavior.

MuEd 3804. Music Therapy Techniques I. (4 cr; prereq major in music therapy) Furman
Examination of specific techniques in quantification of study of music behavior; projects using behavioral applications.

MuEd 3805-3806. Music Therapy Techniques II, III. (3 cr each; prereq 3804) Furman
Methods and materials for music therapy in school and hospital settings; designing and implementing programs for severely and moderately handicapped children and adults.

MuEd 3850. Field Experiences: Music Therapy. (1 or 2 cr per qtr [max 10 cr]; prereq 3800, 3804) Furman
Pre-internship experiences in health, welfare, recreational, and educational settings.

MuEd 3851-3852. Internship: Music Therapy. (6 cr each; prereq #) Furman
Six-month resident internship in music therapy at an affiliated, approved hospital or clinic.

MuEd 5111. Research in Music Education: Bibliography. (3 cr) Schultz
Sources, materials, and techniques.

MuEd 5112. Research in Music Education: Techniques. (3 cr) Furman, Haack
Methods and techniques in investigating and reporting music education problems; review of significant research and proposal development.

MuEd 5115. Research in Music Education: Measurement. (3 cr) McCoy
Principles of measurement and assessment; survey of testing materials and assessment methods.

MuEd 5211. Philosophical Foundations of Music Education. (3 cr) Haack
Analyzing and interpreting philosophies of music and education as applied to the teaching of music.

MuEd 5214. Psychological Foundations of Music Education. (3 cr) Furman
Analyzing and interpreting psychologies of music and education as applied to the teaching of music.

MuEd 5217. Historical Foundations of Music Education. (3 cr) Furman
Analyzing and interpreting important elements in modern music teaching derived from the past.

MuEd 5313. Influence of Music on Youth Behavior. (3 cr) Haack
How music influences human behavior; effects of commercial styles on children and youth. Particularly appropriate for teachers and parents.

MuEd 5606. Movement-Based Methods for Music Education. (3 cr) McCoy
Participation in movement activities; Dalcroze philosophy and techniques; applications of movement to music education; examination of research.

MuEd 5611. Teaching Music with Related Arts. (3 cr) Haack
Techniques and materials for teaching music in cultural context, including other art forms.

MuEd 5612. Multicultural Music for Teachers. (3 cr) Haack
Designed for all subject area teachers to explore the educational uses of music from various cultures, including American subcultures, across the curriculum; music and socio-cultural values; cross-cultural uses and functions of music; materials development for classroom use.

MuEd 5621. Supervision and Administration of School Music. (3 cr)

Analysis and evaluation of instructional, supervisory, and administrative techniques; readings, new trends.

MuEd 5633. Techniques and Materials:

Choral Ensembles. (3 cr) McCoy
Empirical research and literature on voice development in individual, class, and choral work; instructional techniques for choral music classes; choral repertoire for varied ensembles.

MuEd 5647. Teaching the Percussion Instruments. (3 cr) Schultz

Practical performance, demonstrations, and discussions of research in performance techniques. Contemporary approaches for teaching in the schools.

MuEd 5655. New Dimensions in Music Education. (3 cr) Haack

Study of contemporary music education through analysis of recent curricular trends and current issues.

MuEd 5666. Microcomputers in the Music Classroom. (3 cr) Schultz

Using the microcomputer to enhance instruction; materials for theory, ear training, composition, electronic music; developing a database for music libraries, instrument inventories, budgets.

MuEd 5667. Computer-Based Music Instruction. (3 cr) Schultz

Design, development, and implementation of computer applications for the music classroom, emphasizing the HyperCard environment with interactive audio, video, and MIDI.

MuEd 5668. Computerized Music Notation. (3 cr) Schultz

Fundamentals of music notation and printing utilizing the Macintosh computer, MIDI keyboards, and the Finale software program. Preparation of instrumental and vocal scores, part extraction, and page layout.

MuEd 5669. Conducting the Musical Show. (3 cr) Schultz

Rehearsal techniques, coordination of singing actors and instrumental accompaniment, conducting the pit orchestra; lab performance and listening activities focused on traditions and trends in the musical theater.

MuEd 5750. Topics in Music Education. (1-6 cr [max 12 cr])

Selected topics in music education. Each offering focuses on a single topic.

MuEd 5802. Psychology of Music II. (4 cr; prereq MuEd 3801) Haack

Elements of music and their psychological effects; music ability and its measurement; research methods applied in psychology of music studies.

MuEd 5804. Music in Therapy. (3 cr; prereq music education or music therapy grad or #) Furman
Principles and methods related to public school, hospital, and other community mental health and education settings; observation and lab sessions.

MuEd 5821. History of Music Therapy. (3 cr) Furman

Historical development of profession; outstanding persons and their contributions; incorporation of technique in increasing number of treatment populations.

MuEd 5831. Music for Exceptional Children. (3 cr) Furman

Trends; methods and materials for functional program of singing, playing, rhythm, listening, and creative activities for mentally and physically handicapped and gifted pupils.

MuEd 5970. Independent Study. (1-4 cr; prereq music educ/therapy maj or grad, #, Δ)

Independent study project organized by the student in consultation with the appropriate instructor.

Musicology/Ethnomusicology (Mus)

Mus 1602w. Music and Society. (3 cr; prereq 1003 or equiv or #) Kagan

Music and its cultural context in rural, urban, and tribal societies.

Mus 3604f-3605w-3606s. History of Western Music. (5 cr per qtr; prereq for 3604: 1153 or 1523, 1532 or #; prereq for 3605: 1533 or #; prereq for 3606: 3531 or #)
History of Western music in its social contexts. *3604*: Antiquity through 1700. *3605*: 1700-1900. *3606*: 20th century.

Mus 3808. Music of East Asia. (4 cr, SEAS 3808) Kagan
Religious, courtly, operatic, chamber, and folk music of China, Japan, Korea, and Tibet. Historical developments in and cultural determinants of style, repertoire, and usage.

Mus 5182. Baroque Performance Practices. (4 cr; prereq sr or grad, 3606, 3532 or #)
Ornamentation, phrasing, articulation, and improvisation in music of period 1550-1759. Instruction books of the period, analysis of performance of baroque music in baroque style.

Mus 5644. Studies in 20th-Century American Music. (4 cr; prereq 3606, 5532 or #) Hepokoski
Competing concepts of musical style and purpose in 20th-century America: some stylistic and cultural bases of both "art" and "popular" music and their often uneasy interrelationships. Areas covered typically include Ives, Copland, Carter, 1920s jazz. Broadway and popular song.

Mus 5645. 18th-Century European Music. (4 cr; prereq 3606 or equiv [12 undergrad cr in mus hist], 3534 or equiv, # for undergrads)
Survey of vocal and instrumental genres (opera, church music, orchestral music, chamber music, and keyboard music) as they developed from the High Baroque through the Classical era.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Mus 5646. 19th-Century European Music. (4 cr; prereq 3606 or equiv [12 undergrad cr in mus hist], 3534 or equiv, # for undergrads)

Survey of major composers, issues, and problems in the history of 19th-century European music: transformations of the sonata and symphony; “absolute” and “program” music, opera and “music drama”; aesthetic conceptions of music; structural and harmonic innovations.

Mus 5647. 20th-Century European/American Music. (4 cr; prereq 3606 or equiv [12 undergrad cr in mus hist], 5532 or equiv, # for undergrads) Jackson Survey of major composers, issues, and problems in the history of 20th-century European/American music: principal trends and artistic movements; new musical aesthetics; transformations of 19th-century genres; new methods of organization.

Mus 5666. Stravinsky. (4 cr; prereq 12 cr in music history, 5532) Jackson Changing styles and aesthetic principles of Stravinsky as seen in representative compositions and writings; contributions to artistic life in Europe and America (particularly ballet).

Mus 5757, 5758. History of the Symphony. (4 cr; prereq 3606, 3532)

The symphony from its beginnings to the present. Critical examination of representative compositions, readings from relevant primary and secondary source materials. 5757: Pergolesi to Liszt. 5758: Brahms to the present.

Mus 5804. Folk and Traditional Music: Cross-Cultural Survey. (4 cr) Kagan Music of the peoples of the world in topical and geographic format. Comparative study of musical styles, behavior, and concepts in varied societies and cultures. Field recordings and filmed performances.

Mus 5810. Asian Music in Performance. (2 cr; prereq #) Kagan Development of vocal and instrumental skills developed through applied training and lecture demonstrations.

Mus 5811. Traditional Indian Music: The Sacred and the Profane. (4 cr) Kagan Vedic chant and regional folk music. Musical analysis and associations with belief systems, social institutions, history, and aesthetic expression. Music theory of India, notational systems, tonal and rhythmic materials, and classifications, musical forms, and performance practice.

Mus 5841. Resources for Music Research. (2 cr; prereq 3606 or #) Probst Use of basic bibliographies and indexes, reference works, periodicals and historical editions; techniques for preparing an annotated bibliography.

Mus 5863. Musical Instruments of the World. (4 cr; offered alt yrs) Kagan Organology; classification and comparative study of musical instruments in all cultures; history, distribution, structure, technology, acoustics. Instruments in literature, myths, iconography.

Mus 5864. American Fiddle Traditions. (4 cr; prereq #) Kagan The repertoire and performance practice of American fiddle music; rural and urban contexts; social, stylistic, and regional histories. Training in performance optional.

Directed Studies/Topics Courses (Mus)

Mus 3970f,w,s. Directed Studies. (1-15 cr per qtr; prereq #, Δ) Guided individual reading or study.

Mus 3995. Major Project. (2 cr; prereq sr, #, Δ)

Mus 5950. Topics in Music. (1-5 cr per qtr; exact number of cr and prereq designated for each offering) For topics, see current *Class Schedule*.

Mus 5970. Directed Studies. (1-5 cr; prereq #, Δ)

Applied Music (Musa)

Courses in applied music are classified according to nine modes: principal, major, secondary required, secondary elective, principal beyond requirement, major beyond requirement, minor, transfer (one quarter only), and elective. Most modes are offered at 1xxx (introductory) and 3xxx (intermediate), with 5xxx courses available only in the elective mode. A student may not register for a course in applied music until he or she has passed the required applied entrance examination. The examining committee determines the mode(s) for which a student may register. Consult the School of Music office, 100 Ferguson Hall, regarding the examination as well as the mode and level of music appropriate for fulfilling specific requirements for your degree program.

There are special fees for applied studies courses. See the current *Class Schedule* for the fee schedule.

Credits and prerequisites for applied music courses are as follows:

1101 to 1123: (2 cr per qtr; prereq audition, Δ)
1201 to 1323: (2 or 4 cr; prereq audition, Δ)
1401 to 1723: (2 or 4 cr per qtr [12 cr max]; prereq music major, Δ)

1901 to 1923: (2 or 4 cr per qtr, 1 qtr only for transfer students; prereq music major, Δ)
3101 to 3123: (2 cr per qtr; prereq audition, Δ)
3201 to 3323: (2 or 4 cr; prereq 12 cr in corresponding 1xxx course, qualifying exam, Δ)
3401 to 3723: (2 or 4 cr per qtr [12 cr max]; prereq music major, Δ)

3801 to 3823: (2 cr per qtr [8 cr max]; prereq audition, Δ)

5101 to 5123: (2 cr per qtr; prereq audition, Δ)
Applied music courses in the various modes offered at the undergraduate level are listed on page 225.

Applied Music (MusA)

Instrument	Principal	Major	Secondary Required	Secondary Elective	Principal Beyond Requirement	Major Beyond Requirement
Piano	1201		1401	1501	1601	1701
Harpsichord	1202		1402	1502	1602	1702
Organ	1203		1403	1503	1603	1703
Voice	1204		1404	1504	1604	1704
Violin	1205		1405	1505	1605	1705
Viola	1206		1406	1506	1606	1706
Cello	1207		1407	1507	1607	1707
Double Bass	1208		1408	1508	1608	1708
Flute	1209		1409	1509	1609	1709
Oboe	1211		1411	1511	1611	1711
Clarinet	1212		1412	1512	1612	1712
Saxophone	1213		1413	1513	1613	1713
Bassoon	1214		1414	1514	1614	1714
French Horn	1215		1415	1515	1615	1715
Trumpet	1216		1416	1516	1616	1716
Trombone	1217		1417	1517	1617	1717
Baritone	1218		1418	1518	1618	1718
Tuba	1219		1419	1519	1619	1719
Percussion	1221		1421	1521	1621	1721
Harp	1222		1422	1522	1622	1722
Guitar	1223		1423	1523	1623	1723
Piano	3201	3301	3401	3501	3601	3701
Harpsichord	3202	3302	3402	3502	3602	3702
Organ	3203	3303	3403	3503	3603	3703
Voice	3204	3304	3404	3504	3604	3704
Violin	3205	3305	3405	3505	3605	3705
Viola	3206	3306	3406	3506	3606	3706
Cello	3207	3307	3407	3507	3607	3707
Double Bass	3208	3308	3408	3508	3608	3708
Flute	3209	3309	3409	3509	3609	3709
Oboe	3211	3311	3411	3511	3611	3711
Clarinet	3212	3312	3412	3512	3612	3712
Saxophone	3213	3313	3413	3513	3613	3713
Bassoon	3214	3314	3414	3514	3614	3714
French Horn	3215	3315	3415	3515	3615	3715
Trumpet	3216	3316	3416	3516	3616	3716
Trombone	3217	3317	3417	3517	3617	3717
Baritone	3218	3318	3418	3518	3618	3718
Tuba	3219	3319	3419	3519	3619	3719
Percussion	3221	3321	3421	3521	3621	3721
Harp	3222	3322	3422	3522	3622	3722
Guitar	3223	3323	3423	3523	3623	3723
	Elective	Elective		Minor		Transfer (1 qtr only)
Piano	1101	3101		3801		1901
Harpsichord	1102	3102		3802		1902
Organ	1103	3103		3803		1903
Voice	1104	3104		3804		1904
Violin	1105	3105		3805		1905
Viola	1106	3106		3806		1906
Cello	1107	3107		3807		1907
Double Bass	1108	3108		3808		1908
Flute	1109	3109		3809		1909
Oboe	1111	3111		3811		1911
Clarinet	1112	3112		3812		1912
Saxophone	1113	3113		3813		1913
Bassoon	1114	3114		3814		1914
French Horn	1115	3115		3815		1915
Trumpet	1116	3116		3816		1916
Trombone	1117	3117		3817		1917
Baritone	1118	3118		3818		1918
Tuba	1119	3119		3819		1919
Percussion	1121	3121		3821		1921
Harp	1122	3122		3822		1922
Guitar	1123	3123		3823		1923

College of Natural Resources

Credit for all courses listed in the *CLA Bulletin* and all courses approved for the Twin Cities campus liberal education curriculum (see *Class Schedule*) may be applied toward CLA baccalaureate degrees and the CLA residency requirement.

In addition, CLA students may apply toward their degrees up to 28 credits of other colleges' courses that are not part of the liberal education curriculum. In some cases, these credits may also be applied toward CLA's former general education requirements.

Your college advising office maintains a list of courses from other colleges which are approved for the former general education requirements.

Descriptions of courses offered by the College of Natural Resources can be found in the bulletin of that college.

Naval Science

See Reserve Officers Training Corps.

Norwegian

See German, Scandinavian, and Dutch.

Overseas Study

See Foreign Study.

Persian

See Institute of Linguistics and Asian and Slavic Languages and Literatures.

Philosophy (Phil)

Staff—*Chair*, Marcia Eaton, 330 Ford Hall; *Director of Undergraduate Studies*, Sandra Peterson, 259 Ford Hall; *Director of Graduate Studies*, C. Kenneth Waters, 385 Ford Hall

Professors: Bowie, Dahl, Eaton, Giere, Gunderson, Hanson, Hellman, Hopkins, Kac, Lewis, Mason, Owens, Savage, Scheman, Wallace

Associate Professors: Dolan, Peterson, Root, Waters

Assistant Professor: Holtman

Adjunct Faculty: Beatty (Ecology, Evolution, and Behavior, Associate Professor), Belfiore (Classical and Near Eastern Studies, Associate Professor), Meehl (Psychology, Regents' Professor)

Philosophy is the study of the most fundamental concepts and principles bearing on the nature of reality, human conduct, and the various branches of knowledge.

General Education—If you are interested in moral and social issues, you will find 1003, 1004, 3302, 3304, 3305, and 5xxx ethics and political philosophy courses of value. Logic (1001), scientific reasoning (1005), epistemology (3105), introduction to formal logic (3201), philosophy of science (3601) and 5xxx epistemology, logic and philosophy of science courses may be of interest to science majors. Courses in aesthetics, philosophy of language, and history of philosophy may be of interest to nonspecialists.

Study Abroad—For information about study abroad, consult the department's director of undergraduate studies and the Foreign Study section of this Bulletin.

B.A. Major Sequence

Major Requirements—At least eleven four- or five-credit courses with grades of C or higher (exception: two courses may have grades of S), at most two of which are 1xxx courses, at least three of which are 5xxx courses, and at least five of which are courses completed at the University of Minnesota, Twin Cities. The eleven courses must include at least one of 1001, 3201, 5201, and both 3001 and 3003, and at least one of 3105, 3601, 5105, 5601, and at least one of 3311, 5311, 5312, 5321. A senior project (3910) is also required.

Minor Sequence

Minor Requirements—Minimum of 20 3xxx-5xxx cr in philosophy. Course selections must be approved by a philosophy department faculty member.

Note: Detailed descriptions of course offerings may be obtained from the department office before the beginning of each quarter.

Phil 1001f,w,s. Introduction to Logic. (5 cr)
Application of formal techniques for evaluating arguments.

Phil 1002f,w,s. Introduction to Philosophy. (5 cr)
Problems, principal methods, and schools of philosophy; historical and contemporary views.

Phil 1003f,w,s. Introduction to Ethics. (5 cr)
Problems that arise when human beings attempt to think systematically about conduct and value.

Phil 1004. Introduction to Political Philosophy. (5 cr)
Central concepts, principal theories of political philosophy.

Phil 1005. Scientific Reasoning. (5 cr) Giere, Savage, Waters
Techniques for understanding and evaluating scientific information as presented in the popular media and in more specialized publications. Includes theories typical of the natural sciences and biology, as well as causal and statistical hypotheses typical of the social, behavioral, and biomedical sciences. Emphasis on general reasoning skills that do not require extensive training in particular sciences.

Phil 1006. Philosophy and Cultural Diversity. (5 cr, §1002)
Central problems and methods of philosophy through culturally diverse texts. Focus will be critical and comparative, reflecting a range of U.S. philosophical traditions.

Phil 1007. Introduction to Political Philosophy Practicum. (2 cr; prereq ¶1004)
Practicum in political philosophy.

Phil 3001f, 3002w, 3003s, 3004f. General History of Western Philosophy. (5 cr per qtr)
Major developments in Western philosophic thought from its beginnings among the Greeks to end of 19th century. *3001*: Greek philosophy, pre-Socratics, Socrates, Plato, Aristotle. *3002*: Stoicism, Epicureanism, medieval Christian synthesis. *3003*: Modern philosophy from Descartes through Hume. *3004*: Later modern philosophy from Kant through 19th century.

Phil 3003Hs. Honors Course: General History of Western Philosophy. (5 cr per qtr; prereq honors regis or #)
For description, see Phil 3003.

Phil 3005. Introduction to the Philosophy of Plato. (4 cr) Dahl, Hopkins, Peterson
Plato's discussion of such topics as the soul, immortality, pleasure, the meanings of words, truth, knowledge, love. Methods of research on Plato.

Phil 3008. Introduction to Aristotle. (4 cr; prereq Phil 3001 or #) Dahl, Peterson
Critical examination of some central concepts in Aristotle's thought: substance, matter, form, essence, soul, cause, and the human good.

Phil 3105. Introduction to the Theory of Knowledge. (4 cr; prereq 1001 or #) Dolan, Hellman, Savage, Waters
Theories and problems concerning evidence, belief, and knowledge.

Phil 3231. Introduction to the Philosophy of Language. (4 cr; prereq 1001 or #) Dolan, Kac, Mason, Peterson, Root, Wallace
Elementary issues concerning the nature of reference, linguistic convention, linguistic truth, translation, synonymy or the relation between language and thought.

Phil 3234. Knowledge and Gender. (4 cr; prereq #) Scheman
Norms governing the social construction of the knowing subject; relationship of those norms to the norms of gender. Critical consideration of the nature of objectivity and rationality and of the claims that men and women think and learn in different ways.

Phil 3302. Moral Problems of Contemporary Society. (5 cr) Bowie, Dahl, Dolan, Mason, Scheman, Wallace
Selected problems of current interest.

Phil 3305. Medical Ethics. (5 cr, §PubH 5623)
Dolan, Hopkins
Moral problems confronting physicians, patients, and others concerned with medical treatment, research, and public health policy. Topics include abortion, living wills, euthanasia, genetic engineering, informed consent, proxy decision-making, and allocation of medical resources.

Phil 3307. Social Justice and Community Service: Basic Political Values. (4 cr) Wallace
Applications of concepts of justice, equality, freedom, community service, and power to current social problems. Perspectives from philosophy, history, literature, and student involvement in the community. Community service for an average of at least two hours per week.

Phil 3308. Social Justice and Community Service: Power and Democracy. (4 cr; prereq 3307) Wallace
Continuation of 3307. Teams develop plans to address current social problems. Community service for an average of at least two hours per week.

Phil 3311. Introduction to Ethical Theory. (4 cr) Bowie, Dahl
Nature and justification of moral judgments and moral principles; analysis of representative moral views.

Phil 3502. Introduction to Aesthetics. (4 cr) Eaton, Gunderson
Development of aesthetic theories from Plato to Tolstoy.

Phil 3601. Scientific Thought. (4 cr; prereq 1002, two natural science courses or completion of Group B distribution requirement) Hellman, Waters
Problems in the philosophy of science through the reading of historical and contemporary sources describing major scientific achievements and controversies.

Symbols and abbreviations: f, w, s, su —fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / **1011, 1012, 1013**—Series courses, separated by commas; may be entered any quarter / **1011-1012-1013**—Sequence courses, separated by hyphens; must be taken in order listed / ! —Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / § —Credit will not be granted if credit has been received for the course listed after this symbol / ¶ —Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / , —In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Phil 3607. Philosophy of Psychology. (4 cr; prereq one course in philosophy or psychology or #) Gunderson, Savage

Major theories of mind, including the “invention” of the mind by Descartes, classical empiricism, the impact of Darwinism, Freud’s theories, Gestalt psychology, behaviorism, Chomsky’s rationalism, contemporary functionalism, the computer model.

Phil 3781. Existentialism. (4 cr; prereq 3003 or 3004 or #) Hopkins, Lewis, Mason

Major philosophical insights of one or more of the following existentialist thinkers: Heidegger, Sartre, Jaspers, Nietzsche, Kierkegaard, Camus, Merleau-Ponty.

Phil 3900H. Honors Course: Undergraduate Seminar. (2-4 cr per qtr; prereq honors regis, 8 cr 3xxx-5xxx philosophy courses)

Topics of contemporary interest, varying from quarter to quarter.

Phil 3910. Major Seminar. (4 cr; prereq philosophy major or #)

Development and presentation of the major project.

Phil 3970. Directed Studies. (1-5 cr per qtr; prereq #)

Guided individual reading or study.

Phil 3980. Directed Instruction. (1-5 cr per qtr; prereq #)

Phil 5004. Socratic Dialogues. (4 cr; prereq 3001 or #) Dahl, Lewis, Peterson

Early Socratic dialogues of Plato; Socratic method and paradoxes.

Phil 5005. Plato. (4 cr; prereq 3001 or #) Hopkins, Peterson

Major dialogues.

Phil 5008. Aristotle. (4 cr; prereq 1 qtr history of philosophy or #) Dahl, Peterson

Passages from major works.

Phil 5021. Medieval Philosophy. (4 cr; prereq 3001 or 3002 or #) Hopkins

Selected topics in writings of Augustine, Anselm, Aquinas, Scotus, and Ockham.

Phil 5034. Descartes. (4 cr; prereq 3003 or #) Lewis, Root

Philosophical works.

Phil 5035. Spinoza. (4 cr; prereq 3003 or #; offered when feasible) Lewis

The Ethics.

Phil 5041. Locke. (4 cr; prereq 3003 or #) Gunderson, Lewis

The Essay Concerning Human Understanding.

Phil 5043. Hume. (4 cr; prereq 3003 or #) Lewis

Treatise and Inquiry.

Phil 5046. Kant. (4 cr; prereq 3003 or 3004 or #) Dahl, Mason

Passages from major works.

Phil 5054. Kierkegaard. (4 cr; prereq 1 qtr history of philosophy or #; offered when feasible) Mason

Major philosophical works.

Phil 5068. Later Philosophy of Wittgenstein. (4 cr; prereq 3003 or 5231 or #) Mason, Scheman

Philosophical Investigations.

Phil 5076. Thoreau. (4 cr; prereq 4 cr in philosophy or #) Dolan

Walden and selected essays.

Phil 5101. Metaphysics. (4 cr; prereq 1 qtr history of philosophy or #) Dolan, Owens, Root

Philosophical theories concerning the nature of reality.

Phil 5105. Epistemology. (4 cr; prereq 1001 or #) Dolan, Savage, Wallace, Waters

Various theories of the origin, development, reliability, justification, and scope of knowledge.

Phil 5201. Symbolic Logic I. (5 cr; prereq 1001 or #) Dahl, Dolan, Hanson, Hellman, Kac

Development of a formalized language. Syntax and semantics of sentential and first-order logic. Deductive systems.

Phil 5202. Symbolic Logic II. (5 cr; prereq 5201 or #) Dolan, Hanson, Hellman, Kac, Wallace

Metatheoretic proofs and methods, including proof by mathematical induction; elements of set theory; metatheorems on soundness, consistency, completeness; extensions of elementary logic.

Phil 5203. Symbolic Logic III. (4 cr; prereq 5202) Dolan, Hanson, Hellman, Wallace

Elementary theory of Turing machines and recursive functions, proofs of limitative results, undecidability of first-order predicate logic, incompleteness of number theory, and undefinability of truth therein. Philosophical significance of these results.

Phil 5211. Modal Logic. (4 cr; prereq 5202 or Math 5162 or #) Hanson

Axiomatic and semantic treatment of propositional and predicate modal logics; problems of interpreting modal languages.

Phil 5221. Philosophy of Logic. (4 cr; prereq 5202 or Math 5162 or #) Hanson

Attempts to answer the question, “What is logic?” Topics include: the scope of logic; disputes about alternative logics; various theories concerning the nature of logical truth (e.g., conventionalism, the view that logical truths are contingent).

Phil 5222. Philosophy of Mathematics. (4 cr; prereq 5202 or 5xxx math courses) Hanson, Hellman

Major philosophical questions arising in connection with mathematics: What is mathematics about? How do we know the mathematics we do? What is the relation between mathematics and the natural sciences?

Phil 5231. Philosophy of Language. (4 cr; prereq 1001 or 5201 or #) Dolan, Kac, Mason, Peterson, Root, Wallace

Central topics. Theories of reference, linguistic truth, relation of language and thought, translation and synonymy.

Phil 5232. Topics in the Philosophy of Language. (4 cr; prereq 3231 or 5231 or #) Dolan, Kac, Mason, Peterson, Root, Wallace
Detailed study of topics surveyed in Phil 5231 or other topics central to the philosophy of language.

Phil 5302. History of Ethics: Selected Classical Moralists. (4 cr; prereq 1003 or 1 qtr history of philosophy or #) Dahl
Moral philosophy outside of British tradition (see Phil 5301). Specific topics announced in *Class Schedule*.

Phil 5311. Ethical Theory. (4 cr; prereq 1003 or #) Bowie, Dahl, Holtman, Mason
Representative theories on the nature and justification of moral judgments.

Phil 5312. Foundations of Ethics. (4 cr; prereq 1003 or #) Dahl, Holtman, Mason
Discussion of the view that evaluative judgments cannot be based on factual considerations alone, and the relation of this view to the objectivity of ethics.

Phil 5321. Theories of Justice. (4 cr; prereq 1003 or 1004 or 5311 or #) Bowie, Holtman, Mason
Philosophical accounts of the concept and principles of justice.

Phil 5325. Biomedical Ethics. (4 cr; undergrads must obtain instructor's approval) Dahl, Dolan, Hopkins
A survey of major topics and issues in biomedical ethics including patients' rights and duties, informed consent, confidentiality, ethical issues in medical research, the initiation and termination of medical treatment, euthanasia, abortion and the allocation of medical resources

Phil 5414. Political Philosophy. (4 cr; prereq 1004 or #) Bowie, Dolan, Holtman, Wallace
Central concepts and principal theories of political philosophy.

Phil 5501. Principles of Aesthetics. (4 cr; prereq 3502 or #) Eaton, Gunderson
Standards of evaluation; aesthetic experience; representation, meaning.

Phil 5521. Philosophy of Religion. (4 cr, §RelS 5521; prereq 8 cr in philosophy) Hopkins, Owens
Analysis of conceptual problems that arise from attempts to provide a rational justification for religious belief.

Phil 5601. The Evaluation of Scientific Hypotheses. (4 cr; prereq 3601 or #) Giere, Hanson, Hellman, Savage, Waters
An examination of philosophical theories of the nature of scientific methods for evaluating scientific hypotheses, of the role of experimentation in science, and, more generally, of how hypotheses come to be accepted within a scientific community.

Phil 5602. The Nature of Scientific Theories. (4 cr; prereq 3601 or #) Giere, Hellman, Savage, Waters
An examination of contemporary issues concerning the nature and role of theories in science: their structure, relations with models and laws, relations with other forms of representation, relations with experiment and with the world in general.

Phil 5603. Scientific Explanation. (4 cr; prereq 3601 or #) Giere, Hellman, Savage, Waters
An examination of contemporary views on the nature of scientific explanation and how it relates both to every day explanation and to other aspects of science, including the nature of scientific theories and the development of science.

Phil 5604. Determinism and Causation. (4 cr; prereq courses in philosophy of science or natural science) Hellman
The concepts of determinism and causation and their importance for science and human affairs.

Phil 5605. Time and Space. (4 cr; prereq courses in philosophy or natural sciences) Hellman, Savage
Major philosophical problems concerning the nature and structure of space, time, and space-time.

Phil 5606. Philosophy of Quantum Mechanics. (4 cr; prereq 3601 or Phys 3501 or Math 3142 or #) Hellman
Problems of interpretation of ordinary (nonrelativistic) quantum mechanics. Two-slit experiment, Schrödinger cat paradox (measurement problem), Einstein-Podolsky-Rosen paradox. Leading approaches to interpretation (Copenhagen, hidden variables, universal wave function) and their connections with philosophical issues.

Phil 5607. Philosophy of the Biological Sciences. (4 cr; prereq courses in philosophy of science or biology) Beatty, Waters
Major philosophical questions that arise in connection with biology: structure and status of evolutionary theory, reductionism in biology, legitimacy of teleology, nature of species, relation of biology to the social sciences.

Phil 5611. Philosophy of the Social Sciences I. (4 cr; prereq 12 cr in philosophy or social sciences or #) Root
Criteria for describing and explaining human actions; problems of objectivity, reduction, freedom.

Phil 5614. Philosophy of Psychology. (4 cr; prereq Psy 3051 or 5011 or Phil 3607 or 5601 or #) Gunderson, Owens, Savage
Problems of and prospects in recent developments in psychology, cognitive science, and philosophy of mind.

Phil 5615. Minds, Bodies, and Machines. (4 cr; prereq 4 cr in philosophy or #) Gunderson, Owens
Philosophical relevance of cybernetics, artificial intelligence, and computer simulation.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Phil 5617. 20th-Century Philosophy of Science: Logical Empiricism. (4 cr; prereq philosophy major or philosophy grad or #) Giere, Savage

An examination of the historical development of logical empiricism from its European origins in the first half of the 20th century to its emergence as the nearly universal account of science in post-war Anglo-American philosophy.

Phil 5618. 20th-Century Philosophy of Science: The Historical School. (4 cr; prereq philosophy major or philosophy grad or #) Giere, Savage, Waters

The historical turn in Anglo-American philosophy of science beginning in the 1960s with the writings of Stephen Toulmin, Russell Hanson, Paul Feyerabend and Thomas Kuhn, and continuing with the works of Imre Lakatos, Larry Laudan, and Dudley Shapere.

Phil 5622. Philosophy and Feminist Theory. (4 cr; prereq 8 cr philosophy or women's studies or #) Scheman
Examines encounters between philosophy and feminism, such as gender's influence in traditional philosophical problems and methods and the social role of the theorist and of theorizing as they relate to the politics of feminism.

Phil 5701. Survey of Contemporary Philosophy. (4 cr; prereq 3003 or #)
Current systematic and critical philosophies as represented by principal exponents.

Phil 5760, 5770. Selected Topics in Philosophy. (4 cr per qtr; prereq four 3xxx-5xxx cr philosophy or #)
Philosophical problems of contemporary interest. Specific topics announced in *Class Schedule*.

Phil 5781. Existentialism. (4 cr; prereq 3003 or 3004 or 5054 or #) Hopkins, Lewis, Mason
Writings of existentialist philosophers since Kierkegaard.

Phil 5970. Directed Studies. (1-5 cr per qtr; prereq #)
Guided individual reading or study.

Phil 5990. Directed Research. (1-5 cr per qtr; prereq #)

Physics (Phys)

Institute of Technology

Staff—*Head*, Marvyn L. Marshak, 145 Physics; *Directors of Undergraduate Studies*, Kenneth Heller, 148 Physics; *Director of Graduate Studies*, Robert Lysak, 375 Physics; *Administrator*, David Holets, 145 Physics

Professors: Bayman, Broadhurst, Campbell, Courant, Dahlberg, Dehnhard, Ellis, Gasiorowicz, Giese, Glazman, Goldman, Halley, Heller, Hobbie, Hosotani, Huang, Kapusta, Kellogg, Lysak, Marquit, Marshak, McLerran, Olive, Pepin, Peterson, Poling, Rudaz, Ruddick, Shapiro, Shifman, Shklovskii, Stuewer, Tang, Vainshtein, Valls, Voloshin, Walsh, Weyhmann, Zimmermann

Associate Professors: Cattel, Cushman, Jones, Kakalios, Kubota, Rusack

Assistant Professors: Ganz, Wygant

Adjunct Faculty—Dasgupta (Indian Institute of Science), deForcrand (E.T.H., Zurich), Erickson (Augsburg College), Riederer (Mayo), White (Control Data Corporation)

Physics is the science concerned with the fundamental properties, laws, and structures common to all forms of matter, living and nonliving. Experimental and theoretical methods of investigation are combined to formulate the mathematical relationships that describe and predict, with increasing accuracy, the behavior of the physical world.

A bachelor's degree in physics can be earned through either CLA or IT (for the IT program, see the *Institute of Technology Bulletin*). Both programs can serve as preparation for graduate school; work in industry; teaching; or professional study in law, business, or medicine. Courses for teachers may also be found in the *Extension Classes Bulletin*, the *Summer Session Bulletin*, and the *Institute of Technology Bulletin*.

Physics courses deal with a few fundamental principles that govern the universe. Topics used to illustrate these principles vary from year to year. For that reason we strongly recommend that all physics sequences be considered a single course to be taken without interruption.

Prerequisites for any physics course may be waived with permission of the department or instructor.

General Education—Courses not requiring a calculus background are 1001 with lab (1005), and 1041-1042 and 1911-1912, which include labs. Courses that use some calculus are 1104-1105-1106 with labs 1107-1108-1109. Courses firmly based on calculus are 1251-1252-1253-1254, which include labs, and 1451-1452-1453-1454, which include labs. To satisfy liberal education lab science requirements (see page 8), students must either take courses that include a lab or complete the additional lab course associated with the lecture course.

B.A. Major Sequence

Required Preparatory Courses—1251-1252-1253-1254 or 1451-1452-1453-1454; Math 1251-1252-1261 or equiv

Major Requirements—3512-3513, 3601, 3515, Math 3251-3252-3261 or equiv, 28 additional credits of 5xxx physics or astrophysics with at least 20 cr selected from 5021-5022, 5023-5024, 5101, 5201 and 5121-5122

Major Project: experimental project (5123) or a project arranged between the student and a faculty member (5970) or in certain cases, by additional coursework in a 5xxx physics course

Majors are urged to take additional 5xxx physics, mathematics, history of science, and computer science courses. Students planning to pursue graduate work in physics are advised to take the honors requirement courses listed below as well as 5102, 5202, and at least one 5xxx mathematics course.

Minor Sequence

Minor Requirements—Completion of the required preparatory courses for the major and at least 21 additional cr of 3xxx and 5xxx courses in physics, which must include the 3515 lab and two 5xxx courses (8-10 cr). Up to two 3xxx or 5xxx astronomy and astrophysics courses may be substituted for physics courses in the minor program. One or more courses in modern physics are recommended. Note that completion of mathematics beyond the required preparatory courses is a prerequisite for most 3xxx and 5xxx physics courses.

Honors Requirements—3512-3513, 3601, 3515; Math 3251-3252-3261 or equiv; 5021-5022, 5023-5024, 5101, 5121-5122, 5201; major project requirement as stated above.

Students majoring or minoring in physics must take all of the required physics and mathematics courses on an A-F basis (except courses which are offered S-N only) and must earn grades of at least C in all of these courses.

Phys 1001f,w,s,su. The Physical World. (4 cr [0 cr for IT students], §any other physics courses; prereq 1 yr high school algebra; 4 class hrs per wk) Fundamental laws and principles governing the physical world, discussed in context encountered in modern science and technology. Associated lab is 1005.

Phys 1005f,w,s,su. Physics Laboratory. (1 cr [0 cr for IT students]; prereq 1001 or ¶1001; 2 lab hrs per wk)
Lab experiments offered with Phys 1001.

Phys 1041f,w,su-1042w,s,su. Introductory Physics. (5 cr per qtr; prereq high school algebra and geometry; trigonometry recommended; 4 lect, 1 recitation, and 2 lab hrs per wk)
Lectures, recitation, and lab sessions. Primarily for students interested in topics useful in technical areas. Fundamental principles of physics in context of the everyday world. The use of kinematic dynamics and conservation principles with quantitative and qualitative problem-solving techniques to understand phenomena of mechanics, electromagnetism, and the structure of matter.

Phys 1104f-1105w-1106s. General Physics. (4 cr per qtr [0 cr for IT students]; prereq for 1104: high school calculus or Math 1142 or equiv, high school trigonometry or Math 1008 or Math 1151; ¶1107 for 1104, ¶1108 for 1105, ¶1109 for 1106; 4 lect, 1 quiz hrs per wk)
Fundamental principles of physics, primarily for premed and biological science students. Description of motion, forces, conservation principles, fields, and the structure of matter. 1104: Forces and their effects. 1105: heat, electricity, magnetism. 1106: Waves, light, modern physics. Associated labs are 1107-1108-1109.

Phys 1107f-1108w-1109s. General Physics Laboratory. (1 cr per qtr; prereq ¶1104 for 1107, ¶1105 for 1108, ¶1106 for 1109; 2 lab hrs per wk)

Phys 1251f,w,s,su - 1252f,w,s,su - 1253f,w,s,su, - 1254f,w. General Physics I-II-III-IV. (4 cr per qtr, §1451H-1452H-1453H-1454H; prereq Math 1251 or ¶Math 1251 for 1251, Math 1252 or ¶Math 1252 for 1252, Math 1261 or ¶Math 1261 for 1253; 3 lect, 1 recitation, 1 quiz hr as needed, and 2 lab hrs per wk for 1251, 1252, and 1253 and 4 lect hrs per wk for 1254)
Calculus-level general physics course stressing the use of fundamental principles to solve quantitative problems. Description of motion, forces, conservation principles, fields, probability, and the structure of matter. 1251: Mechanics. 1252: Mechanics of extended systems and thermal physics. 1253: Electricity and magnetism. 1254: Electromagnetism, waves, relativity and the atomic structure of matter.

Phys 1451f-1452w-1453s-1454f. Honors Physics I-II-III-IV. (4 cr per qtr, §1251-1252-1253-1254; prereq selection for IT honors curriculum or consent of IT honors office; 3 lect, 1 recitation, and 2 lab hrs per wk)
Comprehensive calculus-level general physics course for honors students. Newtonian principles of mechanics, electromagnetic forces and fields, introduction to 20th-century physics, thermal and other properties of matter.

Symbols and abbreviations: f,w,s,su —fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011,1012,1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / ! —Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / § —Credit will not be granted if credit has been received for the course listed after this symbol / ¶ —Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / , —In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Phys 1911-1912†. Laboratory-Based Physics for Teachers. (4 cr per qtr [no cr for IT students]; 6 lab hrs per wk)

Primarily for students intending to be elementary education majors and others desiring a hands-on physical science course. Topics applied to elementary school curriculum include the Earth's motion, properties of matter, heat and temperature, kinematics, and electric current.

Phys 3501. Modern Physics. (4 cr [no cr for physics majors]; §3512-3513: prereq 1253 or 1453, Chem 1052, Math 3261)

Elementary quantum physics with examples from thermal radiation, atomic and molecular structure, and solid-state physics.

Phys 3512w-3513s. Quantum Physics I-II. (3 cr per qtr; prereq 1253 or 1291 or 1341 or 1441 or 1453, Math 3252 or ¶Math 3252, 1254 or 1454 recommended; 3 class hrs per wk)

Quantum mechanics and selected topics from its application to atomic, molecular, condensed-matter, nuclear, elementary-particle, and statistical physics. Associated lab is 3515-3516.

Phys 3515w-3516s. Modern Physics Laboratory. (2 cr; prereq 3501 or ¶3501 or 3512 or ¶3512; 1 lect, 3 lab hrs per wk)

Lab experiments in atomic, solid state, and nuclear physics. Offered in conjunction with 3512-3513.

Phys 3601f. Special Relativity. (3 cr; prereq 1253 or 1453; 3 class hrs per wk)

Introduction to special relativity.

Phys 3970. Directed Studies. (1-5 cr per qtr; prereq #, Δ)

Independent, directed study in physics in areas arranged by student and faculty member.

Phys 5021f-5022w. Introduction to Analytic Mechanics. (4 cr per qtr; prereq Math 3261 or equiv; 4 lect hrs per wk)

Analytic course in Newtonian mechanics. Mathematics beyond prerequisites developed as required.

Phys 5023s-5024f. Introduction to Electric and Magnetic Fields. (4 cr per qtr; prereq Math 3261 or equiv; 4 lect hrs per wk)

Classical theory of electromagnetic fields using vector algebra and vector calculus.

Phys 5031f-5032w-5033s. Topics in Mathematical Physics. (4 cr per qtr; prereq two 5xxx mathematics courses; 4 lect hrs per wk)

Mathematical techniques for physics; application of mathematical methods to physical problems.

Phys 5051f-5052w-5053s. Classical Physics. (4 cr per qtr; prereq 5022, 5024, advanced calculus or #; 4 lect hrs per wk)

Classical mechanics, special relativity, and classical electrodynamics. Applications of advanced mathematical techniques.

Phys 5061f. Computational Methods in the Physical Sciences: I. (4 cr, §Ast 5061; prereq upper div status or grad or #; 2 lect, 6 lab hrs per wk)

Problem solving in the physical sciences with computer programs. Numerical methods; mapping problems onto computational algorithms. Arranged lab at scientific computer work station.

Phys 5062w. Computational Methods in the Physical Sciences: II. (4 cr, §Ast 5062; prereq 5061 or Ast 5061 or #; 2 lect, 6 lab hrs per wk)

Advanced techniques in computer simulation; examples chosen from classical statistical mechanics, classical electrodynamics, and fluid dynamics. Computer experiments illustrating these techniques with graphics.

Phys 5101f-5102w. Introduction to Quantum Mechanics. (4 cr per qtr; prereq 3513; 4 lect hrs per wk)

Mathematical techniques of quantum mechanics. Schrödinger equation and simple applications, general structure of wave mechanics, operator methods, perturbation theory, radiation of atoms.

Phys 5121f. Methods of Experimental Physics: I. (5 cr; prereq 3516 or #; 3 lect, 4 lab hrs per wk)

Contemporary experimental techniques. Introduction to modern analog and digital electronics from an experimental viewpoint.

Phys 5122w. Methods of Experimental Physics: II. (4 cr; prereq 5121 or #; 2 lect, 6 lab hrs per wk)

Contemporary experimental techniques. Use of the computers for data acquisition and experimental control. Experiments with data analysis.

Phys 5123s. Methods of Experimental Physics: III. (4 cr; prereq 5122 or #; 2 lect, 6 lab hrs per wk)

Contemporary experimental techniques. Students design and execute an experimental project. Lectures on specialized topics emphasizing research laboratories.

Phys 5124. Experimental Project. (Cr ar; prereq 5123, #)

Research project in an area of contemporary interest. Project must be approved by faculty coordinator before registration.

Phys 5151f-5152w-5153s. Quantum Mechanics. (4 cr per qtr; prereq 5102 or equiv, advanced calculus or #; 4 lect hrs per wk)

Development from first principles. Application of the Schrödinger equation, matrix representations, approximation methods.

Phys 5162. Introduction to Plasma Physics. (4 cr; prereq 5022, 5024 or #; offered alt yrs)

Magnetohydrodynamics and properties of collisionless plasmas, applications to magnetic field of Earth and sun and to plasma confinement. Transport phenomena and effects of collisions.

Phys 5201f,w.-5202w. Thermal and Statistical Physics. (4 cr per qtr; prereq 3513 or equiv; 4 lect hrs per wk)

Applications of thermodynamics and statistical mechanics, and selected topics from their application to kinetic theory; transport theory and phase transitions.

Phys 5211s. Introductory Solid State Physics. (4 cr; prereq 5101, 5202 or equiv; 4 lect hrs per wk) Properties of solids, including vibrational and electronic properties of solids and diffraction of waves in solids and electron-band structure. Other possible topics include optical properties, magnetic phenomena, superconductivity.

Phys 5231f-5232w-5233s. Introduction to Solid State Physics. (4 cr per qtr; prereq grad or adv undergrad in sci or eng, 1254, 3512, or #; 4 lect hrs per wk) Principles of solid physics for scientists and engineers. Crystal structure and binding; neutron and X-ray diffraction; phonons; thermal and dielectric properties of insulators; the free-electron model and band structure of metals; semiconducting behaviors and magnetism. Other possible topics include superconductivity, ferroelectricity, optical phenomena, surface and interface properties, and departures from crystalline order.

Phys 5301s. Introduction to Nuclear Physics. (4 cr; prereq 5101 or equiv; 4 lect hrs per wk) Structure of atomic nuclei; single-particle and collective models; interactions between elementary particles and nuclei and nucleus-nucleus interactions from very low up to relativistic energies; tests of fundamental conservation laws; fission and fusion reactions; astrophysical applications. Survey for nonspecialists and a first course for those planning to specialize in nuclear physics.

Phys 5371s. Introduction to Elementary Particle Physics. (4 cr; prereq 5101 or equiv; 4 lect hrs per wk) Properties and interactions of the fundamental constituents of nature. Survey for nonspecialists and those intending to specialize in elementary particle physics.

Phys 5400H. Junior Honors Seminar. (1 cr; prereq IT or CLA honors student, #; 1½ sem hrs per wk; may be taken no more than three times) Seminar for upper division physics majors in the honors program, prepares students for senior honors thesis projects and provide guidance in choice of future careers.

Phys 5401. Introduction to Contemporary Problems in Cosmic Ray and Space Physics. (4 cr; prereq #; primarily for students specializing in other branches of physics; offered alt yrs) Astrophysics of energetic particles and photons. Cosmic rays and solar energetic particles. Detection and identification of high energy particles and photons. Interactions with matter and magnetic fields in space. Acceleration, modulation, propagation.

Phys 5410H. Senior Honors Program. (1 cr; prereq IT or CLA honors student, #; 1½ sem hrs per wk; may be taken no more than three times) Seminar for upper division physics majors in the honors program who are carrying out senior honors thesis projects.

Phys 5422. Introduction to Magnetospheric Physics. (3 cr; prereq 5022, 5024 or equiv) Physics of the magnetosphere and its interaction with the solar wind; single particle motions, radiation belts, and plasma convection; magnetic structure and currents; collective behavior, magnetohydrodynamic description of plasmas; discontinuities, boundary layers, and shocks; plasma waves and instabilities.

Phys 5461. Physics and Chemistry of the Earth's Upper Atmosphere. (4 cr; prereq general physics, calculus; 4 lect hrs per wk; offered alt yrs) Survey of atmosphere above 15 kilometers; physics and chemistry of stratosphere, mesosphere, and thermosphere; temperature and density profiles; major and minor constituents and their distributions; aspects of pollutants; reactions and rates; global variations of constituents; the energy budget of the atmosphere.

Phys 5551f. Topics in Physics for Biology and Medicine: Mechanics and Molecular Physics. (5 cr; prereq general physics, calculus; offered alt yrs) Statics (forces in bones and joints). Exponential growth and decay. Statistical physics (entropy, reversibility, Boltzmann factor and Nernst equation, Brownian movement, free energy). Diffusion, bulk flow, and osmosis.

Phys 5552w. Topics in Physics for Biology and Medicine: Electricity and Signals. (5 cr; prereq general physics, calculus; offered alt yrs) Electricity, circuits (electrocardiogram, networks, nerve conduction); transducers, amplifiers; oscillators; feedback control; signal analysis (Fourier analysis, correlation functions, power spectra).

Phys 5553s. Topics in Physics for Biology and Medicine: Light, Atoms, and Nuclei. (5 cr; prereq general physics, calculus; offered alt yrs) Infrared, invisible, and ultraviolet light. X-rays (production, absorption, dosimetry). Nuclei (nuclear size, mass, decay).

Phys 5561. Magnetism: Physics, Geophysics, and Engineering. (3 cr, §Geo 5561; prereq 1253 or 1453; 3 lect hrs per wk) Elementary statistical mechanics, rock magnetism, micromagnetic modeling. Applications of magnetism in geophysics, biomagnetism, magnetic sensors, and recording.

Phys 5801s. Modern Optics. (4 cr; prereq 5024 or #; 4 lect hrs per wk; offered alt yrs) Modern theoretical and experimental optics broadly defined to include, for example, radio astronomy. Matrix methods in geometrical optics, including charged particle optics; optical detectors and noise; phenomena in intense coherent radiation, including nonlinear effects.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Phys 5805. Contemporary Optics. (4 cr; prereq #: 4 lect hrs per wk)
Fundamentals of lasers, including propagation of Gaussian beams, optical resonators, theory of laser oscillation, electro-optic and acousto-optic modulation, and nonlinear optics.

Phys 5911-5912. Concepts in Physics. (4 cr; prereq general physics or #; 3 lect, 2 lab hrs per wk; offered alt yrs)
Overview of physics with emphasis on 20th-century developments. Primarily for secondary teachers and science majors wishing a summary review of physics.

Phys 5924f. History of 19th-Century Physics. (4 cr, SHSci 5924; prereq general physics or #)
Experimental and theoretical discoveries in 19th-century physics (wave theory of light, atomic theory, heat, thermodynamics and statistical mechanics, electromagnetism and field theory) within context of educational, institutional, and political developments in Europe and the United States.

Phys 5925w. History of 20th-Century Physics. (4 cr, SHSci 5925; prereq general physics or #)
Experimental and theoretical discoveries in 20th-century physics (birth of modern physics, special theory of relativity, old and new quantum theories) within context of educational, institutional, and political developments in Europe and the United States.

Phys 5950. Colloquium Seminar. (Cr ar; primarily for beginning grads and advanced undergrads in physics, Δ; S-N only)
Colloquium of the School of Physics and Astronomy.

Phys 5970. Directed Studies. (1-5 cr; prereq #, Δ)
Independent, directed study in areas arranged by the student and a faculty member.

Phys 5980. Research Seminar. (1 cr; primarily for beginning grads and advanced undergrad majors in physics; 1 sem hr per wk)
Introduction to the research activities of the School of Physics and Astronomy.

Phys 5990. Directed Research. (Cr ar; prereq 3rd yr, Δ)
Problems, experimental or theoretical, of special interest to students. Written reports.

Physiology (Phsl)

Medical School

Staff—*Head*, Robert F. Miller, 6-255 Millard Hall; *Director of Undergraduate Studies*, W. Dale Branton, 6-270 Millard Hall; *Director of Graduate Studies*, Stephen A. Katz, 6-120 Owre Hall

Professors: Burkhardt, Ebner, Gallant, Georgopoulos, Lee, Levitt, Low, Miller, Newman, Poppele, Purple, Soechting

Associate Professors: Branton, Fohlmeister, Katz, Lukashn, Osborn, O'Grady, Raabe, Wangenstein

Assistant Professors: Barnett, Boland, Iaizzo, Thompson

Instructor: Bloom

Physiology aims to understand the functions of the human body by pursuing systematic studies of cells, tissues, and organisms. The emphasis is on discovering the mechanisms underlying normal and pathological functions in terms of the physical and chemical laws that govern them.

General Education—1001, for nonscience majors.

B.A. Major Sequence

Required Preparatory Courses—Math through 1252; Chem through 1052; Phys 1251, 1252, 1253, or 1104/1107, 1105/1108, 1106/1109

Major Requirements—BioC 3021 or 5331; Biol 5003, 5004; Chem 3301/3305, 3302/3306; Phsl 3055, 3056

Two, adviser-approved, 3xxx-5xxx electives totaling at least 6 credits. Electives are generally chosen from courses in science or mathematics. A current list of electives are available from the physiology resources listed below.

Honors Requirements—In addition to the requirements of the college, honors students must complete at least two quarters of Phsl 3091 or Phsl 3092 (2 cr each quarter). *Summa* candidates must complete three quarters of Phsl 3091 or Phsl 3092 concomitant with authorship of an approved senior thesis. Students may *not* take more than a total of two credits of Phsl 3091/3092 per quarter.

A complete description of the undergraduate major in physiology, including electives, is available at <http://enlif.med.umn.edu/www/phsl/undergrad> on the World Wide Web. Information is also available from the Department of Physiology office, 6-255 Millard Hall (625-5902) or Dr. Dale Branton, director of undergraduate studies, (625-8977; e-mail: branton@maroon.tc.umn.edu).

Phsl 1001f. Human Physiology. (4 cr; prereq high school biology, high school chemistry or #; not open to health sciences students; 3 lect, 2 lab-dem hrs per wk) Bloom
Human organ systems, normal and pathological functions, feedback regulation and control. Applications to everyday aspects of body function and health.

Phsl 3051w. Human Physiology. (5 cr; prereq 1 yr chemistry, biology; intermediate survey primarily for nursing and physical therapy students; 4 lect, 2 dem hrs per wk) Bloom

Phsl 3052f, 3053 w. Principles of Physiology. (3 cr per qtr; prereq 1 yr each college chemistry, physics, math through integral calculus, Δ winter qtr only) Levitt

Phsl 3055f, 3056w. Principles of Physiology. (5 cr per qtr; prereq 1 yr each college chemistry, physics, math through integral calculus, Δ winter qtr only) Levitt

Phsl 3070f. Neurophysiology. (2 cr; prereq biochemistry, human or mammalian anatomy; primarily for pharmacy students; begins 7th wk of qtr) Fohlmeister

Phsl 3091. Honors Course: Readings in Physiology. (Cr and hrs ar [may be repeated]; prereq Δ; open to honors candidates in physiology only) Selected topics; written reviews prepared and discussed on tutorial basis.

Phsl 3092. Honors Course: Problems in Physiology. (Cr and hrs ar [may be repeated]; prereq Δ; open to honors candidates in physiology only) Selected lab problems; written reports.

Phsl 3970. Directed Studies. (Cr ar; prereq #, Δ) Guided individual reading and study on topics not covered in other courses.

Phsl 5100w. Systems Physiology. (5 cr; prereq biochemistry, anatomy; primarily for dental or pharmacy or med tech students; 4 lect, 2 dem hrs per wk) Katz

Integration of molecular, cellular, and organ physiology to understand human body function.

Phsl 5113. Problems in Physiology. (Cr and hrs ar [may be repeated]; prereq Δ) Individual topics assigned for lab study, conferences and/or reading.

Plant Biology (PBio)

(formerly Botany)

College of Biological Sciences

Staff—*Interim Head*, J. Stephen Gantt, 220 Biological Sciences Center, *Director of Undergraduate Studies*, Thomas K. Soulen, 660 Biological Sciences Center

Professors: Brambl, Brenner, Carter, Cushing, Doebley, Gengenbach, Gleason, Hackett, Koukkari, McLaughlin, Rubenstein, Wetmore, Wick

Associate Professors: Berman, Biesboer, Charvat, Furnier, Gantt, Olszewski, Silflow, Soulen, Wick

Assistant Professors: Marks, May

Plant biologists study such varied topics as the structure, function, development, classification, evolution, worldwide distribution, and importance of plants ranging from algae and fungi to flowering plants; the molecular basis of plant evolution and development; the mechanisms through which plants convert light into chemical energy; the use of plants in the interpretation of the prehistory and history of the world; and the impact of plants on human civilizations.

A major leading to the B.S. is available through the College of Biological Sciences. See also Biology.

General Education—Courses especially appropriate for nonmajors include Biol 1103 and PBio 1009, 1012.

Minor Sequence

Required Preparatory Courses—Biol 1009 or 1202; 1103 or 3012 or 3812

Minor Requirements—Three courses plus one seminar to total a minimum of 15 cr in plant biology, chosen from: 3131, 3109 or 5111, 3201, 5103, 5105

The program must be approved by the director of undergraduate studies.

PBio 1009. Minnesota Plant Life. (4 cr; suitable for nonmajors)

Identification of the more characteristic and conspicuous Minnesota plants, including many lower forms with discussion of basic distinctions, life cycles, habitat requirements, distribution, vegetation types, and ecological relations. Lectures, demonstrations, six field trips.

PBio 1012. Plants Useful to Humans. (4 cr; for majors or nonmajors)

Roles that plants play and have played in human biological and cultural development. Lectures and demonstrations.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ¶—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Biol 1103. General Botany. (5 cr, §Biol 3012, §3812; prereq Biol 1009 or 1202; students who plan to major in biology in CLA or any bioscience major in CBS should take Biol 3012 or 3812)

Organization levels of plants; plant function, growth and development, reproduction. Includes lab.

Biol 3012. Plant Biology. (5 cr, §Biol 1103, §Biol 3812; prereq Biol 1009 or 1202, Chem 1052)

Plant diversity and evolution; structure and function of the plant cell and of the whole organism; growth and development of plants. Includes lab.

PBio 3109. Plant Anatomy. (5 cr; prereq Biol 1103 or 3012 or 3812; offered alt yrs)

Structure and development of plants with special reference to vascular plants.

PBio 3131. Survey of Plant Physiology. (4 cr, §5131; prereq Biol 1103 or 3012 or 3812, BioC 3021 or 5331 or Biol 5001)

Physiological principles underlying processes that occur in living plants, with emphasis on higher plants. Growth and development, mineral nutrition, transport, water relations, and metabolism, emphasizing photosynthesis and nitrogen assimilation. For lab, see PBio 5132.

PBio 3201. Introductory Plant Systematics. (4 cr; prereq Biol 1103 or 3012 or 3812)

Systematics of the flowering plants of the world. Ecology, geography, origins, and evolution of flowering plants; family characteristics; floral structure, function and evolution; pollination biology; methods of phylogenetic reconstruction; molecular evolution; taxonomic terms; methods of collection and identification. Two field trips.

PBio 3960. Research Topics in Plant Biology. (1 cr; prereq Biol 1103 or 3012 or 3812; S-N only)

For undergraduates interested in plant biology. Lecture, discussion, and demonstration of faculty research interests.

PBio 5103. Algae, Fungi, and Bryophytes. (5 cr; prereq Biol 1103 or 3012 or 3812; offered when feasible)

Characteristics of groups, evolutionary relationships, life cycles, comparative morphology (including ultrastructure), comparative nutrition. Lab emphasizes living material and isolation of algae and fungi into culture.

PBio 5105. Morphology of Vascular Plants. (5 cr; prereq Biol 1103 or 3012 or 3812 or #)

Ferns and their allies, Gymnosperms (cycads, Ginkgo, conifers) and Angiosperms (flowering plants). Comparative morphology of vegetative and reproductive structures; life cycles, evolutionary relationships.

PBio 5107. Mycology: Basidiomycetes. (4 cr; prereq PIPa 5105 or equiv or PBio 5103 or introductory microbiology or #)

Ecology, evolutionary relationships, systematics (taxonomy and nomenclature), morphology (including ultrastructure and life cycles of the basidiomycetes). Laboratories parallel lectures, with living and preserved representatives of the Uredinales, Auriculariales, Septobasidiales, Exobasidiales, Sporobolomycetales, Ustilaginales, Tilletiales, Tremellales, Dacrymycetales, Tulasnellales, Aphylophorales, Agaricales, and Gasteromycetes.

PBio 5109. Molecular Genetics and Biochemistry of Yeasts and Filamentous Fungi. (4 cr, §PIPa 5109; prereq one course each in genetics and biochemistry or #)

Chromosome structure and function, regulation of nuclear gene expression, mitochondrial gene organization and expression, membrane and organelle biogenesis, cell cycle regulation, morphogenesis, mating and reproduction, recombination and gene switching, spore formation and germination, viruses, plasmids, and toxins.

PBio 5111. Plant Cell, Tissue, and Organ Development. (5 cr; prereq Biol 1103 or 3012 or 3812)

Microscopic structure of vascular plants; development in root, stem, and leaf.

Pbio 5131. Survey of Plant Physiology. (4 cr, §3131; prereq Biol 1103 or 3012 or 3812, BioC 3021 or 5331 or Biol 5001)

Physiological principles underlying processes that occur in living plants, with emphasis on higher plants. Growth and development, mineral nutrition, transport, water relations, and metabolism, emphasizing photosynthesis and nitrogen assimilation. Weekly discussion section.

PBio 5132. Plant Physiology Laboratory. (2 cr; prereq 3131 or 5131 or ¶13131 or ¶15131)

Lab course to accompany PBio 3131 or PBio 5131.

PBio 5141. Plant Cell Biology. (4 cr; prereq Biol 5004 or equiv)

Structural, functional, developmental, and biochemical aspects of cellular components and processes specific to plants. Cell walls, dictyosome activity, plastids, plant cytoskeleton, modes of plant cytokinesis, cell-cell communication, lectins and cell recognition, vacuoles, cytoplasmic streaming.

PBio 5182. Plant Metabolism. (3 cr; prereq 5131 or equiv, course in biochemistry)

Plant metabolism: photosynthesis, respiration, and the synthesis of macromolecules by plants.

Structure-function relations at the plant, cell, and subcellular levels. Energy flow in the plant system and regulation of plant metabolism.

PBio 5183. Water, Minerals, and Translocation. (4 cr; prereq 5131 or equiv)

Membrane phenomena and osmotic properties of cells. Uptake, movement, and loss of water in plants; effects of external factors. Translocation of organic substances. Absorption, distribution, and function of inorganic elements.

PBio 5184. Plant Growth and Development. (3 cr; prereq 3131 or 5131 or equiv)

Survey of plant growth and development ranging from germination to death, with emphasis on physiology, biochemistry, and molecular biology. Topics include developmental processes related to: mobilization of macromolecules during germination; cell division and cell extension during axis growth; photomorphogenesis; chloroplast and microbody ontogeny; flowering, fruit, and seed formation; senescence; how plant growth substances control these developments.

PBio 5186. Topics in Plant Biochemistry. (3 cr; prereq Biol 5001 or BioC 3021 or BioC 5331)

Biochemical processes unique to plants, emphasizing structures of macromolecules involved and their reactions and regulation. Major topics: light reactions of photosynthesis, secondary metabolism, and carbohydrates. Minor topics: carbon dioxide fixation and nitrogen fixation.

PBio 5203. Herbarium Techniques. (1 cr; prereq 1009 or 3201 or equiv; S-N only)

A "hands-on" approach to museum curation procedures in the herbarium. Students will be exposed to all aspects of herbarium management and will assist with some curation of plant specimens.

PBio 5221. Plant Molecular Evolution. (3 cr; prereq Biol 5003 or GCB 3022)

Applications of molecular genetics to the study of processes and products of evolution. Topics include phylogenetic reconstruction, chromosomal evolution, multigene families, molecular aspects of morphological change, role of transposons in evolution, DNA sequence evolution, and measures of genetic diversity.

PBio 5231. Introduction to the Algae. (5 cr; prereq 10 cr in plant biology or biology or #; offered when feasible)

Structure, reproduction, life histories of major algal divisions.

PBio 5960. Special Topics. (Cr ar; prereq #, Δ)

Treatment in depth of a specialized botanical topic.

PBio 5970. Directed Studies. (Cr ar [10 cr max of 5970 or 5990 may be counted toward the major requirements]; prereq #, Δ; S-N only)

Individual study of selected topics or problems, with emphasis on selected readings and use of scientific literature.

PBio 5990. Directed Research. (Cr ar [10 cr max of 5970 or 5990 may be counted toward the major requirements]; prereq #, Δ; S-N only)

Lab or field investigation of selected areas of research.

Courses Offered at Lake Itasca Forestry and Biological Station

Biol 3812. Plant Biology. (5 cr, \$1103, \$3012; prereq 1009 or 1202, Chem 1052, Δ)

Plant diversity and evolution: structure and function of plant cell and whole organism; growth and development of plants. Field trips at Itasca.

PBio 5801. Plains and Boreal Flora. (5 cr; prereq course in taxonomy, Δ; offered when feasible)

Survey of summer flowering plants and ferns of the state with particular reference to local flora. Identification by technical keys; important plant families; field recognition of common species; habitat preferences; natural history and population biology of selected important species.

PBio 5811. Freshwater Algae. (5 cr; prereq 10 cr plant biology, biology or zoology or equiv, Δ; offered when feasible)

Morphology, systematics, and distribution of local algal flora. Collection, preservation, numeration, and culture techniques; identification of field collections using appropriate technical literature. Ecological implications of species interactions, algal associations, and indicator taxa.

PBio 5890. Research Problems. (1-5 cr per qtr; prereq #, Δ)

Individual research for undergraduates and graduates.

Polish

See Institute of Linguistics and Asian and Slavic Languages and Literatures.

Political Science (Pol)

Staff—Chair, Edwin Fogelman, 1414 Social Sciences Building; *Director of Undergraduate Studies*, Steven Smith, 1435 Social Sciences Building; *Director of Honors*, John Sullivan, 1246A Social Sciences Building; *Undergraduate Advisers*, 1482 Social Sciences Building

Regents' Professor Emeritus: Turner

Regents' Professor: Sorauf

Professors: Backstrom, Ball, Borgida (Psychology), Boyte (Humphrey Institute), Dietz, Duvall, Farr, Flanigan, Fogelman, Freeman, Gray, Holt, Jernberg (Humphrey Institute), Kvavik, Krislov, Kudrle (Humphrey Institute), Light, Murphy (History), Scott, Shively, Smith, Stimson, Sullivan, Weinsheimer (English)

Associate Professors: Disch, Jacobs, Kelliher, Nimtz, Sampson, Sikkink

Assistant Professors: Davidheiser, Legro, Oren, Price, Rahn, Richards

Political science is the study of government, politics, and political ideas. Introductory courses are concerned with general information about the American political system, the political systems of other areas in the world, the international political system, political ideas, and the principal terms and concepts of political science. 3xxx and

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ¶—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

5xxx courses, which may be entered as soon as prerequisites are satisfied, involve deeper examination of selected fields.

Political science graduate students are not allowed to take 5xxx courses for graduate credit.

Honors Program—Qualified majors are encouraged to apply to the departmental honors program, which provides opportunities to participate in small seminars and to work closely with a faculty member on a research project. See handout from the undergraduate office.

Undergraduate Seminars, Fieldwork, Internships, and Scholarships—Undergraduate advisers can provide detailed information about special study opportunities offered by the department, including the A. I. Johnson scholarship/internship and a yearly competition for paid internships in the Washington, D.C., and Minnesota offices of members of Congress.

A maximum of 8 elective cr may be completed in fieldwork and internships.

Three-cr seminars in the 3x99 series include discussion of and individual research on specific topics, as listed in the quarterly *Class Schedule*. They offer close involvement with faculty members and opportunities for creative research. Enrollment in each seminar is limited to 15.

For the Nonmajor—All political science courses with the exception of honors courses are open to nonmajors on A-F or S-N grading. All 1xxx courses are suitable for students interested in an introduction to political science. Most 3xxx and 5xxx courses also are considered general in nature and many are taken by nonmajors.

Study Abroad—The department strongly urges students to incorporate an overseas study experience into their undergraduate program. Appropriate credits from such study, if planned in advance with an adviser, can be applied toward a political science major or minor. Even for students specializing in American politics, studying abroad provides an important comparative perspective. For information on options and procedures, see Foreign Study.

Foreign Languages Across the Curriculum (FLAC)—Students are encouraged to include courses conducted in a language other than English as part of their undergraduate career, whether they are offered on campus or abroad. The Foreign Languages Across the Curriculum

(FLAC) program offers students a number of opportunities to take two- or four-credit courses in French, German, and Spanish, while one-credit FLAC sections are offered in conjunction with some four-credit courses taught in English. These one-credit sections have been offered in Spanish, though other languages are being considered. In spring quarter, FLAC courses offered in French, German, and Spanish provide students the opportunity to do all their coursework in one of these languages as participants in the Foreign Language Immersion Program (FLIP). For more information, consult the political science advisers in 1414 Social Sciences Building.

B.A. Major Sequence

Students seeking admission to the major must meet the following criteria: New Advanced-Standing students must complete two courses in political science with grades of C or better; other undergraduates must complete two of the six introductory courses in political science (1001, 1025, 1026, 1041, 1054, 1061, or 3051) with grades of C or better.

Major Requirements—1001, 3051, and one of the following: 1025, 1026, 1041, 1054, 1061; at least 39 cr in 3xxx-5xxx political science courses (including 3051), taken on A-F grading and with grades of C or better.

Of the required 3xxx-5xxx courses, at least two courses must be from the set of offerings in the political theory, comparative government and politics, or international relations subfields and at least two from the set of courses in politics and behavior, American governmental systems and processes, or public law subfields. No more than four courses taken in any one subfield will apply toward the major.

Coursework completed elsewhere can be used for credit in the major only with department approval. All majors must complete at least 20 cr of 3xxx or 5xxx political science courses on the Twin Cities campus.

Students ready to declare a major (or double major) should contact the undergraduate advising office where staff advisers, and a faculty adviser to be assigned at this time, will help in the selection of coursework appropriate to intellectual and career objectives.

Political science majors may complete one of the following optional concentrations. Students

declare the concentration in the undergraduate advising office at the time of filing for major status or any time thereafter. Students fulfill the requirements by completing any six of the courses listed with that concentration.

Business and politics—3085, 3110H, 5481, 5875, 5886, 5889, 3307, 3308, 3331, 5308, 5315, 5327, 5523

Campaigns and elections—3110H, 3085, 3659, 3471, 5461, 3766, 5737, 5738, 5767, 3306, 3308, 3331, 5306, 5308, 5769

Citizenship and civic action—3110H, 3659, 3661, 5654, 5655, 5656, 5657, 5766, 5885, 3739, 5765, 5303, 3323, 5502

Global politics—3110H, 3661, 3471, 3477, 5461, 3835, 3836, 5323, 5875, 5877, 5881, 5883, 5885, 5886, 5889

Law and Politics—3110H, 3679, 5655, 5656, 3872, 5657, 5881, 5883, 3309, 3331, 3323, 3561, 5501, 5502, 5523

Democratization and development—3110H, 3661, 5656, 5657, 3471, 3477, 5471, 5473, 5477, 5478, 5479, 5885, 5889, 3739, 5766, 5303, 3323, 3561

Political psychology, beliefs, and behavior—3110H, 3085, 5656, 5657, 3739, 3836, 5886, 3766, 5765, 5766, 3306, 3307, 3308, 3323, 5306, 5308

Public affairs—3110H, 3085, 3661, 5481, 3836, 5323, 5877, 5881, 5875, 3306, 3307, 3308, 3309, 3321, 5306, 5308, 5315, 5322, 5327, 5501, 5523

Minor Sequence

Minor Requirements—3051, and one of the following: 1001, 1025, 1026, 1054, 1061; at least 16 cr in four related 3xxx or 5xxx political science courses from two fields.

Internships (3070, 3080), fieldwork (3751, 3352, 3353), and directed study (3970) cannot be used to fulfill minor requirements. Only one course from outside the University of Minnesota may be transferred to the minor program.

Students considering a minor should consult an undergraduate adviser about the proposed program and must obtain approval of the Director of Undergraduate Studies.

General

Pol 1001. American Government and Politics. (5 cr) Gray, Jacobs, Rahn, Smith, Stimson
Principles, organization, processes, functions of government, and the interplay of political forces in the United States. Attention throughout to current issues.

Pol 1001H. Honors Course: American Government and Politics. (5 cr; open to fr, soph) Gray, Jacobs, Rahn, Smith, Stimson
Intensive introductory examination of principles, organization, processes, functions of government, and interplay of political forces in the United States. Attention throughout to current issues. Small group discussion opportunities.

Pol 1025. World Politics. (4 cr) Duvall, Freeman, Oren, Price, Sampson, Sikkink
Contemporary international relations; forms of state interaction; problems of conflict and cooperation.

Pol 1026. American Foreign Policy. (4 cr) Sampson, staff
Institutions and processes that determine American foreign policy; major developments in U.S. foreign policy since World War II; contemporary issues of U.S. policy.

Pol 1041. Contemporary Political Ideologies. (4 cr) Ball, Farr, Fogelman
Major modern ideologies such as liberalism, democracy, conservatism, socialism, communism, fascism, nationalism, imperialism, racism. Adequacy of alternative ideologies for analysis and solution of political and social problems.

Pol 1054. Government and Politics in a Changing World. (4 cr) Davidheiser, Duvall, Holt, Kelliher, Nimtz, Sikkink
Politics of democratic, communist, and Third World nations; examines the causes and consequences of different forms of political life.

Pol 1061. Introduction to Political Thought. (4 cr) Ball, Dietz, Disch, Farr, Fogelman
Central issues in politics—justice, freedom, authority, order, conflict, and revolution—are examined through readings of major texts in Western political thought: Plato's *Republic*, Machiavelli's *Prince*, Hobbes' *Leviathan*, and Marx (selections), among others.

Pol 3051. Introduction to Political Analysis. (4 cr) Farr, Fogelman, Holt, Shively, Sikkink, staff
Formation of political communities, political participation, policy making, compliance, legitimacy, political development, types of political systems. Empirical and normative problems. Comparisons among major countries.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Pol 3085. Introduction to Political Research. (4 cr; prereq 3051 or #) Davidheiser, Flanigan, Richards, Shively, Smith, Sullivan, staff
The design of political research; theory construction, concept formation, problems of measurement, statistical tests for and measures of relationships; problems of inference and interpretation of findings.

Special Courses

Most 3xxx and 5xxx courses are listed under their specialized fields. "Special" courses, not assigned to these fields, are listed here.

Pol 3070. Directed Field Studies. (1-4 cr per qtr; prereq #, Δ; A-F only)
Faculty-supervised research related to work in political or governmental organizations.

Pol 3080. Internship. (4 cr per qtr [8 cr max]; prereq Δ; S-N only) Backstrom, staff
Internship with government or community organizations, arranged by the department and awarded competitively usually each spring quarter.

Pol 3109H. Honors Course: Seminar in Political Science Research. (4 cr; prereq pol sci honors major)
Design of a research project in political science; theory construction, measurement, research methods, and data collection.

Pol 3110H. Honors Work in Selected Fields. (1-6 cr per qtr [6 cr max]; prereq 3109H, pol sci honors major)
Individual research and writing of departmental honors thesis.

Pol 3970. Directed Studies. (1-6 cr per qtr; prereq #, Δ)
Guided individual reading or study.

Political Theory

Pol 3659. American Political Thought. (4 cr) Ball, Farr, Fogelman
From colonial times to present: Puritanism; Revolution; Constitution; utopianism; sectionalism and pluralism; anarchist, socialist, populist, and syndicalist thought; social Darwinism; conservatism; political thought in law and literature.

Pol 3661. Democratic Theory. (4 cr; prereq 3051 or 9 cr in social sciences or #) Ball, Disch, Farr
Postulates and implications; moral foundations; democratic theory and the economic order; liberty and authority; equality; representation; participation; majority rule; critics of democracy; social science and democratic theory.

Pol 5654. Development of Political Thought: Ancient and Medieval (Plato to Aquinas). (4 cr; 1061 recommended or 9 cr in social sciences) Ball, Dietz
Thucydides; classical Greek thought; Plato and Aristotle; rise of empire and Roman thought; Augustine; Middle Ages; Aquinas.

Pol 5655. Development of Political Thought: Early Modern. (4 cr; 1061 recommended or 9 cr in social sciences) Ball, Dietz, Farr
Renaissance; Machiavelli; More; Reformation; Luther; Calvin; liberalism; Hobbes and Locke; Enlightenment; Montesquieu; Rousseau.

Pol 5656. Development of Political Thought: Modern. (4 cr; 1061 recommended or 9 cr in social sciences) Ball, Dietz, Farr, Fogelman
French Revolution and reaction; Burke; utilitarianism; Bentham; Hegel; socialism; Marx; rise of democracy; Mill; Tocqueville; selected 20th-century thinkers.

Pol 5657. Development of Political Thought: Contemporary. (4 cr; 1061 recommended or 9 cr in social sciences) Dietz, Disch, Fogelman
Twentieth-century thinkers and issues: Weber, Dewey, Lenin, Arendt, Camus, Sartre, deBeauvoir, Orville, Popper, Rawls, Habermas, Foucault, liberalism, socialism, feminism, pragmatism, and communitarianism.

Comparative Government and Politics

Pol 3471. Comparative Political Parties and Interest Groups. (4 cr; prereq 1054 or 3051 or #) Kvavik, Nimtz
Cross-national study of political parties and interest groups; organized expression of public and private interests in pluralist and corporatist politics; the nature of politics in single- and multi-party systems.

Pol 3477. Political Development. (4 cr; prereq 1054 or 3051 or #) Davidheiser, Duvall, Nimtz
Political processes and problems associated with economic development processes; the political economy of underdevelopment and development; problems of state building and the development of political institutions.

Pol 5410. Advanced Topics in Government and Politics. (4 cr; prereq 3051 or non-pol sci grad or #)
Topics of current analytic or policy importance in comparative politics. Topics vary.

Pol 5461. Western European Government and Politics. (5 cr; prereq 3051 or non-pol sci grad or #) Holt, Shively
Political institutions in their social settings; power and responsibility; governmental stability; political decision making, government and economic order.

Pol 5471. Politics of Russia and the Commonwealth of Independent States. (4 cr; prereq 3051 or non-pol sci grad or #) Davidheiser
Politics in the former Soviet Union, now the Commonwealth of Independent States. Course is composed of two parts, the evolution of the system: theories of revolution and their relation to Russia's experience of 1917, and the emergence and breakdown of the stable Soviet system of government; current attempts to re-establish political stability and to cope with the pressing problems facing the political system in the Commonwealth and in Russia more narrowly.

Pol 5473. Chinese Government and Politics. (4 cr; prereq 3051 or non-pol sci grad or #) Kelliher
Traditional Chinese society; fragmentation of China and rise of the communists to power; sources and nature of communist Chinese ideology; institutional character of the Communist Party system; sources of power; role of the party and functional groups; patterns of change.

Pol 5477. Middle Eastern Government and Politics. (4 cr; prereq 3051 or non-pol sci grad or #) Krislov, Nimtz, Sampson
Domestic politics of Turkey, Iran, selected Arab states, and Israel, with emphasis on ruling elites and linkages between regimes and societies. Other topics include secular/religious tensions, political aspects of ethnic diversity, and political effects of economic change.

Pol 5478. Government and Politics of African Countries. (4 cr; prereq 3051 or non-pol sci grad or #) Nimtz
Political institutions and behavior in sub-Saharan African countries in their social and cultural settings; class and tribal structure; parties and elections; source and nature of ideologies; economic and social policies.

Pol 5479. Latin American Government and Politics. (5 cr; prereq 3051 or non-pol sci grad or #) Sikkink
Latin American political heritage, political processes, contemporary public policy issues; problems of social, economic, and political change in selected countries.

Pol 5481. The Politics of National Economic Relations. (4 cr; prereq 3051 or non-pol sci grad or #) Freeman
How politics shapes and is shaped by economic relations within nation-states; economic determinants of voting; political-business cycles; business and unions as interest groups; the political determinants of government spending patterns.

International Relations

Pol 3810. Topics in International Politics and Foreign Policy. (4 cr)
Analysis of selected issues in contemporary international relations. Topics vary. Examples: law of sea negotiations, international petroleum politics, limitation of arms races, creation of new international economic order.

Pol 3835. International Relations. (4 cr) Duvall, Legro, Oren, Sampson
Structure of international system; balance of power, bipolar and other international systems; theories of stability, change, conflict, and cooperation.

Pol 3836. Foreign Policy Decision Making. (4 cr) Sampson
Theories and examples of foreign policy decision-making processes, including policy formulation and implementation. Examples drawn from various foreign policy issues.

Pol 3872. International Organizations and the Environment. (4 cr; prereq pol sci major or international relations major or 12 cr social sciences or #) Richards, Sampson
Considers various understandings of international relations/international organizations as they pertain to international efforts to improve the environment. Focuses on intergovernmental organization and governmental policy. Examines history of international environmental cooperation and analyzes selected recent topics, such as ozone depletion, ocean quality, or rain forest preservation. Topics vary.

Pol 3873. Global Citizenship and International Ethics. (4 cr; prereq 1025 or #)
Case studies of ethics of intervention, foreign aid, environmental practices, and women's rights used to examine global ethical responsibilities of individual citizens and public officials; effectiveness of international social movements in influencing policy at domestic and international levels.

Pol 3899. Advanced Seminar. (4 cr; prereq jr or sr, #)
Advanced analysis with supervised research and writing in areas of international relations. Topics vary quarterly. See department office for current offerings.

Pol 5323. American Defense Policy. (4 cr; prereq 3836 or 6 cr in ROTC or non-pol sci grad or #)
Major policy issues such as American strategic theory and war capabilities; limited war theory and capabilities; arms control and disarmament. Defense policy-making process in the Executive Office, Congress, Department of Defense, military services, private sector. Implications of American defense policies for foreign and domestic policy.

Pol 5810. Advanced Topics in International Politics and Foreign Policy. (1-4 cr; prereq 3835 or 3836 or non-pol sci grad or #)
Topics of current analytic or policy importance in international relations/foreign policy. Topics vary.

Pol 5877. Comparative Foreign Policy. (4 cr; prereq 3836 or non-pol sci grad or #) Sampson
Comparative analysis of foreign policies of major states; national and international determinants of foreign policy behavior.

Pol 5881. International Law. (5 cr; prereq 3835 or non-pol sci grad or #)
How and why does international law matter? Obligation, territory, laws of war, international criminal law, human rights, environment and law of the sea.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Pol 5883. International Organizations. (4 cr; prereq 3835 or non-pol sci grad or #) Duvall
International politics of cooperation in institutional arenas; decision-making in the United Nations and related agencies; organizational impact on international conflict and international economic and social relations.

Pol 5885. International Conflict and Security. (4 cr; prereq 3835 or non-pol sci grad or #) Legro, Oren, staff
Use of military force in international politics. Topics include threat perception, nuclear strategy, arms races and race control, ethical perspectives on war.

Pol 5886. International Diplomacy, Bargaining, and Negotiation. (4 cr; prereq 3835 or non-pol sci grad or #) Legro
Strategies and processes of international diplomacy, bargaining, and negotiation to resolve contemporary international disputes, including international security, arms limitation, and disarmament.

Pol 5889. The Politics of Global Economic Relations. (4 cr; prereq 3835 or non-pol sci grad or #) Duvall, Freeman, Legro, Oren
Trade, aid, investment, and international monetary relations as political-economic processes; role of multinational corporations; problems of dependence and interdependence; strategic issues in East-West economic relations.

Politics and Behavior

Pol 3739. Politics of Race, Class, and Ethnicity. (4 cr; prereq 6 cr in social sciences) Nimitz
Cross-cultural study of politics of ethnic communities; emphasis on politics of black communities in the United States. Internal community politics and their local and national political systems.

Pol 3751. Fieldwork in Politics. (4 cr; prereq 1001 or equiv) Backstrom
Field study of political organizations, leadership, campaigns. Students arrange work assignments with candidates.

Pol 3766. Political Psychology. (4 cr; prereq 1001 or equiv or #) Rahn, Sullivan
Political learning; processes of political perception and information processing; subjectivity and political ideology; personality and political behavior; symbols and politics.

Pol 5710. Advanced Topics in Politics and Behavior. (4 cr; prereq 3051 or #)
Topics of current analytic or policy importance in the politics and behavior field.

Pol 5737. American Political Parties. (4 cr; prereq 1001 or #) Sorauf
The American two-party system; party influence in legislatures and executives; decline of parties and their future.

Pol 5738. American Political Campaigns and Elections. (4 cr; prereq 1001 or equiv or #) Backstrom
National, state, and local campaigns and elections; research in local political parties and campaigns.

Pol 5765. Political Psychology of Conformity, Enmity and Heroism. (4 cr; prereq 1001 or equiv or #) Sullivan
Conformity and obedience in politics; spiral of silence and group think; pathways from conformity and obedience to malignant political aggression; psychological basis, and political use of torture, terrorism and genocide; political altruism and heroism in the face of malignant aggression; role of ordinary people and extraordinary leadership; case studies.

Pol 5766. American Political Culture and Values. (4 cr; prereq 3085 or equiv or #) Sullivan
Empirical analysis of basic political values—individualism, freedom, and equality; dominant beliefs about democratic principles, postmaterialism, and capitalism; citizenship and political participation; political intolerance and patriotism; heroism and political leadership.

Pol 5767. Public Opinion and Voting Behavior. (5 cr; prereq 1001 or equiv or #) Flanigan, Stimson, staff
Major factors influencing electoral decisions; political attitude formation and change. Data analysis lab required.

American Governmental Systems and Processes

Pol 3306. The American Presidency. (4 cr; prereq 1001 or equiv or #) Jacobs, Smith
The office and individual presidents; organizational characteristics of the Executive Office and individual qualities of decision making; relationships with Congress, the bureaucracy, parties, interest groups, media, and public opinion.

Pol 3308. The United States Congress. (4 cr; prereq 1001 or equiv or #) Smith
Internal organization, committee system, party leadership, norms, recruitment; legislative policy making; relationship with the president and bureaucracy; interest group, political party, and constituency influences on the congressional process.

Pol 3309. Judicial Process. (4 cr; prereq 1001 or equiv or #) Krislov, Sorauf
Structure of American judiciary; selection of judges; process of litigation; influences on judicial decisions; impact of and compliance with decisions; role of Supreme Court in American political system.

Pol 3310. Topics in American Politics. (4 cr per qtr; prereq 1001 or equiv or #)
Topics specified in *Class Schedule*.

Pol 3331. Minnesota Government and Politics. (4 cr; 1001 recommended) Backstrom
The Minnesota political system; demographic and cultural setting, political and governmental processes, contemporary policies.

Pol 3352. Fieldwork in the Legislature. (4 cr; prereq 1001 or equiv or #) Backstrom, Gray
Field study of Minnesota Legislature; membership, leadership, influence, staffing, procedure, powers. Students arrange work assignments with legislators.

Pol 5303. The American Democracy. (4 cr; prereq 1001 or equiv or #) Flanigan, Jacobs
The American political system, its institutions and processes. Political decision making, influence, and elites. Ideals and reality of democracy in the United States.

Pol 5315. State Government and Politics. (4 cr; prereq 1001 or equiv or #) Backstrom, Gray
Political institutions, political behavior, and public policies in American states; comparisons between states and between state and national political systems.

Pol 5322. American Social Policy. (4 cr; prereq 1001 or equiv or #) Gray, Jacobs
American government actions affecting the distribution of social benefits such as health care, education, and housing; social burdens such as taxation and regulation of social conduct. Relationships between government action and social problems; possibilities for change.

Pol 5323. American Defense Policy. (4 cr; prereq 3836 or 6 cr in ROTC or non-Pol science grad or #)
For description, see 5323 under International Relations subheading above.

Pol 5327. Local Government and Politics. (4 cr; prereq 1001 or equiv or #) Backstrom, Scott
Development and role of American local government; forms and structures; relationships with states and the federal government; local politics and patterns of power and influence.

Public Law

Pol 3323. Civil Liberties in America. (4 cr; prereq 1001 or equiv or #) Sullivan
Political importance of civil liberties in American society. Tolerance as a social phenomenon; issues such as free speech, religion, media control, and effects of campaigning.

Pol 3561. Comparative Legal Systems. (4 cr; jr or sr) Krislov
Elementary survey, primarily for social science students, of principal legal systems of the Western world. Organization, procedures, methods of growth, relation to political and economic systems, basic juristic conceptions. Roman law and European derivatives. Anglo-American law.

Pol 5501. Principles of American Constitution I. (5 cr; prereq 1001 or equiv) Krislov
Nature of constitutions, judicial review, organizations and powers of national government; national-state and interstate relations.

Pol 5502. Principles of American Constitution II. (5 cr; prereq 1001 or equiv) Krislov
Due process; civil rights and civil liberties.

Pol 5523. The Politics of the Regulatory Process. (4 cr; prereq 1001 or equiv or #, 3309 or 5501 or sr) Krislov
Operations of regulatory agencies considered in context of political and legal environment. Principles of federal administrative law, informal procedures, interest group activity; philosophy of regulation; politics and processes of deregulation.

Portuguese

See Spanish and Portuguese.

Psychology (Psy)

Staff—*Chair*, to be announced, N-218 Elliott Hall; *Associate Chair*, to be announced, N-218 Elliott Hall; *Director of Undergraduate Studies*, Paul W. Fox, N-246 Elliott Hall; *Director of Graduate Studies*, John P. Campbell, N-494 Elliott Hall; *Director of Honors*, Randy Fletcher, 255 Elliott Hall

Regents' Professor: Berscheid

Professors: Ackerman, Borgida, Bouchard, Burkhardt, Butcher, Campbell, Cudeck, Dawis, Dunnette, Fox, Hansen, Iacono, Kanfer, Kersten, Legge, Leon, Lykken, McGue, Overmier, Snyder, Tellegen, Viemeister, Weiss

Associate Professors: Fletcher, Frazier, Gonzales, Grove, Peterson

Assistant Professors: Marsolek, Ones, Palace, Rothman

Psychology is concerned with the behavior of organisms in terms of environmental, genetic, physiological, and social determinants and correlates.

If you are contemplating a major in psychology, consult the Undergraduate Advising Office, 105 Elliott Hall.

General Education—Courses recommended for nonmajors include 1001, 3011, 3031, 3051, 3061, 3101, 3135, 3201, and 3604. Most 3xxx and a number of 5xxx courses are considered general in nature and may be elected by nonmajors with appropriate prerequisites.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011, 1012, 1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ¶—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

Honors Program—Qualified majors are encouraged to enter the departmental honors program. This program provides opportunities to participate in the honors seminar and to work closely with faculty members on a research project.

Study Abroad—The department encourages students to incorporate overseas study into their academic programs. Such study can enhance the goals of a liberal education. With advance approval of an adviser, it is also possible to carry out independent study for psychology credit. For information on options and procedures, see Foreign Study.

B.A. Major Sequence

Required Preparatory Courses—1001, 1004-1005 (to be taken as soon as possible after 1001)

Major Requirements—At least 34 cr chosen as follows:

3801 or Stat 3011 (to be taken as soon as possible after 1001)

Two courses from 3011, 3031, 3051, 3061 or 5061, 5011, 5012-5013, 5014, 5015, 5031, 5034, 5036, 5037, 5038, 5051, 5054, 5137, 5606

Two courses from 3014, 3101, 3135 or 5135, 3201, 3604, 3617, 3666, 5121, 5136, 5138, 5141, 5202, 5204, 5205, 5206, 5207, 5501, 5701, 5702, 5703, 5705; CPsy 3303 or 5303, 3309 or 5301

Major project: 3902

Four elected 3xxx-5xxx psychology courses (a total of two from 3960, 3970, 3990 may be used)

All major courses must be taken A-F except Psy 3902. At least four upper division courses in psychology must be taken on the Twin Cities campus.

Psychology majors, especially those considering graduate work, are urged to elect math and natural, social, and biological science courses. Prospective graduate students also should take further work in statistics and computer programming.

Child psychology credits may not be counted toward the required 28 3xxx-5xxx cr outside the major. (Double psychology-child psychology majors are not permitted.)

Minor Sequence—
General Psychology

Required Preparatory Courses—1001, 3801 or Stat 3011 or equiv

Minor Requirements—Two courses from 3011, 3031, 3051, 3061 or 5061, 5011, 5012-5013, 5014, 5015, 5031, 5034, 5036, 5037, 5038, 5051, 5054, 5137, 5606; two courses from 3014, 3101, 3135 or 5135, 3201, 3604, 3617, 3666, 5121, 5136, 5138, 5141, 5202, 5204, 5205, 5206, 5207, 5501, 5701, 5702, 5703, 5705

All minor courses must be taken A-F. At least two upper division courses in psychology must be taken on the Twin Cities campus.

The minor program must be approved by a psychology undergraduate adviser.

Minor Sequence—
Natural/Biological Science

Required Preparatory Courses—1001, 3801 or Stat 3011 or equiv

Minor Requirements—Two courses from 3011, 5011, 5012-5013, 5014, 5015; two courses from 3031, 3051, 3061 or 5061, 5031, 5034, 5036, 5037, 5038, 5051, 5054, 5137, 5606

All minor courses must be taken A-F. At least two upper division courses in psychology must be taken on the Twin Cities campus.

The minor program must be approved by a psychology undergraduate adviser.

Minor Sequence—Social Science

Required Preparatory Courses—1001, 3801 or Stat 3011 or equiv

Minor Requirements—Two courses from 3014, 3101, 3201, 3604, 3617, 5202, 5204, 5205, 5206, 5207; one course from 3135 or 5135, 3666, 5121, 5136, 5138, 5141, 5501, 5701, 5702, 5703, 5705; one elective 3xxx or 5xxx psychology course from those listed as course options in the social science minor sequence.

All minor courses must be taken A-F. At least two upper division courses in psychology must be taken on the Twin Cities campus.

The minor program must be approved by a psychology undergraduate adviser.

Psy 1001f,w,s. Introduction to Psychology. (5 cr)
The study of human behavior. Prerequisite for all advanced courses in psychology.

Psy 1001Hw. Honors Seminar: Introduction to Psychology. (1 cr; prereq ¶1001, fr or soph honors student; S-N only) Fletcher
Small group discussion of a variety of current topics in psychology.

Psy 1004f,w-1005w,st. Introductory Laboratory Psychology. (4 cr per qtr; prereq soph, 1001 or ¶1001) Fox, Peterson, staff
Experiments with contemporary subject matter such as sensory psychology, psychophysics, perception, motivation, verbal behavior, animal and human learning, problem solving, and psychological measurement.

Psy 3011f. Introduction to Psychology of Learning. (4 cr; prereq 1001) Peterson
Basic methods. Fundamental concepts and principles governing the learning process.

Psy 3031f. Sensation and Perception. (4 cr; prereq 1004) Burkhardt
Psychological, biological, and physical aspects of sensory experience in humans and animals. Emphasis on vision and hearing.

Psy 3051w. Introduction to Cognitive Psychology. (4 cr; prereq 1001) Marsolek
Research and theoretical concepts in study of cognitive factors in perception, memory, reading, and problem solving.

Psy 3061w. Introduction to Biological Psychology. (4 cr, \$5061; prereq 1005 or Biol 1009 or #)
Basic neurophysiology and neuroanatomy, neural mechanisms of motivation, emotion, sleep-wakefulness cycle, and learning and memory in animals and humans. Neural basis of abnormal behavior and drug abuse.

Psy 3101f. Introduction to Personality. (4 cr, \$5101; prereq 1001) Tellegen
Concepts and issues in personality theory, personality research, and personality assessment.

Psy 3135f. Introduction to Individual Differences. (4 cr, \$5135; prereq 3801 or equiv) Bouchard
Differential methods in the study of human behavior. Overview of the nature of psychological traits and influence of age, sex, heredity, and environment in causation of individual and group differences in ability, personality, interests, and attitudes.

Psy 3201w. Introduction to Social Psychology. (4 cr; prereq 1001) Gonzales, Rothman
Overview of theories and research in social psychology with emphasis on attitudes and persuasion, social judgment, group behavior, the self, aggression, stereotyping, and applications.

Psy 3604f,s. Introduction to Abnormal Psychology. (4 cr, \$5604H; prereq 1001) Butcher, Iacono
Abnormal psychology. Etiologies of behavioral disorders; available treatments.

Psy 3617f,s. Introduction to Clinical Psychology. (4 cr; prereq 3604 or 5604H, 3801 or equiv; A-F only) Grove
Historical developments and contemporary issues; relevant research and clinical trends in psychological assessment methods, intervention strategies, and clinical psychology.

Psy 3666s. Human Sexuality. (4 cr; prereq 1001) Palace
Overview of theories, research, and contemporary issues in human sexual behavior from an interdisciplinary perspective. Topics include: sexual anatomy and physiology, hormones and sexual differentiation, cross-cultural perspectives on sexual development, social and health issues, and sexual dysfunction and therapy.

Psy 3801f. Introduction to Statistical Methods. (4 cr; prereq 1001, GC 0631 or equiv) Cudeck
Quantification in research problems in psychology. Descriptive and inferential statistics, hypothesis testing. Examples from various areas of psychology.

Psy 3902f,w,s. Major Project in Psychology. (4 cr; prereq 1005, 3801, jr or sr psychology major)
Seminar for completion of the undergraduate major project paper.

Psy 3960f,w,s. Undergraduate Seminar. (1-5 cr per qtr; prereq 1001, #)
Current topics in psychology. Topics listed in psychology office.

Psy 3970f,w,s. Directed Studies. (1-8 cr per qtr; prereq #, Δ)
Independent reading leading to written paper or oral or written examination.

Psy 3990f,w,s. Directed Research. (1-8 cr per qtr; prereq #, Δ)
Individual empirical research projects leading to written report.

Psy 5011f. Theories of Learning and Cognition. (4 cr; prereq 3011 or #) Peterson
Learning theories and contemporary theories of information processing and cognition. Examples from human and animal research.

Psy 5012w-5013s. Psychology of Learning. (4 cr per qtr; prereq 1005, 3011 or EEB 3111 or #, except for grads) Overmier
Classical conditioning, instrumental learning, and elementary cognitive processes. Evaluation of relevant theories. Emphasis on animal models.

Psy 5014s. Psychology of Human Learning and Memory. (4 cr; prereq 1005 or 3011 or 3051 or #, except for students in honors sequence and grads) Fox
Processes and principles in human learning, memory, and cognition.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Psy 5015. Cognitive Processes. (4 cr; prereq 3011 or 3051 or 5014, except for students in honors sequence and grads) Marsolek

Cognitive processes in human pattern recognition, attention, and memory.

Psy 5031s. Perception. (4 cr, §NSci 5031; prereq 3051 or 3031 or #) Legge

Data and principles of visual perception: color vision, object recognition, abnormal vision, physiological optics.

Psy 5034s. Psychobiology of Vision. (4 cr, §NSci 5034; prereq 3031 or #) Burkhardt

Analysis of the properties and biological bases of sensory perception in humans and animals. Emphasis on color vision, visual sensitivity and adaptation, and nerve cell circuits of eye and brain.

Psy 5036w. Vision: Computational Theory to Neural Systems. (4 cr; prereq 3031, CSci 3113 or equiv or #, Math 3261 or equiv) Kersten

Applications of psychology, neuroscience, and computer science to understanding design principles underlying visual perception. Comparisons of biological and physical processing of images with respect to image formation, encoding, filtering, scene inference, and recognition.

Psy 5037f. Psychology of Hearing. (4 cr; prereq 3031 or #) Viemeister

Biological and physical aspects of hearing, auditory psychophysics, theories and models of hearing, perception of complex sounds including music and speech, and clinical and other applications.

Psy 5038s. Introduction to Neural Networks. (4 cr; prereq 3061 or 5061, Math 3261 or equiv or #) Kersten

Parallel distributed processing models in neural and cognitive science. Linear models, Hebbian rules, self-organization, non-linear networks, information optimization, and representation of information. Applications to sensory processing, perception, learning, and memory.

Psy 5051s. Psychology of Human-Machine Interaction. (4 cr; prereq 3051 or 3031 or #) Legge

Psychological perspectives on human-machine interaction and factors that limit performance. Cognitive and perceptual aspects of computer use, telepresence, and design and evaluation of sensory aids.

Psy 5054w. Psychology of Language. (4 cr; prereq 3011 except for students in honors sequence and grads) Fletcher

Theories and experimental evidence in past and present conceptions of psychology of language.

Psy 5061f. Biological Psychology. (4 cr, §3061; prereq 1005 or Biol 1009 or #)

Physiological and neuroanatomical mechanisms underlying behavior of animals. Neural basis of learning and memory, sleep, wakefulness, and attention processes. Effects of drugs on behavior.

Psy 5101w. Personality. (4 cr, §3101; prereq 5862 or ¶5862, honors candidate or grad) Tellegen

Introduction to and evaluation of major alternative theoretical perspectives, research methods, and empirical issues in the field of personality.

Psy 5121f. History and Systems of Psychology. (4 cr; prereq 8 cr of 5xxx courses in psychology, or equiv or grad or #) Ackerman

Survey of the history, methods, and content of modern psychological theory, research, and application. Schools of psychology (e.g., structuralism, functionalism, behaviorism, gestalt psychology) and central theories of psychology will be reviewed in their historical and philosophical context.

Psy 5135f. Introduction to Individual Differences. (4 cr, §3135; prereq 3801 or equiv, 5862 or #) Bouchard

For description, see Psy 3135.

Psy 5136s. Human Abilities. (4 cr; prereq 3135 or 5135, 5862 or equiv or #) Ackerman

Theory, methods, and applications of research in human abilities. Topics include intelligence, aptitude, achievement, specific abilities, information processing/learning and intelligence, aptitude/treatment interactions, and quantitative measurement issues.

Psy 5137f. Introduction to Behavioral

Genetics. (4 cr; prereq 3135 or 5135 or #) McGue
Overview of application of genetic methods to the study of human and animal behavior. Emphasis on the use of genetic designs and methods to address psychologically relevant questions concerning the nature and etiology of individual differences in behavior. Examples include intelligence, schizophrenia, manic depressive illness, and alcoholism.

Psy 5138w. Psychology of Aging. (4 cr; prereq 3135 or 5135, 5862 or #) McGue

Analysis of behavioral changes that occur in mid and late adulthood, from psychological, biological, and sociological perspectives. Description of methodologies appropriate for studying behavioral change and application to cognitive, personality, and mental health changes associated with aging.

Psy 5141s. Psychology of Women. (4 cr; prereq 1001) Frazier

Survey of current theory and research regarding psychology of women and psychological sex differences, including topics that relate uniquely to women (e.g., pregnancy) as well as sex differences in personality, abilities, and behavior.

Psy 5202s. Attitudes and Social Behavior. (4 cr; prereq 3201 or #) Borgida

Survey of attitude theory, measurement, and persuasion research in social psychology. Focus on the structure, function, and formation of attitudes; relationship between attitudes and various social behaviors; basic principles of persuasion.

Psy 5204s. Psychology of Interpersonal

Relationships. (4 cr; prereq 3201 or # except for students in honors sequence and grads) Berscheid
Theory and research on interpersonal relationships, focusing on dyadic interaction processes and patterns and their implications for the individual. Topics include: issues in relationship research methodology; developmental, sociobiological, and social psychological approaches to relationships; processes of relationship initiation, development, maintenance, and dissolution.

Psy 5205w. Applied Social Psychology. (4 cr; prereq 3201 or grad or #) Gonzales
Overview of field. Applications of social psychology research and theory to the criminal justice system, media, behavioral medicine, desegregation, institutions, and energy conservation programs.

Psy 5206w. Research Methods in Social Psychology. (4 cr; prereq #) Rothman
Overview of experimental and quasi-experimental methods suitable for research in social psychology. Statistical, interpretive, operational, and ethical issues in social psychological research.

Psy 5207s. Personality and Social Behavior. (4 cr; prereq 3201 or 3101 or # except for students in honors sequence and grads) Snyder
Psychology of personality and social behavior. Topics include: conceptual and methodological strategies for scientific study of individuals and their social worlds; applications of theory and research to issues of self, identity, and social interaction.

Psy 5501f. Vocational Psychology. (4 cr; prereq 3801 or #) Dawis
Individual differences analysis of the work personality and work environment; vocational development and vocational choice; work adjustment; work motivation and performance; work satisfaction and satisfactoriness; psychological problems connected with work.

Psy 5604Hw. Abnormal Psychology. (4 cr, §3604; prereq honors major; # for grads) Leon
Comprehensive review of psychopathological disorders. Etiology, diagnostic criteria, and clinical research findings emphasized.

Psy 5606f. Clinical Psychophysiology. (4 cr; prereq 1004, 1005 or equiv, 3061 or 5061, 3604 or 5604H or #) Iacono
Survey of psychophysiological methods as they are used in studies of the major psychopathological disorders.

Psy 5701w. Personnel and Industrial Psychology. (4 cr; prereq 3801 or equiv, 8 cr psychology or #) Campbell, Ones
Principles of individual differences and psychological measurement applied to problems of recruiting, selecting, and appraising members of ongoing organizations. Job analysis, job behavior description, models of complex performance, performance measurement, selection and placement strategies, utility of personnel decision making procedures, minority group employment issues.

Psy 5702s. Psychology of Individual Behavior in Organizations. (4 cr; prereq 3801 or equiv, 8 cr psychology or #) Kanfer
Psychological research and methodology applied to the study of human behavior in organizations. Measurement of work-related beliefs and attitudes, interpersonal relations, effects of group processes on problem solving and decision making, organizational socialization, leadership, supervision, organizational structure and climate.

Psy 5703f. Psychology of Organizational Training and Development. (4 cr; prereq 3801 or equiv, 8 cr psychology or #) Campbell
Theories, methods, and research pertaining to improving performance of individuals at work through learning and instruction: training-needs analysis, models of instructional design, aptitude-treatment interactions, training evaluation, knowledge structures, specific training programs.

Psy 5705w. Work Motivation. (4 cr; prereq 3801 or equiv, 8 cr psychology or #) Kanfer
Emphasis on motivational processes and job satisfaction in organizational contexts. Motivational process theories of task behavior and performance, goal setting, turnover/withdrawal, work attitudes, and interpersonal influences.

Psy 5862f. Psychological Measurement: Theory and Methods. (4 cr; prereq 3801 or equiv, honors candidate or grad or #) Weiss
Types of measurements (tests, scales, inventories) and their construction; theory and measurement of reliability and validity.

Psy 5865s. Measurement of Latent Traits. (4 cr; prereq 5862 or #; offered even yrs) Weiss
Theory and methods for measurement of latent psychological variables using dichotomous item-response theory methodology. One-, two-, and three-parameter models. Item calibration, scoring, information, and applications to instrument construction, equating, bias, adaptive testing, and mastery testing.

Psy 5900. Honors Seminar: Psychology. (1 cr; prereq psychology honors major or #; S-N only) Fletcher
Contemporary issues in psychological research. Initiation of 5901 project. Advanced study and career opportunities in psychology. Special learning opportunities available to psychology honors majors.

Psy 5901f,w,s. Honors Project. (4-8 cr; prereq sr, #)
Critical literature review or empirical study.

Psy 5960f,w,s. Topics in Psychology. (1-5 cr per qtr; prereq 1001, #)
Special classes or seminars. Topics listed in psychology office.

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Public Affairs (PA)

Hubert H. Humphrey Institute of Public Affairs

Descriptions of courses offered by the Hubert H. Humphrey Institute of Public Affairs can be obtained from the institute.

School of Public Health

The School of Public Health offers four individual graduate degrees and five dual-degree graduate and professional programs. The School's mission is "to preserve and enhance the health of the public through education, research, and service programs designed to discover and transmit new knowledge aimed at the prevention of disease and disability, the improvement of health, and the planning, analysis, management, evaluation, and improvement of systems for the delivery of health services."

CLA students may prepare, through study in a number of undergraduate programs, for application to graduate programs in the School of Public Health. Please consult the *School of Public Health Bulletin* for information about preparation and application requirements. Further information about Public Health degree programs is available from the School.

In addition to its extensive graduate-level curriculum, the School of Public Health offers four courses, open to non-majors, at the 3xxx-level. Information about these courses is available in the *School of Public Health Bulletin*, the *Class Schedule*, and the *Course Guide*.

Religious Studies

See Classical and Near Eastern Studies.

CLA courses addressing religious texts and experience are also listed under Anthropology, Art History, Cultural Studies and Comparative Literature, History, Humanities, Philosophy, Sociology, and South Asian and Middle Eastern Languages and Cultures.

Reserve Officers Training Corps (ROTC)

At the University of Minnesota, ROTC programs are offered by the U.S. Army, Navy, and Air Force. ROTC coursework is completed

concurrently with degree work so that participants qualify for officer commissions in one of the four military services—Army, Marines, Navy, or Air Force—as they complete requirements for a University degree. ROTC coursework offers students the opportunity to widen their perspective; sharpen their sense of responsibility; develop their ability to organize, motivate, and lead others; and acquire a maturity of judgment that can be a source of strength and self-confidence throughout their careers.

Four-year and two-year programs are available, each offering a different approach toward earning an officer's commission for students who meet selection requirements. Four-year programs consist of a Basic Course and an Advanced Course. The Basic Course is taken during the freshman and sophomore years, and the Advanced Course normally comprises the junior and senior years. Two-year programs consist of only the Advanced Course. Enrollment in an Advanced Course normally obligates students to a service commitment. Scholarships providing educational support for up to four years are available on a competitive basis.

To learn about the qualifications, curricula, benefits, and obligations of each service, consult the *Army-Navy-Air Force ROTC Bulletin*, or inquire at an ROTC office: Aerospace Studies, 3 Armory; Military Science (Army ROTC), 101 Armory; Naval Science, 203 Armory.

Note: ROTC courses that are not cross-listed with CLA courses count as liberal arts courses for the CLA graduation requirement if the ROTC program is completed. If the ROTC program is not completed, they count as *non-liberal arts credits* (28 credits maximum).

Aerospace Studies (Air)

Staff—Head, Col. William H. Campbell, Jr., USAF, 3 Armory

General Military Courses

Air 0100. Leadership Laboratory. (0 cr, cadets only)

Develops and prepares cadets' leadership skills and knowledge base to become future officers in the U.S. Air Force.

Air 1104f. U.S. Air Force I. (1 cr)

An introduction to Air Force customs, courtesies, and officership.

Air 1105w. U.S. Air Force II. (1 cr)
An overview of the Air Force organization, installations, and basic communication skills.

Air 1106s. U.S. Air Force III. (1 cr)
A brief look at military history. Teaches leadership principles through group leadership problems.

Air 1204f. Early History of Airpower and Written Communication Skills. (1 cr)
The beginnings of human flight. Early military attitudes toward aviation and the development of employment concepts, tactics, and strategies. Development of air doctrine and the leaders who inspired/created it. Uses of air power in WWI, WWII, the Berlin Airlift, and the beginnings of the Cold War, Korea, the Cuban Missile Crisis, and Vietnam. Written communication used in the Air Force will be examined.

Air 1205w. Development and Modern Employment of Air Power, Introduction to Leadership, Ethics, and Values. (1 cr)
Uses of air power starting from the Cuban Missile Crisis, progressing through the Vietnam War up through the current modern employment of air power. An exploration of collaboration and competition in group problem solving. Information and examples of various methods or oral presentation including: memorized, manuscript, impromptu, and extemporaneous briefings. A short review of written communication. A basic introduction to leadership and followership, ethics, and values.

Air 1206s. Quality Air Force, Group Leadership Problems and Presentation Techniques. (1 cr)
An introduction to the Air Force's concepts involving the quality movement and how the Air Force has adopted quality principles and practices in official management styles. A review of oral presentation styles; students will then present a short briefing on the topic and presentation style of their choice. Group Leadership Problems: developing skills in creative problem solving (brainstorming), exploring the effects of collaboration, and the effects of conflicting verbal and nonverbal communication cues.

Professional Officer Courses

Air 3301f. Air Force Communications and Leadership. (3 cr)
Air Force writing and military briefing skills. Leadership theory and applied leadership studies.

Air 3302w. Total Quality Management in the Air Force. (3 cr)
Commanding, counseling, officer professional development, establishing standards, ethics in military leadership. Introduction to the Quality Air Force (Total Quality Management).

Air 3303w. Air Force Management. (3 cr)
Role of officer as manager. Decision making, organizing, staffing, and controlling. Behavior processes.

Air 3401f. National Security Policy. (3 cr; prereq all aerospace 33xx courses)
Examines U.S. foreign policy development and implementation. Develops military communication skills.

Air 3402w. Military Law and Service Orientation. (3 cr; prereq all aerospace 33xx courses)
History and basic concepts of military justice; emphasis on origin, nature, and purpose or Uniform Code of Military Justice and Manual for Courts-Martial; relationship between military justice and military discipline; scope and nature of appellate review. Service orientation for newly commissioned officers.

Air 3403s. Air Force Roles, Active Duty. (3 cr; prereq all aerospace 33xx courses)
Air Force issues, roles, and missions preparing for active duty.

Military Science (Mil)

Staff—Head, Lt. Col. John W. Oravis, USA,
110 Armory, 624-7300; *Scholarship Information*,
101 Armory, 626-1584

Leadership Laboratory

Leadership Laboratory is a series of minicourses, covering military topics, taught to all cadets each quarter. These classes help students develop functional leadership skills in problem solving, decision making, personnel management, and other areas. Progressive and extensive practice in voice command, bearing, and physical fitness is emphasized. (Planned and directed largely by the Cadet Corps; 10 hours required each quarter.)

Lower Division

Military Science I

Mil 1010. Military Science I Leadership Laboratory. (1 cr per qtr [3 cr max])
Basic skills and knowledge in drill and ceremonies, first aid, self-defense, land navigation, small-unit operations, communications procedures, and physical conditioning.

Mil 1011f. Military Skills I. (2 cr)
Land navigation and first aid. Hands-on training in rappelling and marksmanship.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Mil 1012w. Rifle Marksmanship. (1 cr)
Small-bore rifle marksmanship techniques. Prone, kneeling, sitting, and standing firing positions. Range safety and equipment care.

Military Science II

Mil 1220. Military Science II Leadership Laboratory. (1 cr per qtr [3 cr max])
Leader responsibilities, leadership skills in a small unit, basic military skills, physical conditioning.

Mil 1221w. Learning to Lead. (2 cr)
Fundamental leadership traits, principles, and techniques. Assessment and development of leadership skills. Theory and practical application.

Mil 1222s. Military Skills II. (2 cr)
Advanced land navigation and first aid skills. Emphasis on hands-on training. One afternoon field trip to local training area.

Directed Studies

Mil 3970. Directed Studies. (Cr ar; prereq #)
Provides flexibility so a student can fit an ROTC course into his/her schedule if it might otherwise prohibit participation in ROTC. Instructor and student determine a mutually convenient time to meet. Course content remains the same as for regularly listed military science course.

Upper Division

Military Science III

Mil 3130. Military Science III Leadership Laboratory. (1 cr per qtr, 3 cr max; prereq #)
Leadership skills and knowledge for effectively commanding, controlling, and communicating the actions of a small unit and for acquiring requisite military skills in areas such as basic mountaineering, drill and ceremonies, small-unit operations, land navigation, marksmanship, and physical conditioning.

Mil 3131f. Land Navigation/Small-Unit Tactics. (3 cr; prereq #)
Read and interpret military maps; use basic land navigation techniques; develop skills and knowledge required for squad- and platoon-sized tactical operations.

Mil 3132w. Leadership Assessment and Training: Small-Unit Tactics. (3 cr; prereq #)
Lecture, discussion, and an oral presentation on applying principles of leadership while leading, communicating with, and training subordinates. U.S. Army infantry organizations.

Mil 3133s. Small-Unit Tactics. (3 cr; prereq #)
Small-unit operations in conventional and unconventional battlefield environments; employment in tactical situations.

Military Science IV

Mil 3140. Military Science IV Leadership Laboratory. (1 cr per qtr, 3 cr max; prereq #)
Practical application of skills and knowledge in leading, supervising, instructing, and training others and planning, organizing, coordinating, conducting, and evaluating Army ROTC daily activities and special events.

Mil 3141f. Military Management and Professionalism. (3 cr; prereq #)
Staff procedures in military organizations; writing skills, training, management, and professional development.

Mil 3142w. Leadership Communications and Ethics. (3 cr; prereq #)
Military leadership precepts and practices and communication concepts. Code of military ethics and professionalism.

Mil 3143s. Military Law. (2 cr; prereq #)
History and basic concepts of military justice; emphasis on origin, nature, and purpose of Uniform Code of Military Justice and *Manual for Courts-Martial*; relationship between military justice and military discipline; scope and nature of appellate review.

Naval Science (Nav)

Staff—Head, Capt. J. S. Fitzgerald, USN, 203 Armory

All NROTC Students—All Years

Nav 0204f, w, s. Professional Training in Naval Science. (0 cr, prereq #)
Basic training in the fundamentals of naval science, including drill, leadership/management and professional development.

All NROTC Students—First Year

Nav 1101f. Introduction to Naval Science I. (2 cr; prereq #)
Naval history and seapower, military organization, customs and traditions, officer and enlisted rank and rating structures.

Nav 1102w. Introduction to Naval Science II. (2 cr; prereq #)
Overview of naval warfare communities, the Uniform Code of Military Justice, basic shipboard organization, design and damage control.

Nav 1103s. Seapower and Maritime Affairs. (3 cr, §Hist 5021, §Hist 5022)
Historical aspects affecting the development of the U.S. Navy from the American Revolution to the present. Examination of several critical, contemporary issues in naval/maritime affairs.

All NROTC Students—Second Year

Nav 1203s. Navigation I—Seamanship and Ship Operations. (3 cr; prereq #)
Seamanship, tactical signaling, and maneuvering. Relative motion and ship maneuvering. Application of the maneuvering board in solving motion problems.

Nav 3301f. Naval Ships Systems I—Engineering. (2 cr; prereq #)
Basic thermodynamics, main steam cycle, conventional fossil fuel propulsion systems and nuclear power. Internal combustion engine and gas turbine fundamentals.

Nav 3302w. Naval Ship Systems II—Engineering. (2 cr; prereq #)
Auxiliary ship support systems. Basic electrical theory and shipboard electrical distribution systems. Ship construction, stability, buoyancy, and compartmentation. Shipboard damage control.

Navy Sequence—Third Year

Nav 1201f. Navigation II—Inland and Coastal. (3 cr; prereq #)
Piloting, dead reckoning, fixes, running fixes, tides, currents and anchoring. Rules of the nautical road.

Nav 1202w. Navigation II—Celestial and Electronic. (4 cr; prereq #)
Navigation using celestial bodies. Modern electronic navigation systems.

Nav 3303s. Naval Ship Systems II —Weapons Systems. (4 cr; prereq #)
Theory and principles of energy fundamentals, radar, electro-optics, underwater acoustics, electronic scanning, beam propagation and feedback systems, and digital and analog computation used in modern weapons systems and military technology.

Marine Corps Sequence—Third Year

Nav 3352f. Evolution of Art of War I. (2 cr; prereq #)
Principles of war. Evolution of warfare from 3500 B.C. through the French Revolution.

Nav 3353w. Evolution of Art of War II. (2 cr; prereq #)
Military technology and theory from the industrial revolution through the armistice preceding World War II.

Nav 3354s. Evolution of Art of War III. (2 cr; prereq #)
Warfare from World War II through Desert Storm.

Navy Sequence—Fourth Year

Nav 3402w. Principles of Naval Management II. (3 cr; prereq #)
Management at the shipboard level; formal shipboard organization, divisional organization and the Uniform Code of Military Justice.

Nav 3403s. Principles of Naval Management III. (2 cr; prereq #)
Advanced management at the shipboard level; naval correspondence and directives, security, and the Maintenance, Material Management system.

Marine Corps Sequence—Fourth Year

Nav 3452f. Amphibious Warfare I. (2 cr; prereq #)
The origins of amphibious warfare to the Gallipoli campaign.

Nav 3453w. Amphibious Warfare II. (2 cr; prereq #)
Amphibious warfare planning and operations from post-World War I through World War II.

Nav 3454s. Amphibious Warfare III. (2 cr; prereq #)
Post-World War II amphibious operations; present-day concepts of amphibious operational planning.

Russian

See Institute of Linguistics and Asian and Slavic Languages and Literatures.

Russian Area Studies

See Area Studies Programs.

Sanskrit

See Classical and Near Eastern Studies.

Scandinavian Languages and Literature

The Department of Scandinavian Languages and Literatures has merged with the Department of German to form the Department of German, Scandinavian, and Dutch.

Symbols and abbreviations: f,w,s,su—fall, winter, spring quarter, summer session / Cr—Credits per quarter; first number following course title / 1011,1012,1013—Series courses, separated by commas; may be entered any quarter / 1011-1012-1013—Sequence courses, separated by hyphens; must be taken in order listed / !—Work for this course will extend past the end of the term; a grade of K will be assigned to indicate that the course is still in progress / †—All courses preceding this symbol must be completed before credit will be granted for any quarter of the sequence / §—Credit will not be granted if credit has been received for the course listed after this symbol / ‡—Concurrent registration is required (or allowed) in the course listed after this symbol / #—Approval of the instructor is required for registration / Δ—Approval of the department offering the course is required for registration / □—Approval of the college offering the course is required for registration / H—Honors course (follows the course number) / ,—In prerequisite listings, comma means "and" / UC—University College (formerly CEE)

Slavic and Central Asian Studies

See Institute of Linguistics and Asian and Slavic Languages and Literatures.

Sociology (Soc)

Staff—*Chair*, William Brustein, 909 Social Sciences Building; *Director of Undergraduate Studies*, David Knoke, 939 Social Sciences Building; *Director of Graduate Studies*, Jane McLeod, 1033 Social Sciences Building; *Director of Honors*, David Knoke, 939 Social Sciences Building

Professors Emeriti: Donohue, Ellenbogen, Johnson

Professors: Aminzade, R. Anderson (on sabbatical 1996-97), Brustein, Cooperman, Fulton, Galaskiewicz, Knoke, Kruttschnitt, Laslett, Leik, Malmquist, Marini, McTavish, Mortimer, Nelson, Reiss, Ward

Associate Professors: Kennedy, McLeod, Savelsberg, Spitzer

Assistant Professors: Bian, Boyle, Broadbent, Pierce, Uggen

Adjunct Professor: Carlson

Adjunct Faculty—Brewer (Afro-American Studies), Eustis (Humphrey Institute), Finch (School of Public Health), Hearn (College of Education), Louis (College of Education), Litman (School of Public Health), Menanteau (Rural Sociology), Samaha (History), Snyder (Psychology), Sykes (Speech-Communication)

Sociology seeks to develop a scientific understanding of human social behavior. Two B.A. programs (one with a general focus and one with a focus on law, criminology, and deviance) and a B.S. program are offered. They emphasize the skills of social inquiry necessary for analyzing patterns of social relationships. The B.S. program is for students interested in a more rigorous mathematical concentration in research methodologies. You must see a sociology adviser to discuss your qualifications for the B.S. option. The study of sociology can contribute to careers in such areas as evaluation research for programs in the public and private sectors, criminal justice, teaching, and social service, and can offer preparation for advanced study in the

social sciences, health fields, counseling, law, and business.

Current information about sociology B.A. and B.S. degree programs, minor programs, course offerings, faculty academic interest areas, the honors program, graduate and law schools, field experience, special course registrations, and other undergraduate academic opportunities is available in the Undergraduate Advising Office, 923 Social Sciences Building (612/624-4300).

Directed Studies, Field Experience—Students in sociology are encouraged to plan a field experience by participating in an internship. Consult the Undergraduate Advising Office and Office of Special Learning Opportunities, 220 Johnston Hall, for information about internships.

General Education—1001, 1003, and 1004 deal with a broad sociological analysis of American social life; 3xxx and 5xxx courses focus on more advanced study in substantive areas; 1001 is the prerequisite for most other courses in sociology.

Study Abroad—The department strongly urges students to include study abroad in their undergraduate program. Credits for appropriate study may be incorporated into a sociology major or minor by prior arrangement. Programs with a field component are well-suited to sociology projects. Current faculty interests include comparative study in China, France, Japan, Latin America, Germany, and the Scandinavian countries. The department also participates in faculty exchange programs in Austria, China, and Finland. See also Foreign Study.

Foreign Languages Across the Curriculum (FLAC)—Students are encouraged to include courses conducted in a language other than English as part of their undergraduate career, whether they are offered on campus or abroad. The Foreign Languages Across the Curriculum (FLAC) program offers students a number of opportunities to take two- or four-credit courses in French, German, and Spanish, while one-credit FLAC sections are offered in conjunction with some four-credit courses taught in English. These one-credit sociology sections have been offered in Chinese, French, German, and Japanese. In spring quarter, FLAC courses offered in French, German, and Spanish

provide students the opportunity to do all their coursework in one of these languages as participants in the Foreign Language Immersion Program (FLIP). For more information, consult the sociology advisers in 909 Social Sciences Building.

B.A. Major Sequences

All major courses must be taken A-F. At least 12 cr in sociology must be taken on the Twin Cities campus.

Required Preparatory Course—1001

Major Requirements—General Option: 3201, 3401

3801-3802-3803 (should be taken as soon as possible, preferably in the sophomore or junior year)

5701 or 5703 or 5705 or 5711

16 additional cr in 3xxx-5xxx sociology courses
Major project (see advising office for details)

Required Preparatory Course—1001

Major Requirements—Sociology of Law, Criminology, and Deviance Option: 3201 or 3401

3801-3802-3803 (should be taken as soon as possible, preferably in the sophomore or junior year)

5701 or 5703 or 5705 or 5711

3101-3102

Three courses chosen from 5101, 5102, 5104, 5105, 5108, 5109, 5111, 5114, 5125, 5135, 5141, 5142, 5147, 5148, 5149, 5161, 5162

Major project (see advising office for details)

B.S. Major Sequence

All major courses must be taken A-F. At least 12 cr in sociology must be taken on the Twin Cities campus.

Required Preparatory Course—1001

Major Requirements—3201, 3401

3801-3802-3803 (should be taken as soon as possible, preferably in the sophomore or junior year)

5701 or 5703 or 5705 or 5711

16 additional cr in 3xxx-5xxx sociology courses
Major project (see advising office for details)
27 cr in supportive field courses from an approved list; please see a sociology adviser to discuss your qualifications before considering this option.

**Minor Sequences—
General Information**

Eighty percent of all upper division minor course credits must be taken A-F. At least 12 cr in sociology must be taken on the Twin Cities campus. Substitutions for courses infrequently offered may be arranged with prior consultation with the undergraduate adviser.

Minor Sequence—General Sociology

Required Preparatory Course—1001

Minor Requirements—3201 or 3401; 3801; one theory course chosen from 5701, 5703, 5705, 5711; 8 cr in 3xxx or 5xxx sociology courses in related subject matter

Minor Sequence—Aging

Required Preparatory Course—1001

Minor Requirements—3201, 3401, 3937, 5938, 4 cr in a 3xxx or 5xxx sociology course related to the student's interest in gerontology (e.g., 3501, 3551, 5855, 5956)

**Minor Sequence—
Criminology and Deviance**

Required Preparatory Course—1001

Minor Requirements—3101-3102, 12 cr in 3xxx-5xxx sociology courses listed under criminology and deviance

Minor Sequence—Family

Required Preparatory Course—1001

Minor Requirements—3201, 3401, 3501; two sociology courses chosen from 3xxx-5xxx courses under family sociology

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Minor Sequence—
Political Sociology

Required Preparatory Course—1001

Minor Requirements—3401, 3405, 3801, 5311, 5755

Minor Sequence—
Social Organization

Required Preparatory Course—1001 or 1001H

Minor Requirements—3401, 3405 or 5405, 5411; one theory course chosen from 5701, 5703, 5705 or 5711; one sociology course from approved list, available in advising office

Minor Sequence—
Social Psychology

Required Preparatory Course—1001

Minor Requirements—3201, 3214, 5205, 5211 or 5215; one theory course chosen from 5701, 5703, 5705 or 5711

General

Soc 1001f,w,s,su. Introduction to Sociology. (4 cr)

The scientific study of social behavior. Overview of major theories, methods, concepts, and research findings. Characteristics of basic social units (social relations, groups, organizations, institutions, society) and their patterns of interrelation and processes of change.

Soc 1001Hf,w,s. Honors Course: Introduction to Sociology. (4 cr)
For description, see Soc 1001.

Soc 1003. Social Problems. (4 cr) Aminzade, Savelsberg
Sociological analysis of major contemporary problems; theory behind the causes, discussion of methods for studying them, and analysis of potential solutions. Problems may include poverty, racial discrimination, inequality, sex roles, crime, drugs, population problems, and pollution.

Soc 1004. American Race Relations. (4 cr) Pierce
Sociological overview of relations between American racial minorities (Afro-American, Chicano, Native American, Asian) and the dominant majority. Consideration of migration and settlement patterns; community life and family life; gender roles; education and labor force participation; inequalities in wealth, status, health, and welfare; discrimination and institutional racism; public policy responses.

Criminology and Deviance

Some courses in this section were formerly taught in the Department of Criminal Justice

Studies, which no longer exists. Students who took criminal justice studies (CJS) courses may not repeat for credit the same courses that are now taught in the Department of Sociology.

Soc 3101f,su. Introduction to American Criminal Justice. (4 cr, §CJS 3101) Carlson, Kruttschnitt, Samaha, Savelsberg, Ward
Components and dynamics as well as philosophical underpinnings of the criminal justice system.

Soc 3102w,su. Introduction to Criminal Behavior and Social Control. (4 cr; prereq 3101) Boyle, Kruttschnitt, Savelsberg, Ward
Basic issues in criminology and the sociology of law and social control organizations.

Soc 5101. Sociology of Law. (4 cr; prereq 3101-3102 or #; 5705 recommended; offered alt yrs) Boyle, Cooperman, Savelsberg
Sociological analysis of law and society. Social forces involved in creation of legal norms (both civil and criminal), procedures of enforcement, and impact of law on social change.

Soc 5102. Criminology. (4 cr; prereq 3101-3102 or #; offered alt yrs) Kruttschnitt, Savelsberg, Uggen
Nature and types of crime, problems in measurement of incidence and trends, and review of sociological theories of crime causation. Implications for crime prevention and control.

Soc 5104. Community-Based Corrections. (4 cr, §CJS 5113; prereq 3102 or #) Carlson, Ward
Theories behind and structures of diversion, probation, parole, and other community corrections programs that exist as alternatives to imprisonment.

Soc 5105. Contemporary Corrections. (4 cr; prereq 3101-3102 or #; 5161, 5162 recommended) Ward
Advanced study of correctional organizations such as prisons and jails, probation and parole, department and community corrections. Penal policies and practices in the United States compared with advanced penal systems in other countries.

Soc 5108. Current Issues in Crime Control. (4 cr, §CJS 5207; prereq 3102 or #) Carlson, Kruttschnitt, Savelsberg
Criminal justice policies examined from perspective of courts, legislature, community, and interest groups; impact of changes in policy on society and social control agencies.

Soc 5109. Domestic Criminal Violence. (4 cr; prereq 3101-3102 or #) Kruttschnitt
Survey of research on family violence within a criminological framework. Course addresses (1) the definition of domestic violence; (2) empirical and theoretical approaches to the study of domestic violence; and (3) the response of social control agencies.

Soc 5111. Sociology of Deviant Behavior. (4 cr; prereq 3101-3102 or #) Uggen
The nature of deviant behavior, the social process associated with the careers of deviants, and the relationship of deviancy to problems of social control.

Soc 5114. The Social Control of Women Offenders. (4 cr, §CJS 5114; prereq 3102 or #; offered alt yrs) Kruttschnitt
Historical and current explanations for female criminality; current trends in women's participation in crime and treatment of women by legal system.

Soc 5125. Policing in American Society. (4 cr; prereq 3101-3102 or #; 5161, 5162 recommended; offered alt yrs) Samaha, Sykes, Ward
Police organizations and operations from a social science perspective. Formal and informal policing: role and functions; legal bases; accountability and restraints; relations with policed populations, emphasizing minorities, youth, and recognized violators; use of violence; unethical and illegal practices; civil liberties; intraorganizational and interorganizational relations; social theory and change.

Soc 5135. White Collar Crime. (4 cr; prereq 3101-3102 or #; 5161, 5162 recommended; offered alt yrs) Cooperman, Savelsberg, Uggen
White collar crime, broadly construed; roots in American society, responses offered by theoreticians and amateur and professional politicians.

Soc 5141. Juvenile Delinquency. (4 cr; prereq 3101-3102 or #; 5161, 5162 recommended) Uggen
Advanced study of juvenile delinquency and societal response to it through regulatory agencies; special characteristics of juvenile justice institutions.

Soc 5142. Juvenile Justice Law and Organization. (4 cr, §CJS 5103; prereq 3101-3102 or #; 5161, 5162 recommended; offered alt yrs) Malmquist
Historical evolution of juvenile court; organizational relationships among court, police, and other agencies; policies regarding serious offenders and status offenders; processes of intake, diversion, pretrial detention, waiver to adult court, and sentencing; conflicts over due process and treatment objectives; current movements to abolish juvenile justice system.

Soc 5147. Sociology of Mental Disorders. (4 cr; prereq 1001 or #; offered alt yrs) Malmquist, McLeod, Spitzer
Social definitions and origins of mental illness, its epidemiology, patterns of reaction to mental illness, sociological analysis of mental health programs and their effectiveness. Social policy implications of mental health definitions.

Soc 5148. Criminal Psychopathology. (4 cr, §CJS 5205; prereq sr or grad; offered alt yrs) Malmquist
Psychiatric and psychological aspects of antisocial and criminal behavior as related to issues faced in the courts and criminal justice system.

Soc 5149. Killing. (4 cr; prereq sr or grad or law student) Malmquist, Ward
Sociological, legal, and psychological aspects of diverse types of killing. The topic of "normal" killings is contrasted with various pathological types. Special sub-topics include: mentally disturbed killings, sexual killings, killings within families, gang killings, and terrorist killings.

Soc 5161. Criminal Law in American Society. (4 cr, §CJS 5101) Samaha
Purposes and principles of criminal law; proper limits of criminal sanction and suggested reforms in existing criminal law.

Soc 5162. Criminal Procedure in American Society. (4 cr, §CJS 5102) Samaha
Power of the state to intrude into lives of citizens and deprive them of life, liberty, and property in order to enforce criminal laws; topics such as arrest, search and seizure, pretrial practices, and prisoners' rights. Suggested limits on discretionary power of police, prosecutors, judges, and corrections authorities.

Social Psychology

Soc 3201. Principles of Social Psychology. (5 cr; prereq 1001; required course for soc majors) Mortimer, Spitzer
Ideas and findings related to social psychology; experience in developing empirically based knowledge in social science.

Soc 3201H. Honors Course: Principles of Social Psychology. (5 cr; prereq sociology honors student, 1001 or 1001H or #) Mortimer, Spitzer
For description, see Soc 3201.

Soc 3214. Understanding Everyday Life. (4 cr; prereq soph, jr or sr) Fulton, Spitzer
Behaviors (activities, personal associations), orientations (values, attitudes, beliefs), and personal interpretations of "typical" individuals; their relationship to social characteristics; the effects of transitions—anticipated (e.g., educational/occupational choice, marriage) and unexpected (e.g., unemployment, illness).

Soc 5205. Symbolic Interaction. (4 cr; prereq 3201 or 5201 or equiv or #; offered alt yrs) Spitzer
Methods of acquiring knowledge in social psychology; outstanding examples of research. Social psychology of small groups, mass behavior, making political and economic choices. Current thinking and research in symbolic interaction in light of concepts and theories presented in introductory courses in social psychology.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Soc 5211. Social Processes in Small Group Settings. (4 cr; prereq 3201 or 5201 or equiv or #; offered alt yrs) Anderson, Leik
Small group research and theory focusing on laboratory and nonlaboratory investigation of interpersonal exchange, communication structures, status and power relations, coalition formation, reference groups, role differentiation, group uniformity, social influence, problem-solving behavior. Lab arranged.

Soc 5215. Self-Concept in Theory and Research. (4 cr; prereq jr or sr or grad, 16 cr in social sciences and/or education or #; offered alt yrs) Spitzer
Major sociological theories and assessment method characterizing study of the self; applications to and findings in topical areas such as crime and delinquency, mental illness, socialization, aging, drug abuse, group processes, and policy evaluation.

Social Change and Social Movements

For courses related to this area see: Soc 3457, Soc 5301, Soc 5305, Soc 5311, Soc 5703

Social Organization, Organizations, and Occupations

Other sociology courses related to this area include Soc 5415, Soc 5421, Soc 5441, Soc 5481, Soc 5855, Soc 5953, Soc 5958

Soc 3401. Principles of Social Organization. (5 cr; prereq 1001, 3801 or equiv; required course for soc majors) Galaskiewicz, Knoke, Nelson, Savelsberg
How and why social organization is possible. Major concepts and theories of social structure, primary forms of social organization (groups, communities, networks, formal organizations), basic social processes (integration, differentiation, regulation, change), and how social organization evolves from individual decision making. Course content varies.

Soc 3401H. Honors Course: Principles of Social Organization. (5 cr; prereq sociology honors student, 1001 or 1001H or #) Galaskiewicz, Knoke, Nelson, Savelsberg
For description, see Soc 3401.

Soc 3405. Inequality: Introduction to Stratification. (4 cr; prereq 1001) Aminzade, Brustein, Fulton, Nelson
Inequality—causes, dimensions, and consequences. Inequality in American society—class, gender, and race; cross-national patterns of inequality; relationship between economic and political inequality; role of schools in transmission of inequality; public policies affecting inequality.

Soc 3411. Understanding Formal Organizations. (4 cr; prereq 1001) Galaskiewicz
Formal organizations as major social actors in our work lives, personality development, social change and conflict. Life-course analysis of enterprises, bureaucracies, and voluntary organizations. Emphasis on organizational control, conflict, coordination, and interorganizational sets and relationships.

Soc 3457. Comparative Scandinavian Societies. (4 cr; offered alt yrs) Cooperman, Reiss
Analysis of variations in historical development, social-economic patterns. Current social structures. Changes explored include migration patterns and national identity problems, class, gender and social mobility, occupational shifts related to economic changes. Welfare policy trends, regional and broader global contexts of policy decisions, questions.

Soc 3481. Modern Japanese Society. (4 cr, §EAS 3481; prereq Soc 1001 or #) Broadbent
Japanese social institutions including family, education, business and labor relations, government and the status of women. How they differ from the West and have contributed to Japanese economic success.

Soc 3601. Urban Community. (4 cr; prereq 1001 or 1002) Galaskiewicz
Urban community patterns. Comparison of social interaction in neighborhood, city and metropolis—across societies. Review of community studies. Urban power structures. Analysis of settlement patterns, organization of social life and urban problems.

Soc 5311. Sociology of Conflict. (4 cr; prereq 3401 or 5401 or equiv or #; offered alt yrs) Cooperman, Leik, Savelsberg
Theoretical, empirical study of group conflict. Methods and models. Animal conflict. Aggression and conflict. Types of conflict: feuds, community, ecologies of urban conflict, racial, internal war, revolution. Conflict and organization: relation of stratification, industrial, and social change to conflict.

Soc 5405. Social Stratification and Mobility. (4 cr; prereq 3401 or 3405 or 5401 or any 3xxx sociology course or equiv or #; offered alt yrs; some statistics recommended) Nelson
Form and content of hierarchical arrangements. Relationship of hierarchical arrangements to problems of social order and individual behavior.

Soc 5411. Formal Organizations. (4 cr; prereq 3401 or 5401 or equiv or 8 cr sociology or anthropology or psychology or political science or economics or #) Galaskiewicz, Knoke
Sociological analysis of formal organizations. Theories of structure of and behavior in corporations and bureaucracies. Corporate structure explored from standpoint of role expectations, transaction costs, and structural responses to organizational failures. Other topics include power, conflict, and bargaining in organizational decision making; course content varies.

Soc 5421. Occupational Sociology. (4 cr; prereq 3201 or 3401 or 3405 or 5201 or 5401 or equiv or #; offered alt yrs) Mortimer
Individual motivations and reactions to work; nature of professions and other occupational types; relations between occupational and organizational norms and values, between occupations and social structure—stratification system, family, political system, technological change; changes in composition of labor force.

Soc 5953. Sociology of Education. (4 cr, §EdPA 5190; prereq 1001 or equiv or #) Louis
Advanced studies. School as socialization process, social structure of education, role of school in social change, other areas. Theory and empirical research.

Historical/Comparative Sociology

Other sociology courses related to this area include Soc 3405, Soc 3457, Soc 3481, Soc 3954, Soc 5114, Soc 5703, Soc 5705

Soc 3755. Introduction to Political Sociology. (4 cr; prereq 1001 or #; offered alt yrs) Aminzade, Brustein
Concepts of power, politics, and state and theoretical traditions rooted in writings of Marx, Weber, and Tocqueville. Democracy, fascism, communism, and analyses of revolution, nation-building, and dynamics of political change.

Soc 3757. Politics and Society in Europe. (4 cr; §PolS 3461; prereq 1001 or PolS 3051 or #) Brustein
Explores the changing politics and society of Europe. Particular focus on generational change and values, political parties, welfare state, the future of European integration, and political stability and democratization.

Soc 3951. Comparative Ethnic Group Relations. (4 cr; prereq 1001 or #) Savelsberg, Sykes
Theories of ethnic stratification. Relations of minorities and elites viewed in historical and cross-cultural comparative perspective, examining the United States and other countries (e.g., South Africa, Mexico).

Soc 5301. Social Movements in a Changing Society. (4 cr; prereq 3401 or 5401 or equiv or #; offered alt yrs) Aminzade, Broadbent, Brustein
Origins and organization of social movements. Dilemmas and challenges facing movement organizations. Strategies and tactics of protest movements. Relationship with social movements and political institutions, including parties, the state, and the mass media. Role of social movements in the dynamics of social change.

Soc 5305. Environmental Sociology. (4 cr; prereq 1001 or course in environmental subject or #) Broadbent
Considers the interaction between social and natural systems, especially the societal causes of rising pollution and destruction of the ecosystem. Looks at culture, social relations, politics and economics as causes and potential avenues of cure of the problem.

Soc 5415. Comparative Social Structure. (4 cr; prereq 20 cr sociology, economics or political science or #; offered alt yrs) Broadbent, Cooperman, Savelsberg
Comparative analysis of selected societies such as Western European, African, Middle Eastern. Analysis of changing social class, status, cultural patterns, and institutions. Regional and cross-national social patterns and social movements.

Soc 5481. Comparative Asian Development. (4 cr, §EAS 5481; prereq Soc/EAS 3481, sociology of development, Asian-related courses or #; offered alt yrs) Broadbent
Comparison of the political-economic and sociocultural institutions creating high-speed growth and other social and political effects in the East Asian area, focusing on Japan and the “four little tigers”: Taiwan, South Korea, Hong Kong, and Singapore.

Soc 5483. Sociology of German Society. (4 cr; prereq 1001 or #) Savelsberg
Mannheim, Elias, and Weberians suggest how history affects 20th-century events. National particularity and interrelatedness of contemporary institutions (family, education, work, social movements, government, law) and current events.

Soc 5755. Social Structure and Political Behavior. (4 cr; prereq 3401 or 5401 or equiv or #) Aminzade, Broadbent, Brustein
Alternative theoretical perspectives on power, the state, political parties, and political change. Relationship between socioeconomic structures and political behavior. Nature and social origins of democratic and authoritarian forms of the state. Distribution of power in contemporary United States, Western Europe, and/or East Asia.

Family, Gender, and Sexuality

Other sociology courses related to this area include Soc 3937, Soc 5421, Soc 5938, Soc 5956

Soc 3501. The Family. (4 cr; prereq 1001 or #) McLeod, Reiss
The family in contemporary American society with attention to historical and cross-cultural comparisons; interrelationships with other social institutions, socialization, patterns of mate selection, life cycle processes, and norms of human sexuality.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Soc 3524. America's Sexual Crisis. (4 cr) Reiss
Explanation of why American society has difficulty in resolving sexual problems such as AIDS, pregnancy, rape, and child sexual abuse. Analysis of current trends in our societal ways of coping with sexual problems.

Soc 3551f,w. World Population Problems. (4 cr) Kennedy
Population growth and natural resources, population dynamics, fertility and mortality in less developed nations, population forecasts, population policies to reduce fertility.

Soc 3954. Sociological Perspectives on Race, Class, and Gender. (4 cr, §Afro 3954) Brewer, Pierce
Societal-level analysis of race, class, and gender inequality. How the three forms of inequality operate independently and in conjunction with one another in American institutions and society.

Soc 5441. Work-Family Linkages. (4 cr; prereq 8 cr sociology or #; offered alt yrs) Mortimer
Theoretical and methodological approaches to the work-family interface; effects of spouses' work characteristics on the family, including child socialization; family's influence on male and female labor force participation and occupational attainment; changes in work organizations related to increasing prevalence of female employment and dual-earner families.

Soc 5524. Cross-Cultural Construction of Sexuality. (4 cr; prereq 8 cr sociology or #) Reiss
Ways in which society shapes sexual customs. How sexuality is influenced by a society's beliefs concerning jealousy, gender roles, and normality. Comparison and explanation of U.S. sexual customs and those in Western and non-Western societies.

Soc 5555. Population Theory. (4 cr; prereq 3551 or #; offered alt yrs) Kennedy
What social science theory is; systematic evaluation of writings in population as theoretical works.

Soc 5561. Demographic Methods. (4 cr, §PubH 5460; prereq 3551 or #; offered alt yrs) Kennedy
Demographic measures and concepts of fertility, mortality, and migration. Stable population methods, demographic estimates from incomplete data.

Social Theory

Soc 5701. Analytical Social Theory. (4 cr; prereq 8 cr social sciences or #) Cooperman
Standards for evaluating sociological explanations. Main types of sociological theory: systems, theories of conflict, exchange, network, interpretive. Current issues in theoretical analysis.

Soc 5703. Social Life and Cultural Change. (4 cr; prereq 8 cr social sciences or #) Cooperman, Fulton, Laslett
Theories of social change; methodological problems. Comparative social thought and structure of antiquity as basic data for analysis.

Soc 5705. Backgrounds of Modern Social Thought. (4 cr; prereq 8 cr social sciences or #) Brustein, Laslett, Marini
Originators of modern sociological theory examined through original texts: Marx, Weber, Durkheim, Freud, and Gilman. Division of labor, social cohesion and social control, gender and social reproduction, class relations and the social organization of production, norms and values, and history.

Methodology

Soc 3801f,w. Sociological Methods I: Descriptive Statistics. (5 cr; prereq intermediate algebra or GC 0631) Bian, Leik, McLeod, McTavish
Descriptive statistics in analysis of sociological data, measures of central tendency, deviation, correlation and regression graphs, simple treatment of three and four variables.

Soc 3801Hf. Honors Course: Sociological Methods I: Descriptive Statistics. (5 cr; prereq intermediate algebra or GC 0631 or #) Bian, Leik, McLeod, McTavish
For description, see Soc 3801.

Soc 3802w,s. Sociological Methods II: Statistical Inference. (5 cr; prereq 3801 or equiv) Bian, Leik, McLeod, McTavish
Statistical inferences, probability, hypothesis tests, use of statistical reasoning in analysis of sociological data.

Soc 3802Hw. Honors Course: Sociological Methods II: Statistical Inference. (5 cr; prereq 3801H or equiv or #) Bian, Leik, McLeod, McTavish
For description, see Soc 3802.

Soc 3803f,s. Sociological Methods III: Research Methods. (5 cr; prereq 3801, 3802 or equiv or #) Anderson, Bian, Boyle, McLeod, McTavish
Principles of research design, data collection, and analysis focusing on field observation and survey design and analysis. Practice in data collection and analysis.

Soc 3803Hs. Honors Course: Sociology Research Methods. (5 cr; prereq 3802H or equiv or #) Anderson, Bian, Boyle, McLeod, McTavish
For description, see Soc 3803.

Soc 3811f,w. Computer Usage for Social Statistics. (1 cr; ¶3801 recommended; S-N only)
Elementary computer usage in social statistics applications. Use of statistical program packages for analysis of sociological data.

Soc 5801. Computer Methods in Social Research. (4 cr; offered alt yrs) Anderson
Basic concepts of information processing for social sciences research; elementary computer programming; practice in the use of computers for data analysis in the social sciences; problems of computer usage in sociology.

Soc 5812. Content Analysis Methods. (4 cr; prereq 3803 or equiv or #; offered alt yrs) McTavish
Content analysis methods used in social sciences research, emphasizing computer-based developments. Theory, concept and dictionary formation, interview and data preparation procedures, contextual and conceptual computer analysis, interpretation, integration into quantitative and qualitative research.

Aging and the Life Course

Soc 3937. Social Gerontology: Elders in American Society. (4 cr; prereq 1001 or #) McTavish
Situations and problems facing aging people in modern societies. Aspects of human aging from a sociological perspective.

Soc 5855f,s. Sociology of Medicine and Health Care: An Introduction to Medical Sociology. (4 cr, §PubH 5790; prereq jr or sr or grad) Litman
Social factors associated with incidence of physical and mental illness and treatment. Social organization of medical institutions. Public needs and medical services. Sociology of aging, social problems of the aged.

Soc 5956. Sociology of Death. (4 cr; prereq jr or sr, 8 cr sociology or #) Fulton
Issues and problems that mortality presents in contemporary society.

Other Courses

Soc 3960. Topics in Sociology. (1-5 cr per qtr; prereq 1001 or #)
Special one-time offerings for juniors and seniors; topics specified in *Class Schedule*.

Soc 3970f,w,s. Directed Studies. (1-5 cr per qtr; prereq #)
Guided individual reading or study.

Soc 3991H. Junior Honors Seminar. (4 cr; prereq jr soc honors student, #)
Reading and discussion of faculty research literature; exploration of funding opportunities for research; and involvement in individually designed research or faculty research projects.

Soc 5960. Topics In Sociology. (1-5 cr per qtr; prereq 1001 or #)
Special one-time offerings for juniors, seniors, and graduate students; topics specified in *Class Schedule*.

Soc 5966. Advanced Project Seminar. (4 cr; prereq all other required sociology coursework, Comp 3014, #)

Assists sociology majors in preparing research reports that satisfy the major project requirement. Provides guidance and direction in defining a research problem, collecting or selecting data, analyzing data, and writing a sociology research paper.

Soc 5970f,w,s. Directed Studies. (1-5 cr per qtr; prereq #)
Guided individual reading or study.

Soc 5977-5978-5979. Proseminar. (3 cr per qtr; prereq for 5977: soc honors major or soc B.S. major, 3201, 3401, 3801, 3802, 3803, min 35 cr in soc; prereq for 5978: 5977; prereq for 5979: 5978)

5977: Exploration of contemporary research in sociology. Each research topic features presentation and open exchange with a faculty member in that area and subsequent discussion examining the ideas and methods presented. Selection of topic for senior thesis. 5978:

Small working groups intensively concentrate on theoretical background, hypothesis generation and methodological development of individual senior thesis or project. 5979: Individual work on senior thesis or project; extensive consultation with seminar director or other faculty. Group discussion of individual projects.

South Asian and Middle Eastern Area Studies

See Area Studies Programs.

Spanish and Portuguese

Staff—Chair, Carol Klee, 34 Folwell Hall;
Director of Graduate Studies, Joanna O’Connell, 13 Folwell Hall; **Director of Undergraduate Studies**, Francisco Ocampo, 4F Folwell Hall

Professors: Jara, Mirrer, Ramos-Gascon, Spadaccini, Vidal, Zahareas

Associate Professors: Klee, Ocampo, O’Connell, Sullivan

Assistant Professor: Arenas

The department’s undergraduate major programs focus on the communication skills, information and materials, and analytical and critical methodology necessary to explore Hispanic, Hispano-American, and

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Luso-Brazilian cultural traditions. Their broad ranges of approach emphasize the application of language skills to aspects of daily life, to intellectual endeavor, and to dealing with problems of society.

Course offerings emphasize four areas: (1) oral and written language fluency, (2) descriptive linguistics and language variation within a social context, (3) representative literature analyzed as artistic achievement and as cultural expression within a sociopolitical context, and (4) civilizations and cultures of areas in which Spanish or Portuguese is spoken.

For information about advising services, student participation in decision making, the Undergraduate Student Association, and cultural opportunities contact the department undergraduate office, 5c Folwell Hall.

General Education—Courses taught in English offer a broad selection of approaches to the literature, civilization, and culture of the Hispanic world. General interest courses include Span 1501, 1502, 1503, 3601, 3602, 3610, 3614, 3615, Port 3603, and SpPt 3610.

Study Abroad—An extended stay overseas is important to the development of language skills and cultural insights. All majors and minors are urged to incorporate at least one study abroad experience into their undergraduate academic program. The University offers numerous summer, quarter, semester, and full-year opportunities for study in Spain and Latin America, including the following programs sponsored by this department: Spanish in Cuernavaca, Mexico; Study Abroad in Venezuela; and the International Program in Toledo, Spain. Appropriate credits from study abroad easily can be applied toward a Spanish or Portuguese major or minor. For further information on options and procedures, consult with an undergraduate adviser in the department and see Foreign Study in this bulletin.

Foreign Languages Across the Curriculum (FLAC)—Students should also be aware that there are courses in other disciplines taught in Spanish on campus that they can include as part of their undergraduate program. The FLAC program offers students a number of opportunities to take two- or four-credit courses

in Spanish in disciplines such as area studies, history, international relations, and sociology, while one-credit FLAC sections in Spanish are offered in conjunction with some four-credit courses taught in English. In spring quarter, FLAC courses offered in Spanish provide students the opportunity to do all their coursework in Spanish (some of the courses being offered by the Department of Spanish and Portuguese, some by other departments) as participants in the Foreign Language Immersion Program (FLIP). For more information, consult the department advisers in 34 Folwell Hall.

B.A. Major Sequence—Spanish

Required Preparatory Courses—

1101-1102-1103-1104-1105-1106 or equiv

Major Requirements—A total of 51 credits distributed as follows:

I. 22 required credits:

Group I: Span 3015, 3016 (10 cr). These courses are a prerequisite to Group II courses.

Group II: Span 3104, 3105, 3107 (12 cr). These courses are required for continuation to the next level in each area of the program (i.e., 3104 for upper-level literature courses, 3105 for upper-level culture courses, 3107 for upper-level linguistics courses).

II. 25 additional elective credits in approved upper-level (3xxx or 5xxx) literature, linguistics, and culture courses.

III. Completion of Span 3972—Graduation Seminar (4 cr)

All CLA B.A. candidates must complete a major project. Majors in Spanish and Spanish-Portuguese are required to conduct their research for the major project by registering and attending Span 3972 in one of the last two quarters of their senior year. The research topic is chosen, discussed, developed, and completed in a group setting, under the instructor's supervision.

All major courses must be taken A-F, and grades of C or better must be earned in all courses. Spanish and Portuguese courses taught in English and credits earned in community tutorial programs are not acceptable for major credit.

For requirements for teaching licensure, see the *College of Education and Human Development Bulletin*.

**B.A. Major Sequence—
Spanish-Portuguese**

Required Preparatory Courses—Span
1101-1102-1103-1104-1105-1106 or equiv
Port 1001-1002-1003-1004-1005-1106 or equiv

Major Requirements—A combined major in Spanish and Portuguese is available. Students interested should discuss offerings with the Director of Undergraduate Studies.

Minor Sequence—Spanish

Required Preparatory Courses—
1101-1102-1103-1104-1105-1106 or equiv

Minor Requirements—A total of 22 credits distributed as follows:

Group I: 3015, 3016, (10 cr).

Group II: Three courses at the 3xxx or 5xxx level

The program has three general areas: literature, linguistics, and culture. Each area has a prerequisite which will count as one of the three courses required for the minor. The prereq for literature is 3104; the prereq for culture is 3105; and the prereq for linguistics is 3107. All courses must be taken A-F, and grades of C or better must be earned in all courses. Courses taught in English and credits earned in community tutorial programs are not acceptable for major credit.

Minor Sequence—Portuguese

See the Director of Undergraduate Studies.

Spanish (Span)

Span 1101-1102-1103. Beginning Spanish. (5 cr per qtr)
Basic listening, speaking, reading, and writing skills. Emphasis on the development of communicative competence. Some cultural readings.

Span 1104. Intermediate Spanish. (5 cr; prereq 1103 or 3 yrs high school Spanish)
Speaking and comprehension; development of reading and writing skills based on materials from Spain and Spanish America. Grammar review; compositions and oral presentations.

Span 1105. Intermediate Spanish. (5 cr; prereq 1104 or 4 yrs high school Spanish)
For description, see Span 1104.

Span 1106. Intermediate Spanish. (5 cr; prereq 1105 or 5 yrs high school Span)
For description, see Span 1104.

Span 1501. Culture, Civilization of Spain, Portugal: The Roots of Modern Spain, Portugal. (4 cr)
The cultural evolution of Iberian civilization from its origins to the present. Recurring artistic and intellectual problems. Taught in English.

Span 1502. Culture, Civilization of Latin America: Indian, European-Colonial, African Roots. (4 cr)
Cultural manifestations and societal changes in the New World. Major pre-Columbian societies, Spanish and Portuguese conquest of America, colonial life through the 18th century. Taught in English.

Span 1503. Culture, Civilization of Modern Latin America: Societies in Change. (4 cr)
Cultural implications arising from struggles for political and economic independence during the 19th and 20th centuries. Cultural characteristics of principal regions of contemporary Latin America. Causes of developmental differences. Taught in English.

Span 3015. Spanish Composition and Communication. (5 cr; prereq 1106 or equiv and Graduation Proficiency Test)
Emphasis on the development of communication skills, i.e., the ability to comprehend both written and spoken texts, and to speak, read, and write in Spanish, beyond the intermediate level.

Span 3016. Advanced Spanish Composition and Communication. (5 cr; prereq 3015 or equiv and Graduation Proficiency Test)
Continued emphasis on the development of communication skills, i.e., the ability to comprehend both written and spoken texts, and to speak, read, and write in Spanish, beyond the intermediate level.

Span 3021. Advanced Communication Skills. (5 cr; prereq 3016 or #)
Improving all areas of language skills to achieve greater fluency and accuracy in Spanish.

Span 3022. Business Spanish. (4 cr; prereq 2 yrs Spanish or #; UC only)
Vocabulary of Spanish business terms, skills in report writing, proper format for business communications, conversational fluency on trade-related topics.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Span 3104. The Art of Reading Literary Texts. (4 cr; prereq 3016 or #)
Critical reading of Spanish and Spanish-American texts; works representing principal genres—novel, drama, poetry, essay; diverse approaches to literature. Terminology of criticism, literary problems and techniques.

Span 3105. Introduction to the Study of Hispanic Cultures. (4 cr; prereq 3016 or #)
Hispanic cultures and societies—explore notion of cultural difference and awareness of cultural affiliation. History, theory of cultural differences, cultural mosaic of Hispanic world. Refine writing/expository skills in Spanish.

Span 3107. Introduction to the Study of Hispanic Linguistics. (4 cr; prereq 3016 or #)
Different components of Hispanic linguistics; relationships with social, cultural, and literary studies.

Span 3211. Spanish Literature: Aspects of Prose and Fiction. (4 cr; prereq 3104)
Representative novels and essays from the golden age to modern times: the picaresque novel, the short novella of Cervantes, Gracián, historical and *costumbrista* prose, realism, surrealism, existentialism.

Span 3212. Spanish Literature: Aspects of Poetry. (4 cr; prereq 3104)
Poetry of various periods: medieval romance and epic poems, goliardic verse, ballads, love sonnets, mystical poetry, 19th-century romantic verse, modern surrealist and imagist works.

Span 3213. Spanish Literature: Aspects of Drama. (4 cr; prereq 3104)
The theory and practice of drama as reflected in tragedy, comedy, historical plays, farce, and religious drama.

Span 3251. Spanish-American Literature: Aspects of Prose and Fiction. (4 cr; prereq 3104)
Clusters of representative works. Trends, themes, and structures from colonial times to the present. Historical comprehension of Spanish-American society through prose fiction.

Span 3252. Spanish-American Literature: Aspects of Poetry. (4 cr; prereq 3104)
National and international literary, social, and political movements as reflected in Spanish-American poetry. Major 20th-century poets such as Vallejo, Neruda, N. Guillén, and Paz.

Span 3253. Spanish-American Literature: Aspects of Drama. (4 cr; prereq 3104)
Spanish-American national drama from the 19th century to the present. Aesthetic trends and problems in relation to society.

Span 3254. Latin American Writing: Building the Nation. (4 cr; prereq 3104)
Analysis of the uses of writing by the liberal bourgeoisie in 19th-century Spanish America to promote its nation-building project. Analysis of major works in the period.

Span 3255. Vanguard, Society and Writing in Latin America. (4 cr; prereq 3104)
Lyric and narrative trends in 20th-century Latin America. Latin America and the decline of the West. The challenge to modernization and the internationalization of discourse. The defiance to the discourse of power in the 1970s and 1980s.

Span 3256. Spanish American Cultural Discourse. (4 cr; prereq 3104)
The cultural assumptions in current modes of interpreting Spanish American reality. Representative texts are analyzed.

Span 3501. Spanish Civilization: Roots of Modern Spain and Latin America. (5 cr; prereq 3105)
Spain and Latin America up to the early 19th century.

Span 3502. Spanish Civilization: Modern Spain. (5 cr; prereq 3105)
Evolution of Spanish culture from the beginnings of the new regime to the present. Conflicts between traditionalism and liberalism; Spanish artists' and intellectuals' view of Spain in the light of these conflicts.

Span 3510. Topics in Hispanic Cultures. (4 cr; prereq 3104 or 3105 or 3107)
Major topics in Hispanic cultures—Iberian peninsula, Latin America (including Brazil), the Caribbean, and Spanish-speaking USA—emphasis on cultural discourses other than literature. Possible topics include religions, folklore, popular culture, film, popular and classical music, oral tradition.

Span 3512. Spanish-American Civilization: Modern Latin America. (5 cr; prereq 3105)
Spanish-American civilization from 1800 to the present. Impact of independence movements on literature, art, and music. Relationship between political development and cultural phenomena in the 19th and 20th centuries. Popular culture. Folklore and the oral tradition (ballads, corridos, folktales, the lyric, others). The impact of 20th-century ideologies and technology on cultural development in Spanish-American republics.

Span 3614. Don Quixote: A Study of Lost Illusions. (4 cr)
Analysis of Cervantes' *Don Quixote* and an examination of its reception from early 1600s to modern times. Book's reception in Spanish America. Taught in English.

Span 3620. Topics: Spanish-American Literature in Translation. (4 cr per qtr [12 cr max])
Latin American groups of writers, universal themes, literary motifs, relationships between literature and other disciplines. Topics specified in *Class Schedule*. Taught in English.

Span 3701. Structure of Spanish and Portuguese: Phonology. (4 cr; prereq 3107 or #)
Phonology of modern Spanish and Portuguese. Regional and social variants of the languages in Spain, Portugal, and Latin America.

Span 3702. The Structure of Spanish: Morphology and Syntax. (4 cr; prereq 3107 or #) Morphology and syntax of modern Spanish. Survey of derivational and inflectional morphology; typical syntactic constructions.

Span 3721. Origins and History of Spanish and Portuguese. (4 cr; prereq Span 3107, Port 3003, or #) Principal stages in growth and development of Spanish and Portuguese languages as expressions of specific cultures. Fundamental concepts and methodology of Iberian historical linguistics.

Span 3730. Topics in Hispanic Linguistics. (4 cr per qtr [12 cr max]; prereq 3107 or #)

Span 3910. Topics in Spanish Peninsular Literature. (4 cr per qtr [12 cr max]; prereq 3104 or #) Focuses on a central theme related to important groups of writers, literary movements, trends, critical approaches, and methods. Topics specified in *Class Schedule*.

Span 3920. Topics in Spanish-American Literature. (4 cr per qtr [12 cr max]; prereq 3104 or #) For description, see Span 3910.

Span 3940. Figures in Spanish Peninsular Literature. (4 cr per qtr [12 cr max]; prereq 3104 or #) One major writer or group of writers whose work has had an impact on thought, literature, or social problems. Figures specified in *Class Schedule*.

Span 3950. Figures in Spanish-American Literature. (4 cr per qtr [12 cr max]; prereq 3104 or #) For description, see Span 3940.

Span 3970. Directed Studies. (1-5 cr per qtr; prereq Δ) Guided individual reading or study.

Span 3972. Graduation Seminar. (4 cr; prereq 30 cr of Span 3xxx or SpPt 3xxx courses and Δ) Work on the major project within the framework of this seminar.

Span 3972H. Honors Graduation Seminar. (4 cr; prereq 30 cr of Span 3xxx or SpPt 3xxx courses, honors student and Δ) Honors thesis.

Span 5012. Advanced Problems in the Spanish Language. (4 cr; prereq 3702 or equiv and Graduation Proficiency Test or #) Problematic aspects of Spanish grammar. For advanced speakers of Spanish as a second language and native Spanish speakers.

Span 5015. Methods of Translation. (4 cr; prereq 10 cr from 3001-3005 series or #) Meaning, use, and theories of translation. Techniques and problems of translation from Spanish and Portuguese to English and vice versa. Translation patterns, use of special vocabularies and other adjuncts needed to understand both languages. Practical vocabulary and usage for various fields of work.

Span 5106. The Literature of the Reconquest and Feudal Spain. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses) Major literary works and genres of medieval Spain—from primitive lyric to *La Celestina*—examined against background of social and historical transformations of period.

Span 5107. The Literature of the Spanish Empire and Its Decline. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses) Overview of major 16th- and 17th-century Renaissance and Baroque works—poetry, nonfiction, prose, novel, drama—examined against background of establishment of Spanish Empire, internal economic crisis, and ideological apparatus developed by the modern state.

Span 5108. The Spain of Cervantes' *Don Quixote*: History and Fiction. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses or Δ) Historical function of literary techniques, narrative perspectives, and ironic discourse of Cervantes' major work during the period of imperial decadence, 17th century. Tradition of Erasmian folly, madness as anachronism and social satire.

Span 5109. The Literature of Bourgeois Order: Enlightenment, Romanticism, and Positivism. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses) Overview of major literary works—poetry, essay, novel, drama—and of literary movements of 18th and 19th centuries, examined as aesthetic expressions of the long process of consolidation of bourgeois social order in Spain.

Span 5111. The Literature of the Spanish Crisis of the 20th Century. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses) Overview of major literary works and aesthetic trends from Spanish-American War of 1898 to post-Franco period, examined in terms of social, political, and intellectual crisis.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Span 5221. Spanish Literature of the 17th Century: The Drama. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses or Δ) Representative playwrights—Lope, Alarcón, Tirso, Calderón—and dramatic forms, especially comedia, tragedy, and *auto sacramental*. Approaches to golden age comedia. Themes of honor, purity of blood, country vs. city, free will, others, viewed against literary, cultural, and social history.

Span 5234. Feminism and Literature in Spain. (4 cr; prereq three 3xxx or 5xxx literature courses in Spanish or Portuguese or Δ) Study of Spanish feminism in thought and practice, with a focus on literature, cultural discourse, and literary theory.

Span 5272. Hispanic Modernism. (4 cr; prereq three 3xxx or 5xxx literature courses in Spanish or Portuguese or Δ) A critical purview of artistic and literary production in Hispanic cultures since the middle of the 19th century to the *avant-gardes*. Modernity and modernization in Hispanic world. The Spanish generation of 98. Castilian, Catalan, and Latin-American practices.

Span 5316. The Picaresque Novel. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses or Δ) Major picaresque narratives—*Lazarillo*, *Guzmán*, *Buscón*, Cervantes' *Pícaros*, *Estebanillo González*—in relation to Spanish ambience, Western tradition, European novel, realism. Literary autobiography, episodic structure, themes of roguery, delinquency, sin, marginality, social criticism, moral preoccupations. Comparison to European counterparts.

Span 5525. Caribbean Literature: An Integral Approach. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses or Δ) Review of literature of area; common traits and preoccupations. Conceptualization of region as a totality: themes, similar lines of development, generic tendencies, periods of development and crisis.

Span 5526. Creole Consciousness and Mercantilist Culture. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses or Δ) Analysis of texts written between 1492 and 1780; the sociohistorical project to which the texts belong. Generic variants and approach to changing reality.

Span 5527. National Literary Consciousness and Free Trade. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses or Δ) Analysis of literary movements between 1780 and 1900; reflection of process of formation of nation-states and incorporation of Latin America into international capitalist system as producer of foodstuffs and raw materials and importer of manufactured goods.

Span 5528. Popular Literary Consciousness 1900-1950. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses or Δ) Spanish-American literature between eve and aftermath of the two world wars. Impact of modernization, industrialization, and nationalistic and populist thought on emergence of a distinctive style of writing, thematic trends, and conventions of literary genre.

Span 5529. National Affirmation and Transnationalization. (4 cr; prereq three 3xxx or 5xxx Spanish or Portuguese literature courses or Δ) Analysis of literary trends from 1950 to present. Reaction to internal social demands for development of independent national cultures and conflicting influence of international economic system.

Span 5532. Literature and National Disintegration. (4 cr; prereq three 3xxx or 5xxx literature courses in Spanish or Portuguese or Δ) Literary reaction to the contemporary structural changes in the world economic system (1970 to present). Effects on literature as institution. Texts related to revolutionary trends and social movements (feminism, theology of liberation, defense of human rights).

Span 5533. Latin American Cultural Discourse. (4 cr; prereq three 3xxx or 5xxx literature courses in Spanish or Portuguese or Δ) Study of contemporary discourses that attempt global explanations of the development of Latin American culture and civilization: liberal diffusion, dependency theory, geopolitics, doctrine of national security, theology of liberation, human rights.

Span 5535. Hispanic American Literary History: An Overview. (4 cr; prereq three 3xxx or 5xxx literature courses in Spanish or Portuguese or Δ) Purview of Hispanic-American literature from colonial times to present. Major cultural/historical divisions will be analyzed and characterized. A variety of historiographical approaches to the field will be recognized.

Span 5536. Feminism and Literature in Latin America. (4 cr; prereq three 3xxx or 5xxx literature courses in Spanish or Portuguese or Δ) Study of feminist action and theory in Latin America with a focus on literature and literary theory.

Span 5701, 5702. History of Ibero-Romance. (4 cr per qtr; prereq 3701 or 3702 or #) Comparative study of origins and development of Ibero-Romance languages; evolution of Catalan, Portuguese, and Spanish compared and contrasted. Methods in reading and analyzing non-literary and literary medieval texts.

Span 5711. The Structure of Modern Spanish: Phonology. (4 cr; prereq 3701, Ling 5302 or #) Analysis and description of the structure of Spanish. Useful for students who plan to teach Spanish and for those whose primary language is Spanish. Formulation and evaluation of phonological descriptions of Spanish. Approaches to problems in Spanish phonology within metrical, autosegmental, and lexical phonological theories.

Span 5712. The Structure of Modern Spanish: Morphology. (4 cr; prereq 3702, Ling 5302 or #) Analysis and description of the structure of Spanish. Useful for students who plan to teach Spanish and for those whose primary language is Spanish. Evaluation of morphological theories and descriptions of Spanish: of the lexicon, derivation, inflection, grammatical categories; examination of phonological and syntactic effects on morphology.

Span 5713. The Structure of Modern Spanish: Syntax. (4 cr; prereq 5012, Ling 5302 or #) Linguistic types that appear across languages, such as grammatical relations, word order, transitivity, causative constructions, relative clauses; how these phenomena are present in Spanish syntax.

Span 5714. The Structure of Modern Spanish: Semantics. (4 cr; prereq 5713 or #) Relationship between syntax and semantics. Application of structural semantics to the Spanish language, concepts of semantic and lexical fields. Cultural patterns in Hispanic world as reflected in semantic structures. Theories of meaning, euphemisms; taboos; semantics and social class. Semantic approaches to literary analysis.

Span 5715. The Structure of Modern Spanish: Pragmatics. (4 cr; prereq 5713 or #) Concepts used in current literature in Spanish pragmatics.

Span 5731. Spanish Dialectology: Regional and Social Dialects of Modern Spain. (4 cr; prereq #) Major dialect areas of Spain; distinguishing phonological, morphological, lexical, and syntactic variations. Impact of recent cultural, political, and socioeconomic transformations on the language.

Span 5732. Spanish Dialectology: Regional and Social Dialects of Modern Spanish America. (4 cr; prereq #) Major dialect areas in modern Hispanic America. Norm, speech, and language related to former political and religious divisions of Hispanic America and to new national boundaries.

Span 5910. Topics in Spanish Peninsular Literature. (1-4 cr; prereq 3104 or SpPt 3104 or Δ) Important groups, movements, trends, methods, genres. Topics may include conversos, mysticism, poesia tradicional, essay and enlightenment, novela realista, and avant-garde. Topics specified in *Class Schedule*.

Span 5920. Topics in Spanish-American Literature. (4 cr; prereq 3104 or SpPt 3104 or Δ) Important groups, movements, trends, methods, genres. Topics specified in *Class Schedule*.

Span 5940. Figures in Spanish Peninsular Literature. (4 cr [12 cr max]; prereq 3104 or SpPt 3104 or Δ) One major writer or group of writers whose work has had an impact on thought, literature, or social problems. Figures may include Alfonso X, Cervantes, Quevedo, Larra, Unamuno, and Lorca. Figures specified in *Class Schedule*.

Span 5950. Figures in Spanish-American Literature. (4 cr; prereq 3104 or SpPt 3104 or Δ) One major writer or group of writers whose work has had an impact on thought, literature, or social problems. Figures specified in *Class Schedule*.

Span 5985. The Study of Spanish in the United States: Theory and Field Methods. (4 cr; prereq 3701) Sociolinguistic theory and field methods related to the study of Spanish in the United States; field experience in the Hispanic community of St. Paul.

Span 5990. Directed Research. (1-5 cr per qtr; prereq Δ)

Portuguese (Port)

Port 1001-1002-1003. Beginning Portuguese. (5 cr per qtr; prereq for 1002—1001 or #, prereq for 1003—1002 or #) Speaking and understanding Portuguese; pronunciation (Brazilian speech emphasized); writing and reading skills; grammar; cultural aspects of language and civilizations of Portuguese-speaking world.

Port 1004. Intermediate Portuguese Grammar and Composition. (5 cr; prereq 1003) Speaking and comprehension; development of reading and writing skills based on Portuguese-language materials.

Port 1005. Intermediate Portuguese. (5 cr; prereq 1004) Speaking and comprehension; development of reading and writing skills grounded in materials that reflect the cultural diversity of the Portuguese-speaking world. Grammar review.

Port 1006. Intermediate Portuguese. (5 cr; prereq 1005) Speaking and comprehension; development of reading and writing skills on materials from Portugal and Brazil. Grammar review; composition and short presentation.

Port 3001. Portuguese for Spanish Speakers. (5 cr; prereq knowledge of Spanish or #: UC only) Study of Portuguese based on student knowledge of Spanish (speakers of other Romance languages admissible with permission of the instructor). Contrastive approach to the phonic and morpho-syntactic structures of Portuguese.

Port 3003. Conversation and Composition. (5 cr; prereq 1006 or equiv) Speaking and writing skills. Cultural comparisons, current events. Grammar review. Writing workshops.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Port 3501. Foundations of Lusophone Cultures. (5 cr; prereq 1106)
Foundations of Portuguese-language cultures from origins to present. Social and cultural currents that lay basis for modern Portuguese-speaking world.

Port 3502. Brazilian Culture. (5 cr; prereq 1106)
Brazilian contemporary culture and society. History, culture, and social problems.

Port 3602. Introduction to Brazil. (4 cr)
Brazilian contemporary culture and society. History, culture (music, art, cinema, literature, architecture, theatre, popular culture, television), and social problems (ethnicity, rain forest).

Port 3603. Brazilian Literature in Translation. (4 cr)
Representative figures or topics of Brazilian literature as reflection of Brazilian society. Modern Brazilian fiction. Topics specified in *Class Schedule*. In English.

Port 3910. Topics in Luso-Brazilian Literature. (4 cr per qtr; prereq Span 3104 or #)
Sample topics: Portuguese lyric poetry; the Portuguese social novel; contemporary Portuguese literature; the Brazilian novel; recent currents in Brazilian poetry. Topics specified in *Class Schedule*.

Port 3970. Directed Studies. (1-5 cr per qtr; prereq Δ)
Guided individual reading or study.

Port 5110. Topics in Portuguese Literature. (4 cr per qtr [12 cr max]; prereq 3211 or 3212 or 3213 or three 3xxx or 5xxx Spanish literature courses, Δ)
Important authors, movements, currents, genres, socioaesthetic questions, literary techniques. Topics specified in *Class Schedule*.

Port 5521. Literature in Traditional/Expansionist Portugal. (4 cr; prereq three 3xxx Portuguese courses or Δ)
Analysis of key literary movements and figures to about 1750. Literature as a dimension of a sociocultural movement involving modulations of traditionalist social formations and accommodation of overseas expansion.

Port 5522. Literature and Liberal Problems in Portugal. (4 cr; prereq three 3xxx Portuguese courses or Δ)
Analysis of key literary movements and figures from about 1750 to present. Literature as a dimension of a sociocultural movement involving emulation and then various reconstitutions of society in attempts to “modernize.”

Port 5523. Nationalism in Brazilian Literature. (4 cr; prereq three 3xxx Portuguese courses or Δ)
Major literary works—poetry, novel, essay, or drama—and literary trends from the colonial period and/or the 19th century as expressions of the nativist/nationalistic project in Brazil.

Port 5524. Brazilian Literature and Modernization. (4 cr; prereq three 3xxx Portuguese courses or Δ)

Major literary works—poetry, novel, essay, memoir, or drama—and literary trends from the 20th century as expressions of the modernization process of Brazilian society, for creation and stabilization of an independent economic and cultural entity.

Port 5910. Topics in Luso-Brazilian Literature. (4 cr; prereq Span 3104 or Span-Port 3104 or #)

Portuguese literature, music, film, oral traditions, and TV. Topics specified in *Class Schedule*.

Port 5920. Figures in Luso-Brazilian Literature. (4 cr; prereq Span 3104 or Span-Port 3104 or #)

Introduces Portuguese, Brazilian, or other major lusophone writers, whose work has had impact on thought, literature, or social problems. Figures specified in *Class Schedule*.

Port 5990. Directed Research. (1-5 cr per qtr; prereq Δ)

Spanish-Portuguese (SpPt)

SpPt 3980. Directed Instruction. (1-4 cr per qtr [8 cr max]; prereq #, Δ: S-N only)

Undergraduates serve as teaching assistants in courses they have successfully completed for credit.

SpPt 5930. Selected Topics in the Hispanic Cultural Discourses. (4 cr; prereq reading knowledge of Spanish and Portuguese)

Comparative topics in cultural discourse of Portuguese-speaking and Spanish-speaking nations. Common background and difference among Iberian or Latin American intellectual production. In Portuguese.

Speech-Communication (Spch)

Staff—Chair, Donald R. Browne, 460 Folwell Hall; *Undergraduate Advising Office*, 432 Folwell Hall

Professors Emeriti: Bormann, Howell, Jensen, Shapiro, Sykes, Ziebarth

Professors: Browne, Campbell, Goldstein, Hewes, Miller, Scott

Associate Professors: Albert, Rarick, Schiappa, Sheldon

Assistant Professors: Kinney, Omdahl, Wilson

Speech-communication involves the study of the communicative dimensions of human experience using both humanistic and social scientific methods. The department sees the various forms of human communication as

integrated and interdependent activities. Therefore, students are encouraged to select a variety of coursework within departmental offerings in rhetoric, electronic media, and communication theory.

General Education—The department recommends as courses for nonmajors 1101, 1313, 3211, 3401, 3402, 3411, 3431, 3441, 3601, 3605, 5231, 5402, 5431, 5615, 5617.

Study Abroad—The department encourages students to incorporate study abroad experiences into their major program. Spch 3451 and 3452 are a useful introduction to such an experience, but are not a requirement. Credit arrangements and project plans should be cleared with a senior faculty member before departure. For information on study abroad options and procedures, see Foreign Study.

B.A. Major Sequence

Required Preparatory Courses—1101, 1313

Required Core Courses—3211, 3401, 3501, 3601

Premajor Requirements for Admission to the Major—To be accepted into the major, students must first meet with a speech-communication adviser in 432 Folwell Hall to declare a premajor. We strongly encourage interested students to declare their pre-speech major before the junior year. After declaring a pre-speech major, a student must complete the following five courses to be admitted to the major: 1101, 1313, 3211, 3401 and 3601. Students must achieve a 2.0 GPA or better in the 3xxx courses; these may not be retaken to improve the GPA.

Admission to the Major—Once a student completes the coursework for the premajor with the required GPA, she or he must again meet with a speech-communication adviser to plan a major program. Students with questions about the premajor or major requirements are encouraged to contact the speech-communication undergraduate advisers.

Major Requirements—A minimum of 40 credits in upper division speech-communication coursework to include:

Required Core Courses—3211, 3401, 3501, 3601 (to be taken as soon as possible)

Elective Courses—An additional 24 credits of upper division 3xxx-5xxx level courses with a minimum of one 5xxx course and one course from the following: 3111, 3201, 3411, 3451, 3452, 3605, 5422.

All major courses must be taken A-F unless the course is only offered S-N. Independent study, directed instruction, directed study, internships, “X” or “Y” registration cannot be counted toward the 40 credit minimum. To graduate with a major, a student must have a cumulative GPA of 2.0 in all speech-communication coursework.

Senior Project—All speech-communication majors are required to complete a senior project before graduation. For details about project requirements, contact the speech-communication undergraduate advisers.

Honors Program—3191H, 3192H, 3193H, 3601H. Qualified premajor and major students are encouraged to enter the department honors program. The honors program provides honors seminars and supports a more ambitious senior project than is required of other students. Honors students will develop an individualized honors major program with the Director of Undergraduate Studies or other speech-communication faculty. Interested students should contact the speech-communication undergraduate advisers.

Individually Designed Programs—Students wishing to emphasize speech-communication in IDIM, BIS, ICP and other individually designed programs must take preparatory courses 1101 and 1313 and achieve a 2.0 GPA in any two of the following courses: 3211, 3401 and 3601.

The program must be planned in conference with and approved by a departmental adviser. Students are encouraged to see the department advisers quarterly.

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Minor Sequence

Required Preparatory Courses—1101, 1313

Minor Requirements—Minimum of 20 credits in upper division 3xxx-5xxx speech-communication courses including two courses from 3211, 3401, 3601.

All minor courses must be taken A-F unless the course is only offered S-N. Independent study, directed instruction, directed study, internships, “X” or “Y” registration cannot be counted toward the 20 credit minimum. Students must have a cumulative 2.0 GPA in all speech-communication coursework to graduate with a minor.

Spch 1101f,w,s,su. Introduction to Public Speaking. (4 cr)

Oral communication processes and elements. Criticism of and response to oral discourse. Individual speaking.

Spch 1313f,w,s,su. Analysis of Oral Argument. (4 cr) Schiappa

Strategies for analyzing and evaluating arguments received aurally. Problems in listening and responding to argument.

Spch 3110. Current Topics in Speech-Communication. (4 cr [may be repeated for credit with #]; prereq 3211, 3401, 3601 [whichever is relevant to the topic])

Current cases illustrating speech-communication theory and underlying issues.

Spch 3111. Leadership Communication. (4 cr)

Interdisciplinary study of theory and practice of leadership. Theoretical approaches to management. Interpersonal communication skills in leadership practice; persuasion and cross-value communication in effective leadership. Experience in task-oriented small group communication.

Spch 3131. Student Leadership Theory and Training. (4 cr; prereq currently employed in New Student Leadership Programs)

Training in topics for Student Leadership positions in New Student Programs Office to include leadership theory, interpersonal and small group communication, group facilitation, human difference, and community development theory.

Spch 3191f, 3192w, 3193s. Honors Course: Tutorial Seminar in Speech. (4 cr per qtr; prereq honors candidate in speech-communication, #, Δ)

Spch 3201f,w,s. Introduction to Electronic Media Production. (4 cr)

Practice and theory. Electronic media projects; planning, scripting, production in various media.

Spch 3211. Introduction to U.S. Electronic Media. (4 cr) Browne, Rarick

Historical development and current issues in electronic media technologies and programming. Effects of governmental, industrial, and public organizations on message content. Problem areas of electronic media.

Spch 3291. New Telecommunication Media. (4 cr; prereq 3211 or #) Rarick

Development and current status of new telecommunication media such as cable TV, satellites, DBS, MDS, and video disk/cassettes. Technology, historical development, regulation, and programming of these media and their influence on broadcasting.

Spch 3401. Introduction to Communication Theory. (4 cr) Hewes, Omdahl

Social scientific perspectives on the study of human communication. Review of alternative ways of describing and explaining communication processes.

Spch 3402. Introduction to Interpersonal Communication. (4 cr) Hewes, Omdahl

Nature and function of communication between individuals in formal and informal relationships. Communicative interactions from theoretical and practical viewpoints.

Spch 3411f,w,s,su. Small Group Communication Processes. (4 cr; prereq 1101 or #) Hewes

Cooperative thinking in task-oriented groups. Planning, preparing for, and participating in small groups in private and public contexts.

Spch 3431. The Role of Persuasion in the Modern World. (4 cr; soph standing rec) Albert, Kinney, Scott

Persuasion in interpersonal, organizational, intracultural, and intercultural relationships. Contemporary persuasion, with occasional historical segments.

Spch 3441f,w,s. Communicating in Organizations. (4 cr; prereq 1101 or equiv)

Theory and practice of communicating in organizations. How communication creates, maintains, and changes organizational culture. Role of individual communicator in organizational culture.

Spch 3451. Intercultural Communication: Theory and Practice. (4 cr; prereq planning an intercultural exper) Albert

Theories of and factors influencing intercultural communication. Development of effective intercultural communication skills.

Spch 3452. Communication and the Intercultural Reentry. (4 cr; prereq return from an intercultural exper)

Communication processes during return to home culture after intercultural experience. Focus on communication and understanding impact of intercultural experience as the basis for social change.

Spch 3501. Introduction to Communication Research Methods. (4 cr) Kinney, Hewes

Quantitative research methods in speech-communication, including design of communication experiments, surveys, interaction coding, content analysis, observational research, and relevant statistical methods.

Spch 3601. Introduction to Rhetorical Theory. (4 cr; prereq 1101) Campbell, Scott
Theoretical systems intended to explain or direct the creation of public discourse. Traditional rhetoric to contemporary perspectives. Using theory to explain the practice of public discourse.

Spch 3605f,w,s,su. Persuasive Speaking. (4 cr; prereq 1101) Wilson
Persuasive speeches: directed practice. Persuasive speaking in contemporary life.

Spch 3625. Ethical Standards in Modern Communication. (4 cr; prereq 1101 or #) Rarick
Ethical issues in interpersonal communication, small group discussion, public speaking, and mass communication.

Spch 3970f,w,s,su. Directed Studies. (Cr or [no major program cr for speech-communication majors]; prereq at least one speech-communication course, #, Δ)
Guided individual reading or study.

Spch 3980f,w,s,su. Directed Instruction. (1-4 cr per qtr [8 cr max; no major program cr for speech-communication majors]; prereq #, Δ: S-N only)
Supervised planning and teaching of undergraduate courses.

Spch 5110. Advanced Topics in Speech-Communication Theory. (4 cr per qtr [may be repeated for cr with #]; prereq 3211, 3401, 3601 [whichever is relevant to the topic])
Advanced theoretical problems. See department office for current offering.

Spch 5211. Contemporary Problems in U.S. Electronic Media. (4 cr; prereq 3211, sr) Browne, Rarick
Problems affecting U.S. commercial and educational electronic media. Topics may include media programming, controversial content, race/gender, management and government regulation, ethics.

Spch 5222. Educational Media Programming and Administration. (4 cr; prereq 3211 or #) Goldstein
Electronic media applied to educational needs; current practices; research findings; relative effectiveness of differing types of media use; impact of various modes of transmission on programming and administration.

Spch 5231. Comparative Electronic Media Systems. (4 cr; prereq 3211 or #) Browne
Historical, political and sociological aspects of electronic media systems throughout the world—U.S., Canada, Great Britain, France, Germany, Russia, others. Regulation, impact on political, social and economic development.

Spch 5232. International Electronic Media. (4 cr) Browne
International (nation-to-nation) electronic media in the U.S., Great Britain, Russia, Japan, and other countries. Theories of informing and persuading through electronic media; regulatory agreements; spectrum control; social and legal implications of new technologies.

Spch 5233. Electronic Media and National Development. (4 cr) Browne
Use of electronic media to effect changes in social, political, economic, and cultural life. Use by developing nations to improve agricultural practices, hygienic standards, literacy, awareness of civic responsibility.

Spch 5261. Communicative Processes in Electronic Media. (4 cr; prereq 3211 or #)
Electronic media as systems of communicative processes: the organizational processes of media communicators, media content as a link between communicators and audiences, and how viewers use media content.

Spch 5281. Electronic Media Audience Analysis and Programming. (4 cr; prereq 3211) Rarick
Methods of measuring and analyzing electronic media audiences. Structure and appeals of media programming. Theory and research in media impact on audiences.

Spch 5401. Advanced Theories of Communication. (4 cr; prereq 3401 or grad) Omdahl
Analysis of theories of communication and their usefulness for particular purposes. Historical and conceptual development of theories of communication.

Spch 5402. Problems in Interpersonal Communication. (4 cr; prereq 3401 or #) Hewes, Omdahl
Factors contributing to misunderstanding, not understanding, disagreement, and cessation of contact in dyads.

Spch 5403. Theory Construction and Analysis in Communication. (4 cr; prereq 3401 or #) Hewes, Omdahl
Problems in development of communication theory. Analysis of existing theory. Relationship of theory to research.

Spch 5404. Language, Culture, and Education. (4 cr; prereq 3401 or #) Sheldon
Psychological and social-psychological perspectives for study of language-communication; language variation (dialects, codes, registers); implications for program development and instructional practices.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Spch 5405. Nonverbal Communication: Theory and Research. (4 cr) Omdahl
Nonverbal interpersonal communication. Nonverbal categories: gesture, facial expression, posture, clothing, environment.

Spch 5407. Communication and Interpersonal Conflict. (4 cr; prereq 3401, 3411) Kinney
Theory and research on the role of communication in conflict in groups, organizations, and interpersonal relationships. Communication in negotiations. Interventions into interpersonal conflicts.

Spch 5411. Small Group Communication Theory. (4 cr; prereq 3411 or #) Hewes
Theories of communication within the small, task-oriented group. Group cohesiveness, leadership, role structure, information processing, decision making.

Spch 5414su. Communication and Community. (4 cr; prereq 3411 or #: S-N only)
Authority and power in task-oriented groups. Tavistock-type small group, intergroup, and large group lab experiences. Verbal and nonverbal processes in and among groups that affect leadership and followership.

Spch 5421. Quantitative Research in Communication. (4 cr; prereq 3401 or 5403 or #) Hewes
Experimental and descriptive research; design and procedures; individual projects.

Spch 5422. Interviewing and Communication. (4 cr; prereq 1101, 6 cr social sciences or #) Rarick
Theory and practice in the information interview. Interpersonal perception, empathy, and cognitive structure in dyadic communication. Experience in interviewing and communication analysis. Research in interpersonal and mass communication.

Spch 5431. The Process of Persuasion. (4 cr; prereq 3431) Albert, Kinney
Modern motivational communication. Social control through persuasive speech.

Spch 5441. Communication in Human Organizations. (4 cr; prereq 3401 or 8 cr social sciences, 3441 or #)
Communication in organizational settings. Organizational structure and dynamics and their effect upon the communication process. Individual projects.

Spch 5443. Theories of Organizational Communication. (4 cr; prereq 3401, 3441 or #)
Survey of theories of organizational communication and relevant empirical research. Implications of these theories for modern organizations, their members, and society.

Spch 5451. Intercultural Communication. (4 cr; prereq Anth 1102 or another cultural anthropology course or #, 3401 recommended) Albert
Successful interpersonal communication across cultures. Verbal and nonverbal communication.

Spch 5452. Intercultural Interaction: Theory and Application. (4 cr; prereq #) Albert
Small group interaction across cultures for international and U.S. students; readings, group discussion, role playing, simulations, lectures as methods.

Spch 5461. Conversation Analysis. (4 cr, \$Ling 5751; prereq 3401, Ling 3001 or 5001 or #) Sheldon
Discourse processes in dyadic and multipart conversation. Application of concepts through analysis of conversations.

Spch 5462. Field Research in Spoken Language. (4 cr, \$Ling 5752; prereq 5461 or #) Sheldon
Techniques for transcription, coding and analysis of conversational interaction. Application to recorded conversations.

Spch 5602. Contemporary Political Persuasion. (4 cr; prereq 1101, 5431 or #) Campbell, Scott
Contemporary political speech. Ideologies in political persuasion.

Spch 5611. Classical Rhetoric. (4 cr; prereq 1101) Schiappa, Scott
Greek and Roman theories of speechmaking; historical and philosophical context and influence on education.

Spch 5613. Explorations Into Argumentation. (4 cr; prereq 1101 or 1313 or #) Schiappa
Argumentation in a variety of contexts: law, science, management, religion, diplomacy, political campaigning, art, informal conversation, and folk literature; surveying issues in collegiate debate and contributions in argumentation theory.

Spch 5615. Introduction to Rhetorical Criticism. (4 cr; prereq 1101; 3601 recommended) Campbell, Schiappa, Scott, Wilson
Traditional and contemporary rhetorical theory; application to contemporary public address.

Spch 5617. History and Criticism of American Public Address. (4 cr; prereq 1101, Psy 1001) Wilson
History and criticism of religious and reform speech in the United States, 1620 to 1920.

Spch 5618. History and Criticism of American Public Address. (4 cr; prereq 1101, Psy 1001) Wilson
History and criticism of political speech in the United States from the Revolution to the present.

Spch 5621. Woman's Rights/Woman Suffrage Rhetoric. (4 cr, \$WoSt 5100; prereq 5615 or #) Campbell
History and criticism of the rhetoric of the woman's rights/woman suffrage movement in the United States, 1835-1926.

Spch 5622. Contemporary Feminist Rhetoric. (4 cr; prereq 5615 or #) Campbell
History and criticism of the rhetoric of the contemporary feminist movement in the United States, 1945-present.

Spch 5625. Issues in Communication Ethics. (4 cr; prereq 3625 or #) Rarick
Exploring ethical issues of interpersonal, small group, public, and mass communication, emphasizing the communicator, the receiver, the message, the medium, the situation, and the effects.

Spch 5970f,w,s,su. Directed Studies. (Cr ar; prereq 9 3xxx-5xxx speech-communication cr, #, Δ, S- N only)
Guided individual reading or study.

Statistics (Stat)

Staff—*Director*, School of Statistics, Seymour Geisser, 270 Vincent Hall; *Chair*, Department of Applied Statistics, Douglas Hawkins, 352f Classroom-Office Building; *Chair*, Department of Theoretical Statistics, Morris L. Eaton, 256 Vincent Hall; *Director of Undergraduate Studies*, Bernard W. Lindgren, 258 Vincent Hall; *Director of Graduate Studies*, Glen D. Meeden, 255 Vincent Hall

Professors: Bingham, Chaloner, Cook, Dickey, Eaton, Geisser, Hawkins, Lantz, Lindgren, Louis, Meeden, Oehlert, Sudderth, Tierney, Weisberg

Associate Professors: Geyer, Martin, Pruitt

Assistant Professors: Grund, Posse

Statistics, which deals with the collection, analysis, and interpretation of data, provides a logical framework for using data to draw inferences in scientific studies and for making decisions in industrial, business, and governmental enterprises.

B.A. Major Sequence

Required Preparatory Courses—Calculus through Math 1252

Major Requirements—Math 3251 and 3252, 5890 and either 3011-3012 or 5021

Either 5121-5122 and at least 16 cr chosen from list of electives, or 5131-5132-5133 and at least 12 cr chosen from electives

Electives: To be selected from 5091, 5201, 5271, 5301, 5302, 5401, 5421, 5601, 5911, IEOR 5551; IEOR 5030 or 5040; CSci 31xx; Math 5682-5683; PubH 5454

Course selections must be approved by the Director of Undergraduate Studies.

Courses satisfying major requirements must be taken A-F. To count toward major requirements, course grades must be C or better.

Minor Sequence

Minor Requirements—Minimum of 15 cr in University statistics courses, including three 5xxx courses

Course selections must be approved by the director of undergraduate studies.

Stat 1001f,w,s. Introduction to Ideas of Statistics. (4 cr; prereq high school higher algebra) Controlled vs. observational studies; presentation and description of data; correlation and causality; sampling, accuracy of estimates; tests.

Stat 3011-3012f,w,s. Statistical Analysis. (4 cr per qtr; prereq college algebra) Descriptive statistics; elementary probability; estimation; one- and two-sample tests; correlation; regression; ANOVA; randomized blocks; multiple comparisons; factorial experiments; multiple regression; goodness of fit; nonparametric methods; contingency tables; selected topics.

Stat 3091f,w,s. Introduction to Probability and Statistics. (4 cr, §5121, §5131; prereq differential and integral calculus) Elementary probability and probability distributions, sampling and elements of statistical inference.

Stat 5021f,w,s. Statistical Analysis. (5 cr, §3012; prereq college algebra or #) Intensive version of 3011-3012; primarily for graduate students needing statistics as a research technique.

Stat 5091. Statistical Methods for Quality Improvement. (4 cr; prereq 3012 or 3091 or 5021 or 5122 or 5132, Math 1252) Application of statistical concepts of random variability and sampling, statistical process control, Shewhart and accumulative charting, analysis of plant data, applications of trend surface analysis, analysis of variance and design of experiments, quality improvement by reduction of random variability.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Stat 5121f,w-5122w,s. Theory of Statistics. (5 cr per qtr, \$5131-5132-5133; prereq Math 1252) Univariate and multivariate distributions, law of large numbers, sampling, likelihood methods, estimation and hypothesis testing, regression and analysis of variance, confidence intervals, distribution-free methods.

Stat 5131f-5132w-5133s. Theory of Statistics. (4 cr per qtr, \$5121-5122; prereq Math 3252)

5131: Probability models, univariate and bivariate distributions, independence, basic limit theorems. *5132-5133*: Statistical decision theory, sampling, estimation, testing hypotheses, parametric and nonparametric procedures for one-sample and two-sample problems, regression, analysis of variance. Treatment more mathematical than that in 5121-5122.

Stat 5151f-5152w-5153s. Theory of Statistics. (4 cr per qtr, \$5121-5122, \$5131-5132-5133; prereq Math 3311 or Math 3411, admission to graduate study in statistics)

A more in-depth version of Statistics 5131-5132-5133 for graduate students in statistics.

Stat 5161f-5162w-5163s. Applied Statistical Methods. (4 cr per qtr, \$5201, \$5301, \$5302, \$5421; prereq ¶5131, admission to graduate study in statistics or #)

5161: Simple and multiple regression; graphics. *5162*: Variance reduction designs for experiments; factorial, fractional, and confounded designs; optimal designs; analysis of covariance; unbalanced data analysis. *5163*: Advanced topics in linear regression; nonlinear models; generalized linear models; categorical data analysis; logistic regression.

Stat 5201w. Sampling Methodology in Finite Populations. (4 cr; prereq 5021 or 5121 or 3091 or #)

Simple random, systematic, stratified, and unequal probability sampling. Ratio and regression estimation. Multistage and cluster sampling.

Stat 5271. Bayesian Decision Making. (4 cr; prereq ¶5122 or ¶5132)

Axioms for personal probability and utility. Elements of statistical decision theory. Bayesian analysis of linear models.

Stat 5301f,s. Designing Experiments. (5 cr, \$5163; prereq 3012 or 5021 or 5133 or #)

Control of variation, construction, and analysis of complete and incomplete block, split plot, factorial, and groups of similar experiments. Confounding, crossover, and optimum seeking designs.

Stat 5302f,s. Applied Regression Analysis. (5 cr, \$5161; prereq 3012 or 5021 or 5133 or #)

Simple, multiple, and polynomial regression. Estimation, testing, and prediction. Stepwise and other numerical methods; examination of residuals; weighted least squares; nonlinear models; response surface. Experimental research and economic applications.

Stat 5401s. Introduction to Multivariate Methods. (4 cr; prereq 5133 or 5302)

Bivariate and multivariate distributions. Inference based on multivariate normal distributions. Discrimination and classification. Multivariate analysis of variance. Partial, canonical correlation and independence. Principal component analysis, factor analysis, analysis of repeated measurements, cluster analysis, profile analysis.

Stat 5421. Analysis of Categorical Data. (4 cr, \$5162; prereq 3012 or 5021 or 5133 or #)

Varieties of categorical data, cross-classifications and contingency tables, tests for independence. Multidimensional tables and log-linear models, maximum-likelihood estimation, and tests of goodness of fit. Analysis of Markov chain data. Smoothing counts.

Stat 5601w. Nonparametric Methods. (4 cr; prereq 5021 or 5122 or 5132 or #)

Necessary discrete and continuous probability distributions. Goodness of fit, sign tests, order statistics, rank tests for location and for scale, two-sample and k-sample comparisons, association. Methods and applications.

Stat 5890. Senior Paper. (2 cr; prereq sr statistics major)

Satisfies senior project requirement for majors. Directed study. Paper on specialized area, a consulting project, or original computer program.

Stat 5900. Tutorial Course. (Cr ar; prereq #)

Study in areas not covered by regular offerings. Directed study.

Stat 5911. Topics in Statistics. (3 cr [may be repeated for cr with Δ]; prereq 3091 or 5021, #)

Topics vary.

Studio Arts

See Art.

Study Abroad

See Foreign Study.

Sumerian

See Classical and Near Eastern Studies.

Swahili

See Afro-American and African Studies.

Swedish

See German, Scandinavian, and Dutch.

Institute of Technology

The basic physical sciences and mathematics departments, which are administratively housed in the Institute of Technology, also are part of CLA. Credit for all courses listed in the *CLA Bulletin*, and all courses approved for the Twin Cities campus liberal education curriculum (see *Class Schedule*) may be applied toward CLA baccalaureate degrees and toward the CLA residency requirement.

In addition, CLA students may apply toward their degrees up to 28 credits of other colleges' courses that are not part of the Liberal Education curriculum and do not appear in the *CLA Bulletin*.

Descriptions of courses offered by the Institute of Technology can be found in the bulletin of that college.

Theatre Arts and Dance

Theatre Arts Staff—*Chair*, C. Lance Brockman, 204 Middlebrook Hall; *Director of Undergraduate Studies*, 212 Middlebrook Hall; *Director of Graduate Studies*, Jean Montgomery, 234 Middlebrook Hall

Professors Emeriti: Adey, Balk, Ballet, Congdon, Graham, Josal, Nolte, Thompson, Whiting

Professors: Brockman, Reid

Associate Professors: Barker, Bellamy, Cheng, Gadberr, Gwinup, Kanee, Kobialka, Montgomery, Nash, Norwood

Assistant Professors: Henum, Houfek, Maddux, Smith

Teaching Specialist: Wagner

Theatre arts is the study of the theories and practices of dramatic performance. Productions of the University Theatre provide a lab for courses. All University students are invited to participate in productions of the University Theatre.

Dance Staff—*Director*, Maria Cheng, 108 Norris Hall

Associate Professors: Barker, Cheng

Assistant Professors: Maddux, Smith

Affiliated Faculty: Aiken, Buraczkeski, Chvala, Corning, Houlton-Gilliland, Gleason, Gordon, Killacky, Mann, Mathis, Sealy, Shapiro, Thompson, Young

The Dance Program offers the Bachelor of Arts and Bachelor of Fine Arts in modern dance. The B.A. degree balances a diversified liberal arts curriculum with general dance studies and requires 70 credits in dance coursework of the 180 needed for an undergraduate degree. The B.F.A. prepares the student for a professional career in modern dance and of the 180 credits needed to graduate, requires 117 in dance performance, creativity, academics and technique. All dance coursework required for either degree must be taken A-F. The general education requirement for both degrees are outlined in the following paragraphs.

Admission to the B.A. or B.F.A. program is by audition only. Admission to all technique classes is by placement audition.

The Dance Program is a member of the National Association of Schools of Dance.

General Education—Theatre Arts—Courses that may be of interest to nonmajors are Th 1101, 1102, 1301, 1405, 1504, 1805, 3115, 3171, 3172, 3173, 5171, 5172, 5173, 5181, 5182.

General Education—Dance—Courses that may be of interest to nonmajors are 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1031, 1032, 1033, 1034, 1035, 1101, 3401, 3402, 3486.

Study Abroad—The theatre program strongly encourages students to incorporate an overseas study experience into their undergraduate program. Appropriate credits from such study can easily be applied toward the theatre arts major or minor; among the study abroad opportunities is Literature and Theatre in London, which includes an internship option. Credits applied toward a dance major or minor (upon faculty review) may be received from on-site study of distinct dance traditions. Information on study abroad options and procedures is available in the theatre arts advising office. See also Foreign Study.

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Theatre Arts

B.A. Major Sequence—Theatre Arts

Required Preparatory Courses—1101, 1321, 1504

Major Requirements—1331, 1341, 3171, 3172, 3173, 3513, 3515, 3711, 3712, 3901

12 cr in other 3xxx-5xxx courses chosen in consultation with adviser

The following order is recommended for completion of the major: Freshman year 1101, 1504, 1321; Sophomore year 1331, 1341, 3171, 3172, 3173; Junior year 3711, 3513, 3515, electives; Senior year 3712, 3901, electives.

Courses in art history, dance, dramatic literature, humanities, music, psychology, and art are recommended.

Minor Sequence—Theatre Arts

Required Preparatory Courses—1101, 1301 or 1321, 1504

Minor Requirements—2 out of 3 courses in Theatre History (3171, 3172, 3173), 3513, 3515, 3711

Th 1101f,w,s. Introduction to the Theatre. (4 cr) Norwood
Theatre appreciation through study of plays, playwrights, and theatre artists. Readings of plays from diverse periods and styles.

Th 1102. Drama and Media. (4 cr) Norwood
Film appreciation through comparative study of drama, theatre art, and cinema. Focus on diverse styles of film art. Lectures and film showings.

Th 1301f,w,s. Beginning Acting for Non-Theatre Majors. (4 cr; prereq 1101)
Background and techniques of the acting process as viewed and practiced in the theatre, in society, and in the student's own relationships.

Th 1321f,w,s. Beginning Acting. (4 cr; prereq 1101, 1504)
Beginning techniques and exercises leading to performance, monologues and scenes.

Th 1331f,w,s. Beginning Movement for Actors. (2 cr; prereq 1321)
Fundamentals of body movement, relating to acting technique, leading to individual and group performances.

Th 1341f,w,s. Beginning Voice Production. (2 cr; prereq 1321 or ¶1321)
Exercises to develop abdominal breathing, tonal placement, and clear articulation. Analysis and performance of prose, poetry, and drama.

Th 1405Hs. Honors Course: Introduction to the Theatre. (2 cr; prereq 1101, #)
Enrichment course for students who have completed Th 1101 with outstanding records. Lab.

Th 1502f,w,s. Makeup for the Actor. (2 cr; prereq 1504, clean-shaven face)
Theory and practice in stage makeup.

Th 1504f,w,s. Elements of Technical Theatre. (4 cr; prereq 1101 or ¶1101)
The arts and crafts of the theatre: scenery, construction and painting, stage operation, theatre lighting, costuming. Lab.

Th 1805. American Ethnic Literature in Performance. (4 cr; offered when feasible)
Individual and group exploration and performance of selected poems, stories, and plays by Afro-American, Native American, and Chicano writers.

Th 3115. Introduction to Playwriting. (4 cr, §EngW 3110; UC only)
Introduction to playwriting techniques.

Th 3171, 3172, 3173. History of the Theatre. (4 cr per qtr; prereq 1101, theatre major) Kobialka
History of Western theatre and drama; theatrical practices, staging conventions and dramatic structure of plays. *3171*: Ancient Greece through Renaissance. *3172*: Neo-classicism through realism. *3173*: Naturalism to present.

Th 3321-3322. Intermediate Acting. (4 cr per qtr; prereq 1331, 1341, theatre major or written #)
Houfek, Reid
Integration of beginning acting, voice, and movement progressing to more advanced techniques and exercises in performance of scenes and monologues from modern drama.

Th 3323. Advanced Acting. (4 cr; prereq 3321-3322 or # by audition)
Integration of internal and external techniques in scenes from the classical repertoire.

Th 3341. Intermediate Voice Production. (2 cr; prereq 1341) Nash
Advanced techniques in breathing, tonal placement, vowel standardization and articulation applied to dramatic texts.

Th 3412Hf,w,s. Honors Course: Tutorial Seminar in Theatre Arts. (3-6 cr [limited to 3 cr for *cum laude*, *magna cum laude*; 3 to 6 cr for *summa cum laude*]; prereq candidate for honors in theatre arts, Δ)
Independent reading and research in preparing honors thesis or creative project.

Th 3513f,alt su. Technical Theatre Production I. (5 cr; prereq 1504) Brockman, Gwinup
Theory and practice of design and execution of stage scenery and properties. Lab.

Th 3515 s, alt su. Technical Theatre Production II. (5 cr; prereq 1504) Montgomery, staff
Theory and practice in design and execution of stage lighting and costuming. Lab.

Th 3711f,w,s,su. Introduction to Directing. (4 cr; prereq 1101, 1301 or 1321, 1504, major or minor) Kanee, staff

A creative approach to basic stage direction techniques, emphasizing elementary script analysis, rehearsal techniques, improvisation, blocking, and movement.

Th 3712f,w,s. Beginning Stage Direction. (4 cr; prereq 1504, 3711, jr or sr) Bellamy, Kanee
Theory of direction; concept and analysis. Short scene production techniques.

Th 3713. Intermediate Stage Direction. (4 cr; prereq 3712, jr or sr) Bellamy, Kanee
Analysis of scripts, study of dramatic structure, definition and study of genres and styles, discussion of rehearsal techniques and actor coaching. Rehearsal and production of scenes.

Th 3803f,w,s. Platform Performance. (4 cr; prereq management major)
Reading and analyzing selected poems, plays, and stories; interpreting literary insights through solo and group performance.

Th 3901. Theatre Arts/Dance Senior Seminar. (4 cr; prereq sr, theatre arts or dance major) Staff and guest artists
Seminar in contemporary perspectives on performing arts covering major 20th-century styles and forms such as dadaism, surrealism, futurism, expressionism, neo-romanticism, and performance art. Future directions in theatre and dance in the Twin Cities. Meets concurrently with Dnce 3901.

Th 3950. Topics in Theatre. (1-5 cr per qtr [12 cr max])
Independent study projects approved and supervised by a faculty member.

Th 5100f,w,s,su. Theatre Practicum. (1-6 cr per qtr; prereq #, Δ)
Individual creative projects in production of a play as an actor, designer, dramaturg, or playwright.

Th 5110f,w,s,su. Theatre Performance. (1 cr per qtr [9 cr max]; prereq written permission after casting and/or assignment to a production; S-N only) Montgomery
Participation in rehearsals and performances of a major University Theatre production. Credit awarded the quarter performance takes place.

Th 5115. Playwriting I. (4 cr, §EngW 5204; prereq written #)
Playwriting workshop for students with established competence.

Th 5116. Playwriting II. (4 cr, §EngW 5310; prereq 5115, written #) Staff or guest artist
Playwriting workshop for students with advanced competence.

Th 5131, 5132, 5133. Shakespeare. (4 cr per qtr; prereq 1101 or #) Norwood
Seminars in Shakespeare's plays from the perspectives of live theatre, staging in the theatre, and film/television productions. Video clips from selected plays will be examined. *5131: the Comedies and Romances. 5132: the Histories. 5133: the Tragedies.*

Th 5171, 5172, 5173. History of Theatre. (4 cr per qtr) Gadberry
Theatre as a mirror of society. Aesthetics, philosophy, and techniques of theatre arts. *5171: Origins to 1642. 5172: Renaissance to 1875. 5173: Theatre after 1875.*

Th 5181. Blacks in American Theatre. (4 cr, §Afro 5181) Bellamy
Historical survey of significant events in the development of American Black theatrical tradition; essays, plays, playwrights, and theatres from early colonial references to Black Arts Movement.

Th 5182. Contemporary Black Theatre: 1960-Present. (4 cr, §Afro 5182) Bellamy
Essays, plays, playwrights, and theatres that have contributed to contemporary Black theatre, from beginning of Black Arts Movement to present.

Th 5321. Career Preparation for Actors. (4 cr; prereq 3323 or grad)
Information and techniques necessary for professional acting careers.

Th 5322. Acting for the Camera. (4 cr; prereq 3322 or grad)
Differences between stage acting and acting for camera. Scenes enacted and played back on videotape for class critique. Students operate cameras.

Th 5331, 5332, 5333. Advanced Movement for Actors. (2 cr per qtr; prereq 3323, # by audition or grad) Hennem
Exploration of movement for advanced actors; awareness, flexibility, observation, releasing, mime and mask, improvisation, verbal and nonverbal physical techniques. *5331: Fundamentals. 5332: Intro to mime and mask. 5333: Mime and mask.*

Th 5334-5335. Stage Combat. (2 cr per qtr; prereq 3323, # by audition or grad) Hennem
Exploration of advanced movement techniques for the stage with focus on physical life of scenes of a violent nature. *5334: Unarmed combat. 5335: Armed combat.*

Th 5341. Shakespearean Text Analysis. (4 cr; prereq 3341, 3321-3322 or grad) Nash
Analysis and performance of Shakespearean text.

Th 5342. Singing for Musical Theatre. (2 cr; prereq 3321-3322, #) Nash
Analysis and performance of songs for musical theatre.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Th 5510. Drawing and Rendering for Theatre Designers. (2 cr; prereq 3513 or 3515 or grad, #) Brockman

Development of drawing and rendering skills necessary for presentation of scene and costume designs. Drawing in fall, rendering in spring.

Th 5511. Theatre Drafting and Graphics. (4 cr; prereq 3513, 3515 or equiv or #) Brockman, Gwinup, Montgomery

Practical study of drafting skills for theatre designer (scenery and lighting) and technical director. Interpretation of rendering, sketches, and models for realization on stage.

Th 5515. Design Composition and Collaboration. (4 cr; prereq 3513 or equiv, #) Brockman, Kanee

In-depth study of classical composition of art and its application to stage design and directing. Emphasis on creative development of good design composition through tools of classical composition and the organic collaborative process.

Th 5520. Scene Design. (4 cr [12 cr max]; prereq 3513, 5511, or #) Brockman

Theory and design of stage scenery. Development of the scenic model and rendering.

Th 5530. Costume Design. (4 cr; prereq 3515 or #) Brockman

Theory and design of costumes; special projects. Lab arranged.

Th 5532. Advanced Makeup for the Stage. (2 cr; prereq 1502 or equiv or grad)

Facial casting, prosthetics, and hair ventilating.

Th 5540. Lighting Design. (4 cr [12 cr max]; prereq 3515, 3711, 5511 or #) Montgomery

Theory of stage lighting design. Development of lighting plot and paperwork.

Th 5550. Theatre Sound Design. (2 cr; prereq 1504, 5564 or #) Gwinup

Theory and approaches to analysis and creation of auditory environment for theatrical productions.

Listening, psychoacoustics, microphone techniques, script analysis, projects. Lab arranged.

Th 5560. Theatre Crafts Practicum. (1-4 cr per qtr [6 cr max for undergrads]; prereq 3513 and/or 3515, Δ, #)

Individual creative projects that further practical skills and knowledge in specialized craft areas of theatre.

Th 5561. Stage Craft. (4 cr; prereq 3513, 5511, #) Gwinup

In-depth study and practical application of scenic materials, tools, and construction processes used in theatre today. Lab arranged.

Th 5562. Scene Painting Techniques. (4 cr; prereq 3513 or #) Brockman

Practical study of materials, layout, and painting techniques used in theatre. Emphasizes painting styles and texturing techniques.

Th 5563. Costume/Properties Crafts. (4 cr; prereq 3513 or grad) Gwinup, guest artists
Accessories, fabric enhancement techniques, materials, construction techniques, tools, and processes used in costume and properties crafts.

Th 5564. Lighting and Sound Technology for the Theatre. (2 or 4 cr; prereq 3515 or equiv)

Montgomery, Gwinup, guest artists
Lighting and sound technician's skills and crafts: equipment, techniques, control operation, wiring, and maintenance from practical standpoint in lighting and sound technology. Lab arranged.

Th 5711. Advanced Stage Direction. (4 cr; prereq 3713 or grad or #) Bellamy, Kanee

Dramatic forms. Theory of rehearsal; production challenges and direction of two one-act plays.

Th 5712. Stage Direction of Non-Realistic Theatre. (4 cr; prereq 5711, grad or #) Kanee

Theory, technique and production of 20th century non-realistic theatre from Beckett to Müller; direction of two one-act or extended scenes from the genre.

Th 5716. Stage Management for the Theatre. (4 cr; prereq 3711 or ¶3711 or grad) Montgomery

Stage management as a specialized area. Theories and techniques of rehearsal and performance, organization and management in educational, community, and professional theatres.

Th 5718. Theatre Management and Promotion. (4 cr; prereq 1504) Wagner

Introduction to the theory, problems, and solutions of administrative planning, budgeting, advertising, and publicity for the not-for-profit theatre.

Th 5720f,w,s. Plays in Production and Performance. (2-4 cr per qtr [6 cr max for undergrads]; prereq 5712, #, Δ) Kanee, staff

Work in the field with a community, high school, touring or professional theatre group, or on campus to further develop expertise as a stage director.

Th 5728. Theatre Management Problems: Audience and Financial Development. (2 cr; prereq 5718) Wagner

Practical analysis of audience and financial development problems in U.S. theatre. Concentration on various solutions.

Th 5760f,w,s. Advanced Stage Management. (1-3 cr per qtr [6 cr max for undergrads]; prereq 5716 or ¶5716, written permission) Montgomery

Practical experience in stage management for University Theatre productions; rehearsal and performance.

Th 5920-5950. Topics in Theatre. (1-5 cr per qtr [12 cr max])

Topics and instructors specified in *Class Schedule*.

Th 5970f,w,s,su. Directed Studies. (1-6 cr per qtr; prereq 9 cr theatre, #, Δ)

Guided individual reading or study.

Dance

B.A. Major Sequence—Dance

Major Requirements—1101, 3010f, 3020w, 3030s, 3311f, 3312w, 3313s, 3401, 3402, 3511, 3666, 3901

6 cr to be selected from 3700 or 5700

4 cr in 1110 or 3330

6 cr in technique electives

16 cr in dance related academic electives

B.F.A. Major Sequence—Dance

Major Requirements—1101, 3333, 3010f, 3020w, 3030s, 3040f, 3050w, 3060s, 3070f, 3080w, 3090s, 3311f, 3312w, 3313s, 3401, 3402, 3511, 3666, 3901, 5010f, 5020w, 5030s, 5312f, 5313w, 5314s, 5616

7 cr from 1110 or 3330

18 cr to be selected from 3700 or 5700

4 cr in Topics: Dance Production

8 cr in dance related academic electives and visual arts

7 cr in technique electives

Minor Sequence—Dance

Minor Requirements—1101f, 1010f, 1020w, 1030s, 3311f, 3312w, 3313s, 3401, 3402; 9 additional cr to be chosen at or above 3xxx courses

Dnce 1001-1002-1003. Fundamental Modern I-II-III. (1 cr per qtr; prereq audition or Δ for 1002, # or Δ or 1002 for 1003)

Introductory application of basic principles of expressive body movement: alignment, proprioceptiveness, body mechanics, weight, momentum, line, intent.

Dnce 1004-1005-1006. Fundamental Ballet I-II-III. (1 cr per qtr; prereq audition or Δ or 1004 for 1005, # or Δ or 1005 for 1006) Gilliland
Introduction to principles and basic technique and vocabulary of ballet; work consists of barre, center and allegro.

Dnce 1007-1008-1009. Fundamental Jazz I-II-III. (1 cr per qtr [2 cr max each]; prereq audition or Δ for 1007; # or Δ or 1007 for 1008, # or Δ or 1008 for 1009)
Introduction to basic jazz technique.

Dnce 1010-1020-1030. Beginning Modern I-II-III. (2 cr per qtr [4 cr max each]; prereq audition or Δ for 1010, # or Δ or 1010 for 1020, # or Δ or 1020 for 1030) Cheng

Continuation of physical training with introduction of theory of space, time and energy. Specific emphasis on correct placement, power from pelvic center, rotation/turnout, muscular tonality, articulation of joints, clarity of intent, physical stretch, strength and stamina.

Dnce 1031-1032-1033. Ballroom I-II-III. (1 cr per qtr; prereq 1031 for 1032, 1032 for 1033) Sealy
Elementary steps of the foxtrot, waltz, swing, cha-cha, and rumba, with introduction of principles of partnering. Second quarter will focus on more advanced patterns and introduce the tango and samba. Third quarter will introduce the mamba and bolero with additional work on partnering, style and phrasing.

Dnce 1034-1035. International Folk I-II. (1 cr per qtr) Maddux
Introduction to basic folk steps including the schottische, polka, waltz and grapevine, technical emphasis on footwork and partnering.

Dnce 1040-1050-1060. Beginning Ballet I-II-III. (2 cr per qtr [4 cr max each]; prereq audition or Δ for 1040, # or Δ or 1040 for 1050, # or Δ or 1050 for 1060) Mathis
Continuation of fundamental training with added emphasis on correct placement, line and historical development; barre, center and allegro work of greater complexity.

Dnce 1070-1080-1090. Beginning Jazz I-II-III. (1 cr per qtr [2 cr max each]; prereq audition or Δ for 1070, # or Δ or 1070 for 1080, # or Δ or 1080 for 1090) Sealy
Continuing basic jazz technique with emphasis on body isolations, placement and musicality.

Dnce 1101. Introduction to Dance. (4 cr) Barker
Survey of the history and theory of dance in all its forms and all its aspects.

Dnce 1110. Topics in Dance Theory. (1-2 cr)
Topics specified in *Class Schedule*.

Dnce 3010-3020-3030. Intermediate Modern I-II-III (2 cr per qtr [4 cr max each]; prereq audition or Δ for 3010, # or Δ or 3010 for 3020, # or Δ or 3020 for 3030) Smith
Expansion of movement vocabulary and physical range. Intensive work on articulation of spine, feet, legs and arms; greater speed, amplitude, power; longer dance phrases; more complex turns, balances, elevations.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

Dnce 3040-3050-3060. Intermediate Ballet I-II-III. (2 cr per qtr [4 cr max each]; prereq audition or Δ for 3040, # or Δ or 3040 for 3050, # or Δ or 3050 for 3060) Gilliland

Continuation of beginning technique with additional emphasis on stretch, strength, balance and musicality; longer phrases in adagio and allegro work; more complex elevations in petit allegro; practical work is conducted in context of study of technical development of ballet.

Dnce 3070-3080-3090. Intermediate Jazz I-II-III. (1 cr per qtr [2 cr max each]; prereq audition or Δ for 3070, # or Δ or 3070 for 3080, # or Δ or 3080 for 3090) Young

Continuation of beginning jazz technique with development of more complicated rhythm structures, longer phrases and greater physical speed, attack and control.

Dnce 3311-3312-3313. Composition I-II-III. (2 cr for 3311, 3 cr for 3312, 3313; prereq 1030 or # or Δ for 3311, # or Δ or 3311 for 3312, # or Δ or 3312 for 3313) Cheng

Exploration of movement vocabulary in relation to theme, space, time, energy and body parts; introductory work on solo, duet and trio forms.

Dnce 3330. Topics in Dance Theory. (1-2 cr; prereq 1030)

Topics specified in *Class Schedule*.

Dnce 3333. The Articulate Body: Kinesiology and Biodynamics of Dance. (4 cr; prereq dance major or minor, Δ) Gleason

Lectures and movement sessions in biodynamic considerations for optimal dance performance and metabolic demands of dance.

Dnce 3401. Dance History I. (4 cr; prereq 1101) Human expression from its mystical and ritualistic functions in dance to a development toward dance as a theatre art beginning with primitive society to the Renaissance.

Dnce 3402. Dance History II. (4 cr; prereq 1101) Barker

Major theatre dance works; dancers and choreographers from the Renaissance to the present.

Dnce 3486. Ethnic Dance Traditions in American Society. (4 cr) Maddux
Survey of traditional dances as preserved and transformed by Native Americans, Afro-Americans, Latinos, Asian-Americans and Euro-Americans. Emphasis on interpretation of the roles in these cultures.

Dnce 3511. Music for Dance. (4 cr; prereq 1003, 1006 or equiv) Gordon

Elements of music theory, form, analysis, and history necessary for the dancer and choreographer.

Dnce 3666. Dance Philosophy and Esthetics. (4 cr; prereq 3401, 3402) Barker

Major developments in Western philosophic thought on dance and dance theory from its beginnings to present.

Dnce 3700. Dance Repertory Theatre and Reconstruction. (3 cr; prereq must be enrolled in a technique class, audition) Shapiro, Smith
Construction of a dance theatre work under the direction of a guest choreographer. Credit awarded the quarter performance takes place.

Dnce 3901. Theatre Arts/Dance Senior Seminar. (4 cr; meets with Th 3901; prereq sr standing in theatre arts or dance) Cheng, Killacky
Contemporary perspectives on performing arts covering major 20th-century styles and forms such as Dadaism, surrealism, futurism, Expressionism, Neo-Romanticism, and performance art. Future directions in theatre and dance as manifested in Twin Cities productions. Meets concurrently with Th 3901.

Dnce 5010-5020-5030. Advanced Modern I-II-III. (3 cr per qtr [9 cr max each]; prereq audition or Δ for 5010, # or Δ or 5010 for 5020, # or Δ or 5020 for 5030) Cowles, guest artists

Continuation of technical development with emphasis on performance range and style. Students study with 5-6 guest artists of renown with disparate aesthetics and technical styles.

Dnce 5040-5050-5060. Advanced Ballet I-II-III. (2 cr per qtr [6 cr max each]; prereq audition or Δ for 5040, # or Δ or 5040 for 5050, # or Δ or 5050 for 5060) Mathis

Continuation of intermediate technique with additional emphasis on musicality, performance, and stylistic differences. Practical work is conducted within context of study of choreographic and aesthetic development of ballet.

Dnce 5070-5080-5090. Advanced Jazz I-II-III. (1 cr per qtr [3 cr max each]; prereq audition or Δ for 5070, # or Δ or 5070 for 5080, # or Δ or 5080 for 5090) Buraczkeski, Sealy

Continuation of intermediate jazz technique with additional work on syncopation, performance projection and specific jazz styles: swing, bebop, lyrical, funk, Latin.

Dnce 5100. Dance Practicum. (1-6 cr; prereq #, Δ)
Arranged individual creative projects in dance.

Dnce 5312-5313-5314. Composition IV-V-VI. (3 cr per qtr; prereq Δ or 3313 for 5312, Δ or 5312 for 5313, Δ or 5313 for 5314) Smith

Continuation of exploration of movement vocabulary through improvisation, analysis of form and structure, experimentation with tone and performance persona, exploration of effects of lights/costumes/text/props/music, development of larger ensemble works.

Dnce 5487. World Dance Studies. (4 cr) Maddux
Study of dance as art, ritual, social activity and entertainment in selected cultures of Asia, Africa, the Americas and Eastern Europe. Comparative analysis from historical, visual and ethnological perspective.

Dnce 5616. Teaching Modern Dance. (4 cr; prereq # or Δ and intermediate level competency in modern) Maddux
Study and practice of principles and methods of dance pedagogy.

Dnce 5700. Dance Performance. (3 cr; must be enrolled in a technique class, audition) Shapiro, Smith
Performance of dance theatre work constructed by faculty and guest choreographer.

Dnce 5910. Topics in Dance: Choreographic Workshop. (3 cr; prereq #)
Creation of a dance under supervision of faculty member.

Turkish

See Institute of Linguistics and Asian and Slavic Languages and Literatures.

Urban Studies (UrbS)

Staff—*Director*, Judith Martin, 348 Social Sciences Building

Adjunct Faculty—*Professors*: J. Adams (Geography and Humphrey Institute), Berman (History), Clemence (Architecture), Galaskiewicz (Sociology), Scott (Political Science), Sheppard (Geography), Wattenberg (Social Work)

Associate Professors: Archer (Cultural Studies and Comparative Literature), Brewer (Afro-American Studies), Goetz (Housing), Leitner (Geography), Miller (Geography)

This cross-disciplinary major involves urban studies coursework, fieldwork experiences, and introductory work in a number of disciplines that offer useful perspectives on contemporary urban and postindustrial society. Two degree options are offered. They focus on the conceptual and analytical frameworks and specialized skills necessary to enter professions focused on urban change or development in public agencies or private business or to undertake graduate study in urban planning, law, social welfare, public affairs, or the social and environmental sciences. The urban studies advising office offers students help in choosing a degree plan and provides current information about courses, research, and fieldwork opportunities.

Overseas and U.S. Off-Campus Study—Students are encouraged to incorporate field study into the major or minor. Among the

relevant options are HECUA-sponsored urban studies programs in Colombia, Norway, and the Twin Cities. In addition, many opportunities exist for internships and independent field research projects. See also Foreign Study.

B.A. and B.S. Degree Programs

You may choose one of two urban studies degree options, depending on your career plans. Both the B.A. and the B.S. require coursework focusing on urban form and society, with additional credits from areas such as cultural analysis and political economy and infrastructure. Both degrees also require an internship and a senior paper. The B.S. requires substantive quantitative skills coursework. Depending on the degree track chosen, the required number of major program credits ranges from 56 to 68.

Although you will develop an individual major program, all students will complete certain courses within the program: an introductory course, two urban studies colloquia, and two workshops. The *Urban Studies Program Booklet*, available from the department, contains a listing of required and recommended courses for each of the degree options as well as urban-related course offerings in other University departments that can be used to fulfill various urban studies requirements.

Minor Sequence

Minor Requirements—19-21 cr, including 3104, 3500, 3101 or 3102 or 3103, electives

UrbS 3101f, 3102w, 3103s. Urban Studies Colloquia. (2 cr per qtr; prereq Δ)
Introduction to urban problems and problem-solving techniques.

UrbS 3104. Introduction to Urban Studies. (4 cr; prereq #: A-F only) Martin
Introduction to the field for urban studies sophomores and those considering an urban studies major. Lectures and discussions to integrate the diverse aspects of urban studies.

UrbS 3301. American Cities: Settings for Cultural Pluralism. (4 cr; prereq #)
Exploration of the potential that U.S. cities hold for nurturing cultural pluralism. Explores the problems, conflicts, and successes of pluralistic efforts in our cities.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

UrbS 3500f,w,s. Workshops. (4 cr per qtr; prereq jr or sr, #)

Project-focused workshops, usually with substantial field experience components.

UrbS 3900f,w,s. Internship. (1-6 cr per qtr [12 cr max]; prereq jr or sr, Δ)

Internships arranged for any quarter or summer term. A weekly seminar to integrate the internship experience with the academic program should be taken during the internship.

UrbS 3970. Directed Studies. (2-6 cr; prereq Δ)
Guided individual reading or study.

Wolof

See Afro-American and African Studies.

Women's Studies (WoSt)

Staff—Chair, Jacquelyn Zita, 492 Ford Hall; Director of Undergraduate Studies, Naomi Scheman, 483 Ford Hall; Director of Graduate Studies, Helen Longino, 326 Ford Hall

Professors: Faunce (Women's Studies, Psychology), Kaminsky (Women's Studies), Longino (Women's Studies), McNaron (English, Women's Studies), Scheman (Philosophy, Women's Studies)

Associate Professors: Geiger (Women's Studies), Reyes (Women's Studies), Zita (Women's Studies)

Adjunct Faculty

Professors: Bridwell-Bowles (English), Campbell (Speech-Communication), S. Evans (History), Fellows (Law School), Garner (English), Joeres (German, Scandinavian, and Dutch), Junghare (South Asian and Middle Eastern Studies), Laslett (Sociology), Loeffler (University Counseling Services), E. May (American Studies), Maynes (History), Miner (English), Noakes (French and Italian), Quam (Social Work), Robinson (Architecture), Wahlstrom (Rhetoric)

Associate Professors: Albrecht (General College), Brewer (Afro-American and African Studies, Women's Studies), Damon (English), Jones (Social Work), Kane (Kinesiology), Kenney (Humphrey Institute), Messer-Davidow (English), O'Connell (Spanish and Portuguese), Prell (American Studies), Rabinowitz (English), Schiappa (Speech-Communication), Sheldon (Speech-Communication), Sivert (French and Italian), Sullivan (Spanish and

Portuguese), Turner (Educational Policy and Administration), Waltner (History)

Assistant Professors: Disch (Political Science), Norling (History), Pierce (Sociology)

Lecturers: Barceló, Katz, Knutson, D. Marquit, Ringdahl, Rubright, Wolford

Visiting Professor: Schissler (German, Scandinavian, and Dutch, History)

The Women's Studies Department addresses the University community's need to develop feminist perspectives through multidisciplinary and multicultural approaches to the study of women.

The quarterly *Class Schedule* gives information about topics courses and new courses. A *Course Guide* describing each year's courses is available from the director of undergraduate studies, 483 Ford Hall. All Women's Studies courses except 3901, 3902, and 3960 may be taken through UC.

Honors Program—Qualified majors are encouraged to participate in the department's honors program. The program is flexible in meeting student needs and offers courses with Honors credit.

Overseas and U.S. Off-Campus Study

Students are encouraged to incorporate field or overseas classroom study into their program. Study in another country can enhance comparative understanding of women's issues. For information, consult the Director of Undergraduate Studies, 483 Ford Hall; see also Foreign Study.

B.A. Major Sequences

Required Preparatory Courses—1001 and 3002 or 3003

Major Requirements—48 cr in advisor-approved courses, including 3102, 5101, a 3xxx or 5xxx course that focuses on women and U.S. cultural diversity, a 5xxx course from an approved list of theoretically focused courses, 3901, and either 3902 or 3960.

Majors may take a maximum of 12 cr in Topics courses (3100, 5100, 3200, 5200, 3300, 5300, 3400, 5400, 3500, 5500, 3600, 5600).

Prospective majors should consult the *Women's Studies Handbook*. The handbook and other useful resources may be obtained from the Women's Studies office.

Minor Sequence

Required Preparatory Courses—1001

Minor Requirements—Minimum of 20 3xxx-5xxx cr

Course selections must be approved by a Women's Studies adviser.

Introductions to Women's Studies

WoSt 1001. Introduction to Women's Studies. (4 cr)

Introduction to the study and analysis of the current and rapidly changing conditions of women in the world; includes U.S. multicultural and international perspectives, but mostly focused on the experiences and histories of women in the Western world.

WoSt 3002 (formerly 1002). Women and U.S. Multicultural Studies. (4 cr)

Focus on women in one or two (possibly three) U.S. minority and ethnic cultures. Experiences, literatures, artistic productions, and economic, political, and social contributions developed by U.S. women of color.

WoSt 3003 (formerly 1003). Women in World Cultures. (4 cr)

The lives of women in non-Western societies, including their economic, political, and social contributions, familial roles, and status in society.

Feminist Thought, Theory, and Methods

WoSt 3100. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 3102. Feminist Thought and Theory. (4 cr)
Representative feminist theories and their relation to social and political action.

WoSt 3103. Feminist Approaches to History. (4 cr)

A comparative look at issues and problems in the study of women's history. Theoretical approaches, documents, and sources (written, oral, statistical) for understanding women's experience.

WoSt 3104. Feminist Expository Writing. (4 cr, §Comp 3051; prereq completion of writing practice requirement, jr)

Stages of composing process; similarities and differences between feminist and traditional expository language and structure; improves skills for analytical and critical thinkers.

WoSt 5100. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 5101. History of Western Feminism. (4 cr; prereq 1001, 3002 or 3003)

Feminist thought and movements; feminist politics since 1790, especially in the United States and Great Britain; other international references.

WoSt 5103. Feminist Pedagogies. (4 cr; prereq 8 cr women's studies or #)

Theory and practice of feminist teaching and learning as a system of inquiry. Emphasizes challenges raised by the diversity of women's experiences and perspectives.

WoSt 5106. The Cultural Construction of Sex, Gender, and Sexuality. (4 cr; prereq 12 cr women's studies for undergrad or CAFS student or #)

Investigation of Euro-American concepts of sex, gender, and sexuality in representative texts and images from the 17th century to the present. Critical and source materials from literary and cultural studies, history, biology, anthropology, psychology, and sociology.

WoSt 5107. Feminist Criticism of Concepts of the Self. (4 cr; prereq 12 cr women's studies or substantial work in phil or religious studies or soc sci or psych or #)

Traditional views and feminist alternatives concerning the self and related notions, such as human nature, individualism, and transcendence, as expressed in philosophy, religion, morality, politics, art, and psychology.

Women's Biology, Psychology, and Sexuality

WoSt 3200. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 3202. BIOLOGY OF WOMEN. (4 cr)
Physiology, anatomy, and endocrine aspects of women's life cycles.

WoSt 3203. Biology, Race, and Gender. (4 cr; prereq 3202 or #)
Critical study of biological methods and theories used to explain and justify the social relations of race and gender.

WoSt 3204. Sexuality and Self-Image. (4 cr; prereq 1001, 3002 or 3003 or #)
Social attitudes toward sexuality and how they influence our sense of self. Focus on art, pornography, sexual violence, psychosexual development, sexual identity, and political economy.

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MAJOR REQUIREMENTS AND COURSE DESCRIPTIONS

WoSt 3205. Woman: A Sense of Identity. (4 cr, §5205; UC only)
Sex roles (social expectations, personal values, and personal behaviors). Applications of success analysis, strength identification, communication training, goal setting, and behavior rehearsal to affirm and develop the potential of women.

WoSt 3206. Women and Madness in History and Literature. (4 cr, §5206; prereq 4 cr women's studies or #)
Forum for discussion of prescriptive application of label of "madness" to women since the 19th century. Literature, case studies, and critical and theoretical texts.

WoSt 5200. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 5201. The Older Woman: A Feminist Perspective. (4 cr; prereq 12 cr women's studies or substantial work in soc sci or psych or #)
Changing roles of older women in our society and problems unique to them, including societal, health, economic, familial, emotional, sexual, and political concerns.

WoSt 5202. Feminist Therapies. (4 cr)
Sexism in theoretical views of women and therapy; emerging views of alternative therapeutic approaches for women. Resources include feminist behavioral/social sciences research and literature; biographies, essays, and cases regarding women's lives; community resource persons.

WoSt 5203. Women, Feminism, and Power. (4 cr; prereq 12 cr women's studies or #)
Exploration and development of feminist conceptualizations of power, including personal power, empowerment, spirituality, networking, civil disobedience, holism, and utopias.

WoSt 5205. Woman: A Sense of Identity. (4 cr, §3205; UC only)
For description, see WoSt 3205.

WoSt 5206. Women and Madness in History and Literature. (4 cr, §3206; prereq jr)
For description, see WoSt 3206.

Women in Literature and the Arts

WoSt 3300. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 3303. Women and Literature. (4 cr; prereq intro work in literature)
Women as authors, characters, and readers with focus on "classic" texts. Attention to culturally diverse literary traditions. Introduction to feminist literary criticism.

WoSt 3304. Women and the Arts. (4 cr; prereq intro work in music or art or drama or dance or film or other arts)
Works of art by or about women. Focus may be on one or more of several forms of artistic expression.

WoSt 3305. Women and Language. (4 cr)
Women's use of language, sexism in language, contrast of usage and patterns of verbal and nonverbal language by women and men, feminist critiques of language, and evaluations of proposals for language reforms or radical linguistic change.

WoSt 3306. U. S. Minority Women Writers. (4 cr; prereq 8 cr women's studies or [4 cr women's studies, 4 cr literature or American studies or Chicano studies or Afro-American studies or American Indian studies])
Analysis of poetry, fiction, and drama written by minority women in the United States.

WoSt 3307. Modern Feminist Novel. (4 cr; prereq intro work in literature)
Analysis of fiction written by women that addresses questions of women's identity and the diversity of women's experience.

WoSt 3308/H. Women Writers of Africa and Latin America. (4 cr, §5308; prereq 8 cr women's studies and/or Latin American studies or Afro-American studies or #)
Novels, short stories, poetry, and/or drama by contemporary African and Latin American women in the context of gender analysis and the history of colonialism.

WoSt 3309. Contemporary Women's Short Fiction. (4 cr; prereq intro work in literature)
Short fiction of contemporary women (written in English or in English translation). Authors such as Atwood, Cisneros, Erdrich, Gordimer, Lessing, Walker. Changing forms of the short story, primarily 20th century; popular "genre" fiction; role of independent presses in broadening literary canon.

WoSt 5300. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 5301/H. Women's Autobiographical Narratives. (4 cr; prereq 12 cr women's studies or literature or #)
Women's autobiographical narratives from various theoretical, cultural, stylistic, and postcolonial feminist perspectives. Texts include autobiographical essays, letters, diaries, journals, formal autobiographies, and life stories.

WoSt 5308/H. Women Writers of Africa and Latin America. (4 cr; §3308; prereq 8 cr women's studies and/or Latin American studies or Afro-American studies or #)
See WoSt 3308 for description.

Comparative Study of Women

WoSt 3400. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 3403. Jewish Women in the United States. (4 cr)
Analysis of the cultural, social, economic, and religious conditions of European Jewry and American society in the 19th and 20th centuries that have structured the lives of American Jewish women; documentation of their perspectives on that process.

WoSt 3404. Lesbian Cultures. (4 cr; prereq 8 cr women's studies)
Theoretical and historical readings combined with literature, music, and art; emphasis placed on diverse contexts within which lesbian cultures exist.

WoSt 3405. Latin American Women's Lives. (4 cr; prereq 1001, 3002 or 3003 or LA 3131 or #)
Interdisciplinary study of women in a variety of Latin American countries; focuses on issues of race, sexuality, education, class, and ethnicity.

WoSt 3406. Women, Race, and Class in the U.S. (4 cr; prereq 1001, 3002 or 3003 or major or #)
In-depth historical analysis of social constructions of race, class, and gender. Examination of racism, class bias, and sexism as systems of oppression that relate to anti-Semitism and heterosexism.

WoSt 5400. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 5401. Women, Colonialism, and Underdevelopment. (4 cr)
Impact of colonial domination and economic underdevelopment on Third World women's lives; strategies employed by women to resist, survive, and overcome oppressive conditions.

WoSt 5402. Women and Contemporary American Spirituality. (4 cr; prereq 8 cr women's studies or grad or #)
Present-day American women's spiritual consciousness and participation in religious institutions and religious movements. New forms of women's spiritual/religious knowledge and beliefs, quests, and expressions of them; their history and sources.

Women, Public Policy, and the Law

WoSt 3500. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 5500. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 5501. Women and the Law. (4 cr)
The legal system as it relates to women. Areas of criminal law, welfare law, employment law, corporate law, alternative delivery systems for legal service, and legal education.

WoSt 5502. Women and Public Policy. (4 cr; prereq 1001, 3002 or 3003 or #)
A survey of public policy issues of special concern to women in the United States.

Women and Work

WoSt 3600. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 5600. Topics in Women's Studies. (4 cr per qtr [12 cr max])
Topics specified in *Class Schedule*.

WoSt 5601. Gender and Class. (4 cr; prereq 1001, 3002 or 3003 or 12 cr women's studies)
Interactions between gender roles and social class in a historical and comparative perspective; course topics introduce concepts and methods of gender and class analysis, women's work and economic systems, domestic work, social reproduction, feminism, and socialism.

WoSt 5602. Working Class Women's Lives. (4 cr; prereq 12 cr women's studies or #)
Social, historical, economic, and ideological influences/effects of women's participation in wage labor. Multidisciplinary study of impact of class, race, ethnicity, and gender on employment issues; protective legislation, job segregation, comparable worth, trade unions; women's experiences in the workplace, child-rearing, and family life.

Senior Seminars (required for Women's Studies majors)

WoSt 3901/H. Senior Seminar: Feminist Research Methods. (4 cr; prereq jr or sr WoSt major, Δ, priority given to graduating srs)
Developing library research, critical thinking, and data collection skills for senior project. Internet research skills, oral history and focus group methods, and strategies for reviewing and organizing scientific literature.

WoSt 3902/H. Senior Seminar: Writing the Senior Project. (4 cr; prereq WoSt 3901, jr or sr WoSt major, Δ, priority given to graduating srs)
Writing seminar for senior research projects.

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Directed Study, Research, and Internship Courses

WoSt 3960. Field Learning in Women's Studies. (4 cr per qtr [8 cr max]; prereq 1001, 3002 or 3003, one additional 3xxx WoSt course, Δ)

A seminar that includes internship placement with agencies and organizations that serve women or deal with issues of concern to women.

WoSt 3970. Directed Studies. (1-15 cr per qtr; prereq #, Δ)

Individualized reading or study with faculty supervisor.

WoSt 3980. Directed Instruction. (1-5 cr per qtr; prereq #, Δ)

Undergraduates serve as teaching assistants.

WoSt 5970. Directed Studies. (1-5 cr per qtr [12 cr max]; prereq #, Δ)

For description, see WoSt 3970.

Zoology

Courses in zoology may be found in the listings of the Department of Ecology, Evolution, and Behavior and the Department of Genetics and Cell Biology.

This is the CLA Preparation for Degree Work in Other Colleges and Administration and Faculty sections from the 1996-1999 University of Minnesota College of Liberal Arts Bulletin.

Undergraduate study in the College of Liberal Arts or a comparable institution is necessary for admission to many baccalaureate or professional degree programs, at Minnesota or elsewhere, and to graduate programs without exception. The requirements commonly include English composition and minimum GPAs (the minimums required depend on the competitiveness of the program). Other requirements vary; consultation with the appropriate office and examination of specific college or program bulletins concerning questions—for example, the acceptability of S-N grades for graduate admissions—is always advisable.

Admission and achievement policies of University of Minnesota professional and advanced programs that involve CLA preparatory study are described briefly in the following pages. Bulletins of most University colleges and programs are available in the Office of Admissions, University of Minnesota, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455-0213 (612/625-2008).

College of Architecture and Landscape Architecture

The College of Architecture and Landscape Architecture (CALA) offers a preprofessional undergraduate degree through CLA, the B.A. with a major in architecture. The M.Arch., with professional and post-professional tracks available, is offered by CALA through the Graduate School. Admission to the B.A. major in architecture is competitive, requiring completion of two years of prerequisite work with a minimum GPA of 2.50 in order to declare the major. Students are admitted to the major quarterly. CALA also offers three degrees in landscape architecture: the preprofessional B.E.D., the professional degree, the M.L.A., and the research oriented M.S. through the Graduate School. Students may complete the two years of prerequisite work for the B.E.D. in either CLA or the College of Agricultural, Food, and Environmental Sciences. Information about CALA's degree programs is available from the college at 110 Architecture Building, 89 Church Street S.E., Minneapolis, MN 55455 (612/626-1000); e-mail: uaskcala@maroon.tc.umn.edu.

College of Biological Sciences

The College of Biological Sciences (CBS) is an upper division college that students may enter during their sophomore, junior, or senior year. CBS offers the B.S. degree with majors in biochemistry; biology; ecology, evolution, and behavior; genetics and cell biology; microbiology; and plant biology. An individually designed program also is available for those students with special interests. All majors require a common core of biology, chemistry, physics, and mathematics courses.

As soon as you decide to major in a bioscience area, you should contact an adviser in the college's Student Services Advising Office, University of Minnesota, 223 Snyder Hall, 1475 Gortner Avenue, St. Paul, MN 55108 (612/624-9717). You will register as a pre-biology major until you complete certain prerequisites for admission.

Specific requirements for admission to CBS include a minimum of 84 quarter credits (with grades of C or better), including a general biology course (Biol 1009 or Biol 1202) and two quarters each of general chemistry (Chem 1051-1052 or equivalent) and calculus (Math 1251-1252 or equivalent).

Students admitted as sophomores will be required to complete a minimum of 40 credits with a GPA of 2.50 or better, including grades of C or better in Chem 1051-1052 (or equivalent), Math 1251 (or equivalent), and a college-level biology course.

You are strongly encouraged, especially if you are transferring from another institution, to complete the third quarter of calculus (Math 1261 or equivalent) before your first quarter of enrollment in CBS. Biochemistry majors also are required to complete Math 3251 or equivalent for graduation.

Bachelor of arts degrees in biology, microbiology, and physiology may be earned in CLA. See the listings for these programs in the second section of this bulletin.

School of Dentistry

Admission—The program in dentistry for the D.D.S. degree admits a beginning class once a year in the fall. A minimum of 130 quarter credits of liberal arts courses from an accredited U.S. or Canadian college is required. A maximum of 96 quarter credits from

community or junior colleges will be included in the credits required for application. Although acceptance is based primarily on performance quality, applicants are encouraged to have a broad liberal education.

An overall GPA of 2.50 is the minimum required for admission consideration. However, admission is competitive; GPAs of admitted students are usually well above 2.50.

Information about courses and credits required for applying is available from the School of Dentistry and CLA Premajor Advising, 30 Johnston Hall (612/624-9006).

Admission Tests—The required Dental Admission Test (DAT) should be taken soon after required science courses are completed and one year before the desired admission date. Applications for the DAT may be obtained from the School of Dentistry or the CLA Premajor Advising.

Residence Requirements—First priority is given to Minnesota residents, second to residents of neighboring states or provinces with which the University of Minnesota has contract or reciprocity agreements or special tuition arrangements, and third to other nonresidents who have acceptable reasons for attending the University of Minnesota School of Dentistry.

English Proficiency Requirement—The School of Dentistry requires that all applicants who are not native speakers of English submit written evidence of their proficiency in English.

Early Admission—The University of Minnesota School of Dentistry offers an early admission program for prospective applicants. To be considered for early admission, qualified applicants must complete at least one year of college, including science coursework. For further details, contact the School of Dentistry (612/625-7149).

Further information about application procedures, admission, qualifications, and related matters may be obtained from CLA Premajor Advising, 30 Johnston Hall; the School of Dentistry, Office of Enrollment Management, 15-106 Malcolm Moos Health Sciences Tower; or the *School of Dentistry Bulletin*, available from the University's Office of Admissions.

Division of Dental Hygiene

A four-year curriculum in dental hygiene leads to the bachelor of science degree.

After completing the required preprofessional courses in CLA or another accepted institution with satisfactory academic performance, you may apply to the professional program. The three years of the professional program are spent in the School of Dentistry Division of Dental Hygiene.

For information about admissions, consult advisers in the Dental Hygiene Office, 9-436 Moos Tower (612/625-9121), or in CLA Premajor Advising, 30 Johnston Hall (612/624-9006). Details about the program are available in the *School of Dentistry Bulletin*.

College of Education and Human Development

Preparation to be a teacher is but one of many options available to students in the College of Education and Human Development. Students can prepare for careers in government, business, and community settings as well as for careers in education, in either formal or informal settings.

Undergraduate programs—Undergraduates whose career goal is to work in informal educational settings can transfer into college programs after one to two years of preparatory coursework. These programs include agricultural development, industrial education, kinesiology, and recreation.

Undergraduates who want to work in formal educational settings can pursue licensure programs in agricultural education or natural and managed environmental systems. Or, they can earn bachelor's degrees that lead directly to initial licensure at the master's level for teaching in an urban elementary classroom or for teaching mathematics.

Master of Education/Initial Licensure programs—Students seeking K-12 teacher licensure must first earn a bachelor's degree (e.g., B.A., B.S.) in a major field related to the area in which they wish to teach. They then may select one of the many licensure areas within the M.Ed. degree program. These areas include agricultural education; business and marketing education; industrial education; early childhood; family education; physical education; and teaching in art,

elementary, English, mathematics, science, second languages and cultures, and social studies education.

Admission—Admission to the College of Education and Human Development is competitive and based on a variety of criteria. Beyond the general admission guidelines set by the college, other qualifications, including leadership skills, prior experience working with appropriately-aged people and people from diverse cultural backgrounds, and related work experience (paid or volunteer) are normally expected. The college is committed to recruiting, enrolling, and educating a diverse population of students who represent the overall composition of our society.

For more information—such as managing the transition to programs in the college, admission criteria and procedures, application dates and materials, or other M.Ed. and advanced study programs (M.A., Ph.D., Ed.D.)—contact Student and Professional Services for the College of Education and Human Development, University of Minnesota, 110 Wulling Hall, 86 Pleasant St. S.E., Minneapolis, MN 55455 (612/625-6501).

School of Journalism and Mass Communication

The Mass Communication M.A. program focuses on the theoretical study of mass communication and emphasizes analysis of the processes and structure of media systems. It prepares students for careers in communication, policy, research, or teaching at the community college level. Students in this program may also plan programs that form the initial stages of doctoral study. This may include work in such areas as public opinion formation, mass media and society, international communication, and history and development of mass media. The doctoral program offers training for academic careers in communication, research, or communication policy. Areas of specialization include communication law and regulation, media ethics, history of mass communication, international mass communication, and media influences.

Additional information is available from the Director of Graduate Studies, School of Journalism and Mass Communication, 111 Murphy Hall, 206 Church Street S.E., Minneapolis, MN 55455 (612/625-4054).

Law School

Admission and Law Degree Requirements—The Law School offers the professional degree *juris doctor* (J.D.), which qualifies graduates to take the bar examination for admission to practice. The course of study requires three academic years in the Law School.

Admission to the Law School requires a bachelor's degree or its equivalent. No particular prelaw college program is recommended; in fact, the Law School is interested in a student body with varied backgrounds and you are encouraged to follow your own interests in choosing an undergraduate major. Admission applications must be submitted at least by March 1 for the class entering the school the following August. Applications are processed on a rolling admission basis; applicants are encouraged to submit all required materials as early as November 1.

Information about admission requirements and the Law School program may be found in the *Law School Bulletin*. Information pamphlets and applications for the LSAT are available in the Law School office of admissions (290 Law Center; 612/625-5005); University Counseling Services, 101 Eddy Hall; or Law Services, Box 2000, Newtown, PA 18940.

Carlson School of Management

A baccalaureate degree from the Carlson School of Management (CSOM) combines management and liberal arts coursework to provide strong communication, analytical, and creative problem-solving skills. CSOM offers programs leading to the bachelor of science in business (B.S.B.) with eight majors.

The Carlson School is now a freshman-admitting college. The first freshmen class of approximately 200 students will be welcomed in fall 1996. The following fall (1997), an additional 80 students will be admitted as sophomores. About 120 students will continue to be admitted each year as juniors.

For sophomore and junior applicants, the college GPA, essays, and activities and achievements will be the key admission criteria.

The lower-division program includes both liberal education requirement and introductory coursework in accounting, economics,

computing, and statistics. A baccalaureate degree from the Carlson School prepares students for a wide range of management and leadership positions in business, government, and the nonprofit sector, and provides solid preparation for graduate school in such areas as law, public affairs, and business.

See the *Carlson School of Management Bulletin* for details.

Lower Division Major Requirements—

Students must complete 90 credits, including liberal education and specific lower division major requirements, before applying for admission to CSOM. The CSOM undergraduate curriculum is currently being reviewed and revised. Contact your college advising office or the CSOM student services office, 290 Hubert H. Humphrey Center, for the most current information.

Medical School

Students seeking admission to the Medical School must first complete a bachelor's degree. Degrees from any area of study are acceptable provided appropriate premedicine courses are completed. After earning a bachelor's degree, students will spend four years in medical school and can then plan on three to seven more years, depending on the area of specialization desired in residency training.

The Medical School admits students for fall term only; applications must be received 12 to 18 months before the desired date of admission. Students interested in applying to the three medical schools in Minnesota (Duluth, Minneapolis, and Mayo) must apply between June 15 and November 15 for the following fall.

Admission to medical school is competitive. More than 3,000 students applied for the University of Minnesota-Minneapolis Medical School's first-year class of 1995. The overall GPA for admitted students was 3.56; the average Medical College Admissions Test composite score was 30.

When reviewing applications, Medical School admissions committees consider overall GPA; biology, chemistry, math, and physics GPAs; Medical College Admissions Test scores; personal statement; service-oriented experience (in paid or volunteer settings);

letters of evaluation from faculty, employers, and peers; and the individual interview.

Students interested in premedical program planning and guidance in applying to the Medical School should contact CLA Premajor Advising, University of Minnesota, 30 Johnston Hall, 101 Pleasant St. S.E., Minneapolis, MN 55455 (612/624-9006).

Division of Medical Technology

The baccalaureate program in medical technology leads to the B.S. degree.

After completing 90 CLA credits, including all required courses, with satisfactory academic performance, you may apply for admission to the professional program. The professional program encompasses eight quarters, and may be accelerated to 15 months for those students who already hold a baccalaureate degree and have completed required coursework.

The *Allied Health Programs Bulletin*, available from the University's Office of Admissions, contains a suggested program for the first two years of preprofessional study. You may also consult advisers in the Medical Technology Office, 15-170 Phillips-Wangensteen Building (612/625-9490). Registration each quarter should be reviewed by an adviser.

Program of Mortuary Science

The baccalaureate curriculum of the Program of Mortuary Science leads to a B.S. degree.

To be admitted to the program, you must have completed 90 quarter credits of liberal arts study with grades of A, B, C, or S at any accredited university, college, or junior college. Students spend two years in the professional program after admission.

If you are a CLA freshman or sophomore, you will be assigned an adviser to help with course selection, registration, and academic decisions.

Admission Requirements—The 90 credits required for admission must include prerequisite coursework outlined in the *Allied Health Programs Bulletin*.

Information is available in the department office, A275 Mayo, 401 Church Street S.E., Minneapolis, MN (612/624-6464); the CLA

Pre-Health Science Advising Center, 30 Johnston Hall (612/624-9006); and the *Allied Health Programs Bulletin*, available from the University's Office of Admissions.

School of Nursing

The School of Nursing offers a B.S. in nursing. Students are selected each fall for admission as juniors after completing two years of liberal arts studies (90 quarter credits) in any accredited college or university. The program prepares students for entry-level positions in all fields of professional nursing, including public health.

The preferred GPA for admission consideration is 2.80, which is based on the required prerequisite coursework. A written profile statement must be submitted that describes nursing, education, and life experiences. Admission is competitive.

The 90 credits required for admission must include prerequisite coursework outlined in the *School of Nursing Bulletin*.

Admitted students must have a physical examination and current certification in standard first aid and cardiopulmonary resuscitation (infant and adult) before enrolling.

If you are already a registered nurse and want to complete a baccalaureate and master's degree, the School of Nursing offers the RN/B.S.N./M.S. program. This program has its own admission requirements.

For information about admission to all nursing programs, contact the School of Nursing Admissions Office, 5-160F Health Sciences Unit F (612/624-4454). A prenursing CLA adviser is also available in 30 Johnston Hall (612/624-9006) to help with course selection, registration, and academic planning.

Further admission information may be found in the *School of Nursing Bulletin*, available from the University's Office of Admissions.

Program in Occupational Therapy

The occupational therapy program, requiring four years plus one quarter of study, leads to the B.S. degree.

Preparation for professional study in occupational therapy requires completion of 80

to 85 college credits in courses selected to meet the liberal education requirements outlined in the *Allied Health Programs Bulletin*. You must complete these courses with a 2.50 GPA to apply for admission.

During the junior and senior years, hospital and community agency practice is coordinated with theoretical courses. In the senior year, six months of full-time fieldwork training is scheduled in hospitals, institutions, and community centers.

Freshmen and sophomores should see advisers in the CLA Pre-Health Science Advising Center, 30 Johnston Hall (612/624-9006). For detailed information, see the program bulletin available from the University's Office of Admissions or call the program office, 271 Children's Rehabilitation Center (612/626-5887), for an appointment with a faculty member.

College of Pharmacy

The College of Pharmacy doctor of pharmacy (Pharm.D.) degree program prepares pharmacists to be drug therapy specialists. This program requires completion of prepharmacy course requirements followed by four years of professional study.

Graduates of the Pharm.D. program are eligible for the state licensure examination to practice pharmacy.

The prepharmacy program, consisting of two to three years, may be completed in CLA. Information about specific course requirements can be obtained from the College of Pharmacy Office of Student Affairs, 5-110 Health Sciences Unit F (612/624-9490), or CLA Premajor Advising, 30 Johnston Hall (612/624-9006).

For applications and information about applying, contact the College of Pharmacy Office of Student Affairs. Applicants whose native language is not English should contact the College of Pharmacy Office of Student Affairs for information on language skills assessment requirements. Applicants must have an overall GPA of at least 2.60 to be evaluated. Admission is competitive; in 1994 the GPA range of successful applicants was 2.90 to 4.00.

Program in Physical Therapy

The four-year program in physical therapy leads to a B.S. degree. The first two years of study may be spent in CLA. To be considered for admission to the professional program, you must have completed a minimum of 86 credits, including specified required courses or their equivalents, with a minimum GPA of 2.50 in basic sciences. Work and/or volunteer experience in a health care setting is also required. The last two years plus a summer term are spent in the Department of Physical Medicine and Rehabilitation.

For information about admission, consult advisers in the Physical Therapy Office, 271 Children's Rehabilitation Center (612/626-5887), or in the CLA Pre-Health Science Advising Center, 30 Johnston Hall (612/624-9006). Details about the program are available in the *Allied Health Programs Bulletin*.

Hubert H. Humphrey Institute of Public Affairs

The Humphrey Institute seeks to educate future leaders to address major social, political, and economic issues. Toward this end, it offers graduate programs in public affairs, planning, and science and technology policy. Dual degree programs are available in cooperation with the School of Public Health, the Law School, the School of Social Work, and the Department of Political Science. For information about degree programs and courses, see <http://www.hhh.umn.edu/> on the World Wide Web.

School of Social Work

An undergraduate program with 39 quarter-credits or 26 semester-credits in social sciences is desirable preparation for entry into the Master of Social Work (M.S.W.) program. Persons with an undergraduate degree in social work may be eligible for advanced standing. A course in statistics and a course in human biology are required for enrollment in the graduate program, although interested persons can apply before completing these prerequisites. In addition, applicants are expected to have completed either one year of

supervised social work fieldwork instruction at the undergraduate level or a minimum of one year of paid or volunteer social work experience. Additional information about admission is in the *Graduate School Bulletin*.

University College

University College (UC) offers students on all University of Minnesota campuses the opportunity to design an individualized baccalaureate degree program drawing upon courses, faculty, and other learning resources from across the University. Students pursuing one of the two UC options, the Program for Individualized Learning or the Inter-College Program, are assisted by academic and faculty advisers in developing and implementing an academic program tailored to meet their specific educational goals. It is recommended that students who are interested in either program attend an informational advising session. Each program holds these small group sessions every week. Attendance can be scheduled through each program's office.

The *Inter-College Program (ICP)* allows students to plan and pursue a cross-college academic program suited to individual needs. ICP is appropriate for those students who have clearly defined academic goals and discover they cannot achieve those goals without an inter-college curriculum. A student's ICP plan is drawn up with guidance and approval from academic advisers and designated faculty advisers. The degree program may include two or three areas of concentration, or may integrate courses from two or more colleges into a cohesive theme. Depending on how a student fulfills liberal education requirements, ICP leads to either a B.A. or B.S. degree.

To be considered for admission to ICP, a student must have earned a 2.00 GPA; completed at least 80 credits of college work (minimum of 15 credits from the University of Minnesota and at least 9 credits of upper division work); completed designated prerequisites and/or met GPA requirements for areas with concentration or collegiate grade-point restrictions; and prepared an approved ICP degree plan and goal statement.

Deadlines for submitting applications to ICP vary each year. For more information on

application deadlines and to schedule an ICP First Step meeting, call (612) 624-2004 or visit ICP in 107 Armory, 15 Church St. S.E., Minneapolis, MN 55455.

The *Program for Individualized Learning* (PIL) serves students with clear educational goals who wish to design and carry out individualized B.A. or B.S. degree programs. Students tend to select the program because they value the freedom to make significant choices about what and how they learn, have experiences they can use as foundations for further learning, and want to use a variety of educational resources at the University and in the community.

Students are admitted on the basis of evidence that they have the attributes and academic skills needed to pursue a self-directed degree program (e.g., skills in writing, project design, and educational planning). A degree program can incorporate a variety of learning resources, including University classes, independent study courses, and self-designed projects. Knowledge gained from independent learning before admission may be applied if it can be demonstrated and evaluated as college-level learning.

Students meet a set of standards, called graduation criteria, rather than accumulating a specific number of credits, to earn a bachelor's degree. The criteria combine learning in a major area of study with learning in the liberal arts. Students pursue programs in a wide variety of fields, often studying in many disciplines and creating new and innovative areas of study. Examples of recent degree programs include training and leadership development, urban planning and environmental policy, fiction writing, molecular and cell biology, and women's health.

For more information, call (612) 624-4020 or visit PIL in 107 Armory, 15 Church St. S.E., Minneapolis, MN 55455.

University College Independent Study (UC 3075)—An undergraduate independent study course listing available to students who wish to pursue projects that go beyond the scope of any single department or college of the University. Projects are interdisciplinary or done in departments that do not have an undergraduate independent study course for nonmajors. Students are asked to select an appropriate faculty monitor and complete the UC 3075—

Independent Study contract before registering. Students may take 3 to 15 credits of UC 3075. Additional information may be obtained from the Inter-College Program Office of University College, 107 Armory, 15 Church St. S.E., Minneapolis, MN 55455; (612/624-2004).

College of Veterinary Medicine

The College of Veterinary Medicine offers the doctor of veterinary medicine (D.V.M.) degree program, which students may enter only in fall quarter. A baccalaureate degree is not a requirement for admission. Those entering without a degree are eligible to receive the B.S. degree in veterinary science upon satisfactory completion of the second year of the D.V.M. program. Enrollment in the college is limited; therefore, some applicants cannot be accommodated. The college is committed to extending opportunities to students from socially, educationally, and economically disadvantaged backgrounds, including underrepresented minority groups.

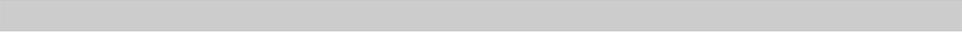
Applicants are rated on a numerical scale based on academic measures of educational background and non-academic measures of personal experience.

Selection criteria and point systems are subject to change.

Residency—In selecting applicants, the Committee on Admissions gives first priority to Minnesota residents and residents of states/provinces with which Minnesota has contractual or reciprocity agreements (North Dakota, South Dakota, and Manitoba). Other nonresidents do gain admission and are encouraged to apply.

Required Courses for Admission—See the *College of Veterinary Medicine Bulletin*.

Application Procedures—Admission requirements and application materials are available from the College of Veterinary Medicine, Office of Student Affairs and Admissions, 460 Veterinary Teaching Hospitals (612/624-4747). Applications must be postmarked no later than November 1 before the fall term of desired admission. The Graduate Record Examination (GRE) General Test is required, with the results to be forwarded no



later than March 1 of the year of application. Further information can be obtained from CLA Premajor Advising, 30 Johnston Hall (612/624-9006) or the Office of Student Affairs and Admissions, 460 Veterinary Teaching Hospitals (612/624-4747). The College of Veterinary Medicine's annual open house, on a Sunday in April, is an excellent time to tour the facilities and meet students of the college. Prospective students are encouraged to attend one of the college's monthly information seminars held at 1:30 p.m. the second and fourth Monday of every month. Please call (612) 624-4747 to confirm dates.

University Regents

Thomas R. Reagan, Gilbert, Chair
H. Bryan Neel III, Rochester, Vice Chair
Wendell R. Anderson, Wayzata
Julie A. Bleyhl, Madison
William E. Hogan II, Minnetonka
Jean B. Keffeler, Minneapolis
Hyon T. Kim, St. Anthony
Warren C. Larson, Bagley
William R. Peterson, Eagan
Jessica J. Phillips, Morris
Stanley D. Sahlstrom, St. Cloud
Patricia B. Spence, Rice

University Administrators

Nils Hasselmo, President
JoAnne Jackson, Senior Vice President for
Finance and Operations
Ettore F. Infante, Senior Vice President for
Academic Affairs
C. Eugene Allen, Provost for Professional
Studies
Frank B. Cerra, Provost for the Academic
Health Center
W. Phillips Shively, Provost for Arts, Sciences,
and Engineering
McKinley Boston, Jr., Vice President for
Student Development & Athletics
Mark L. Brenner, Vice President for Research
and Dean of the Graduate School
Mark B. Rotenberg, General Counsel

College of Liberal Arts Administrators

Robert T. Holt, Interim Dean
Candace Kruttschnitt, Interim Associate Dean
for Planning and Fiscal Management
Philip Furia, Associate Dean for Faculty
Richard Skaggs, Interim Associate Dean for
Academic Programs
Barbara Becker, Director of Student Academic
Support Services
Gordon Hirsch, Director of Honors Division
Earl Scott, Director of Martin Luther King
Program
Carl Brandt, Director of Office of Special
Learning Opportunities

College of Liberal Arts Faculty

- * *Recipient of the CLA Distinguished Teacher Award*
- † *Recipient of the Horace T. Morse-Minnesota Alumni Association Award for Outstanding Contributions to Undergraduate Education*
- ** *Recipient of the CLA Arthur "Red" Motley Exemplary Teaching Award*
- ‡ *Recipient of the John Tate Award for Undergraduate Academic Advising*

Afro-American and African Studies

AshShareef, Teirab, Assistant Professor
Ph.D., Indiana University
Arabic language and literature

Atkins, Keletso, Associate Professor
Ph.D., University of Wisconsin, Madison
African history

†Brewer, Rose, Associate Professor
Ph.D., Indiana University
Sociology

Coifman, Victoria, Assistant Professor
Ph.D., University of Wisconsin, Madison
African history

Dillard, Angela, Assistant Professor
Ph.D., University of Michigan
Afro-American history

Farah, Caesar, Professor
Ph.D., Princeton University, New Jersey
Arabic and Islamic studies

Kadi, Samar, Teaching Specialist
Ph.D., Columbia University, New York
Arabic language

McCurdy, Ronald, Associate Professor
Ph.D., University of Kansas
Jazz ensemble, vocal jazz, jazz improvisation, Afro-American studies

Pike, Charles, Assistant Professor
Ph.D., University of Wisconsin, Madison
African language and literature

Taborn, John, Associate Professor
Ph.D., University of Minnesota
Psychology

Wright, John, Associate Professor
Ph.D., University of Minnesota
Afro-American literature

American Studies

Delattre, Roland, Professor
Ph.D., Yale University
Religion and ethics

Johnson, Leola, Assistant Professor
Ph.D., University of Minnesota
Race and gender in the media

ADMINISTRATION AND FACULTY

May, Elaine Tyler, Professor
Ph.D., University of California, Los Angeles
History, women and family

May, Lary, Associate Professor
Ph.D., University of California, Los Angeles
American studies, post-World War II American history,
popular culture

†Miller, Carol, Associate Professor
Ph.D., University of Oklahoma
American literatures, American Indian women's narratives,
intercultural studies

Noble, David, Professor
Ph.D., University of Wisconsin, Madison
American studies, history, literature and language,
philosophy and religion

Prell, Riv-Ellen, Associate Professor
Ph.D., University of Chicago
U.S. ethnic and gender relations, anthropology of America,
ritual

Yates, Gayle Graham, Professor
Ph.D., University of Minnesota
American studies, history, women's studies

Anthropology

Arnold, Bettina, Lecturer
Ph.D., Harvard University
Celtic culture, gender, history of archaeology,
archaeological ethics, drinking as social behavior,
prehistoric Europe

Barlow, Kathleen, Assistant Professor
Ph.D., University of California, San Diego
Psychological anthropology, culture and learning, art and
aesthetics; Melanesia

Dunnigan, Timothy, Associate Professor
Ph.D., University of Arizona
Semantic anthropology, linguistic acculturation, Middle
America, North America

Gerlach, Luther, Professor
Ph.D., University of London
Natural resources anthropology, social movements and
cultural change, political ecology, Africa, United States

Gibbon, Guy, Professor
Ph.D., University of Wisconsin, Madison
Midwestern prehistoric and historic archaeology, philosophy
and history of archaeology

Gudeman, Stephen, Professor
Ph.D., University of Cambridge, England
Social, structural, economic anthropology; Latin America

Ingham, John M., Professor
Ph.D., University of California, Berkeley
Culture and personality, symbolic anthropology; Middle
America

Josephides, Lisette, Assistant Professor
Ph.D., University of London
Social anthropology, power and gender relations; Melanesia

Lipset, David M., Associate Professor
Ph.D., University of California, San Diego
Social and political anthropology, history of anthropology;
Melanesia

McCorriston, Joy, Assistant Professor
Ph.D. Yale University
Archaeology, Near Eastern prehistory, human environments,
archaeobotany, origins and development of agriculture

Miller, Frank, Professor
Ph.D., Harvard University
Theories of change, development strategies, applied
anthropology, analysis, research methods; Middle
America, North America

Ogan, Eugene, Professor
Ph.D., Harvard University
Social anthropology, ethnology and history of Pacific Island
cultures

*†Penn, Mischa, Associate Professor
B.A., University of Minnesota
Philosophical anthropology, culture theory, methodology,
history of anthropology

Raheja, Gloria Goodwin, Associate Professor
Ph.D., University of Chicago
Social and cultural anthropology, gender and caste kinship,
language and expressive traditions, colonial discourses;
India

Rowe, William, Professor
Ph.D., Cornell University
Sociocultural change, colonialism, Marxism; South Asia,
New Guinea, Caribbean

*†Spector, Janet, Associate Professor
Ph.D., University of Wisconsin, Madison
Archaeology, ethnohistory, historic archaeology,
environmental archaeology, prehistoric social systems,
feminist anthropology; North America, Great Lakes

Wells, Peter S., Professor
Ph.D., Harvard University
Culture contact, economic behavior, signs and symbols,
meanings; prehistoric and medieval Europe

Art

Baldwin, Guy, Associate Professor
M.F.A., University of Wisconsin
Sculpture

Bethke, Karl, Professor
M.F.A., University of Minnesota
Printmaking

Cowette, Thomas, Associate Professor
B.F.A., Minneapolis College of Art and Design
Drawing/painting

Feinberg, David, Associate Professor
M.F.A., Cranbrook Academy of Art
Drawing/painting

Gray, Lynn, Associate Professor
M.F.A., University of Oklahoma
Drawing/painting

Hallman, Gary, Associate Professor
M.F.A., University of Minnesota
Photography

Henkel, James, Associate Professor
M.F.A. Florida State University
Photography

Hoard, Curtis, Professor
M.F.A., University of Wisconsin
Ceramics

Katsiaficas, Mary Diane, Professor
M.F.A., University of Washington, Seattle
Drawing/painting

Krepps, Jerald, Associate Professor
M.F.A., Indiana University
Printmaking

Lane, Thomas, Associate Professor
M.F.A., Pennsylvania State University
Ceramics

Lucey, Susan, Associate Professor
M.F.A., Temple University
Sculpture

*Lyon, Joyce, Associate Professor
M.F.A., University of Minnesota
Drawing/painting

Morgan, Clarence, Professor
M.F.A., University of Pennsylvania
Drawing/painting

Pharis, Mark, Professor
University of Minnesota
Ceramics

Potratz, Wayne, Professor
M.A., University of California, Berkeley
Sculpture

Roode, William, Associate Professor
M.F.A., University of Iowa
Drawing/painting

Rose, Thomas, Professor
M.A., University of California, Berkeley
Sculpture

Art History

Asher, Catherine, Associate Professor
Ph.D., University of Minnesota
Islamic and South Asian art and culture

Asher, Frederick, Professor
Ph.D., University of Chicago
Sculpture and architecture of South Asia

†Cooper, Frederick, Professor
Ph.D., University of Pennsylvania
Greek art and architecture

Marling, Karal Ann, Professor
Ph.D., Bryn Mawr College
American art and popular culture

McNally, Sheila, Professor
Ph.D., Harvard University
Greek and Roman art and archaeology

Poor, Robert, Professor
Ph.D., University of Chicago
East Asian art

Silberman, Robert, Associate Professor
Ph.D., Columbia University
Film studies, history of photography, 20th-century
American art

Steyaert, John, Associate Professor
Ph.D., University of Michigan
Northern European art, 14th-16th centuries; late Gothic
sculpture in the Netherlands and France

Stoughton, Michael, Associate Professor
Ph.D., University of Michigan
European painting, sculpture, and architecture, 17th and
18th centuries

Weisberg, Gabriel, Professor
Ph.D., Johns Hopkins University
19th- and early 20th-century art, history of decorative art
and history of graphic art

Chicano Studies

Rojas, Guillermo, Associate Professor
Ph.D., University of Illinois
Chicano literature

Valdés, Dennis, Associate Professor
Ph.D., Michigan State University
Chicano history, labor history

Classical and Near Eastern Studies

Belfiore, Elizabeth, Professor
Ph.D., University of California, Los Angeles
Greek literature, Greek tragedy, philosophy

†Cooper, Frederick, Professor
Ph.D., University of Pennsylvania
Greek, Roman art and archaeology, architecture, folklore

†Erickson, Gerald, Professor Emeritus
Ph.D., University of Minnesota
Language pedagogy, social history

Hershbell, Jackson, Professor
Ph.D., Harvard University
Greek literature, philosophy, intellectual history

Keuls, Eva, Professor
Ph.D., Columbia University
Greek literature, fine arts, social history

Krevans, Nita, Associate Professor
Ph.D., Princeton University
Hellenistic and Roman literature

Lardinois, André, Assistant Professor
Ph.D., Princeton University
Greek literature, mythology, linguistics

Malandra, William, Associate Professor
Ph.D., University of Pennsylvania
Indo-Iranian philology, history of religions

McNally, Sheila, Professor
Ph.D., Harvard University
Greek and Roman art and archaeology

Nicholson, Oliver, Associate Professor
D.Phil., Oxford University
Latin antiquity, medieval Latin, early Byzantine studies

Paradise, Jonathan, Associate Professor
Ph.D., University of Pennsylvania
Ancient Mesopotamia, legal texts, Hebrew lexicography,
language pedagogy, ancient near eastern and biblical
studies

Reisman, Daniel, Associate Professor
Ph.D., University of Pennsylvania
Sumerian, Akkadian, Aramaic, ancient near eastern and
biblical studies, Hebrew

Sellew, Philip Harl, Associate Professor
Th.D., Harvard University
New Testament, early church, Greek and Roman religions,
Coptic

Sheets, George, Associate Professor
Ph.D., Duke University
Roman literature, linguistics, law

Sonkowsky, Robert, Professor
Ph.D., University of North Carolina
Classical and medieval Latin literature, oral performance,
theater, rhetoric, interactive TV teaching

Communication Disorders

Broen, Patricia, Professor
Ph.D., University of Minnesota
Language acquisition, phonological development

Carlstrom, Jane, Clinical Specialist
M.A., University of Iowa
Clinical audiology

Carney, Arlene, Associate Professor
Ph.D., University of Minnesota
Rehabilitative audiology

Davis, Julia, Professor
Ph.D., University of Southern Mississippi
Rehabilitative audiology

Doyle, Shirley, Clinical Specialist
M.A., University of Maryland
Language disorders

Haroldson, Samuel, Professor
M.A., University of Minnesota
Stuttering, laryngectomy

Hinderscheit, Linda, Associate Clinical Specialist
M.A., University of Minnesota
Language disorders, severely handicapped populations

Margolis, Robert, Adjunct Professor
Ph.D., University of Iowa
Auditory evoked potentials, middle ear functions

Moller, Karlind, Adjunct Professor
Ph.D., University of Minnesota
Craniofacial anomalies

Nelson, David, Adjunct Professor
Ph.D., University of Minnesota
Electrically-stimulated hearing, otoacoustic emissions

Reichle, Joe, Professor
Ph.D., University of Wisconsin
Language disorders, severely handicapped populations

Schlauch, Robert, Associate Professor
Ph.D., University of Washington
Diagnostic audiology, hearing measurement, cognitive
influences on hearing

*Siegel, Gerald, Professor
Ph.D., University of Iowa
Language development, sign language

Solomon, Nancy, Assistant Professor
Ph.D., University of Arizona
Normal and disordered speech motor control

*†Speaks, Charles, Professor
Ph.D., University of Michigan
Speech perception

Starr, Clark, Professor
Ph.D., Northwestern University
Cleft palate, voice disorders

Stemberger, Joseph, Professor
Ph.D., University of California, San Diego
Psycholinguistics, phonetics, phonology, morphology

van Deusen, Diana, Assistant Clinical Specialist
M.A., University of Iowa
Clinical audiology, aural rehabilitation

*Van Tasell, Dianne, Professor
Ph.D., Northwestern University
Effects of hearing loss on audition, hearing aids

Viemeister, Neal, Adjunct Professor
Ph.D., Indiana University
Auditory perception, psychophysics

Windsor, Jennifer, Associate Professor
Ph.D., Purdue University
Language acquisition and disorders

Cultural Studies and Comparative Literature

Archer, W. John, Associate Professor
Ph.D., Harvard University
History of city and suburban design, architecture and landscape

Jha, Prabhakara, Assistant Professor
Ph.D., University of California, Davis
Postcolonial literatures, cultural studies, modern Indian
writing (Hindi and Bengali), colonial discourse and
critical theory

Mowitz, John, Associate Professor
Ph.D., University of Wisconsin
Cultural theory and literary criticism, film and popular music

†Leppert, Richard, Professor
Ph.D., Indiana University
Musicology; art history; cultural studies, 17th-20th
centuries; critical theory

Sarles, Harvey, Professor
Ph.D., University of Chicago
Anthropological theory, comparative thought, semiotics of
the body, study of America

Thomas, Gary, Associate Professor
Ph.D., Harvard University
Cultural studies, musical-literary relations, 17th-19th
centuries, gay studies

East Asian Languages, Literatures and Linguistics

Chen, Yu-shih, Professor
Ph.D., Yale University
Chinese prose tradition and 20th-century literature

Kleeman, Terry, Assistant Professor
Ph.D., University of California, Berkeley
Chinese classical fiction and narratives

Pradt, Sarah, Assistant Professor
Ph.D., Cornell University
Modern Japanese literature

Szatrowski, Polly, Associate Professor
Ph.D., Cornell University
Japanese language and linguistics

Wang, Stephen, Professor
Ph.D., University of Washington
Chinese language and linguistics

Economics

Allen, Beth, Professor
Ph.D., University of California, Berkeley
Game theory, economics of information and uncertainty

Chari, V.V., Professor
Ph.D., Carnegie-Mellon University
Public economics, macroeconomics, industrial organization

Chipman, John S., Regents' Professor
Ph.D., Johns Hopkins University
Econometrics, international trade, measurement of economic
welfare

Coen, Edward, Professor Emeritus
Ph.D., London School of Economics
Welfare economics, international economics

Feldman, Roger D., Professor
Ph.D., University of Rochester
Health economics, labor economics, human capital and
human resources

Foster, Edward, Professor
Ph.D., Massachusetts Institute of Technology
Public finance, microeconomic theory

Geweke, John, Professor
Ph.D., University of Minnesota
Econometrics, macroeconomics, dynamic models, Bayesian
inference in econometrics

Gowisankaran, Gautam, Assistant Professor
Ph.D., Yale University
Applied microeconomics, industrial organization,
computational economics, health economics, game theory

Holmes, Tom, Assistant Professor
Ph.D., Northwestern University
Applied Microeconomics, industrial organization

Hurwicz, Leonid, Regents' Professor Emeritus
LL.M., Warsaw University
Mathematical economics, economic organization, welfare
economics, social choice, modeling economic institutions

Jordan, James, Professor
Ph.D., Northwestern University
Mathematical economics, accounting information systems,
decentralization theory, learning dynamics

Keane, Michael, Associate Professor
Ph.D., Brown University
Labor economics, computationally intensive methods in
econometrics, dynamic models of choice behavior

Kehoe, Timothy, Professor
Ph.D., Yale University
Intertemporal general equilibrium theory and applied general
equilibrium modeling, trade theory, public finance

Kitamura, Yuichi, Assistant Professor
Ph.D., Yale University
Theoretical econometrics, empirical studies in finance and
macroeconomics, time series analysis

Kiyotaki, Nobuhiro, Associate Professor
Ph.D., Harvard University
Macroeconomics, monetary theory

McLennan, Andrew, Associate Professor
Ph.D., Princeton University
Game theory, mathematical economics, microeconomics

Merlo, Antonio, Assistant Professor
Ph.D., New York University
Public economics, applied econometrics, bargaining theory,
political economy, experimental economics

Mohring, Herbert, Professor Emeritus
Ph.D., Massachusetts Institute of Technology
Industrial organization and antitrust, urban economics,
resource economics

Ohanian, Lee, Assistant Professor
Ph.D., Rochester University
Macroeconomics, international economics, applied
econometrics

Prescott, Edward C., Professor
Ph.D., Carnegie-Mellon University
Industrial organization, macroeconomics, organization
theory, aggregate fluctuations and growth

Richter, Marcel K., Professor
Ph.D., Massachusetts Institute of Technology
Mathematical economics, rational choice theory, general
equilibrium theory

Rogerson, Richard, Associate Professor
Ph.D., University of Minnesota
Macroeconomics, labor economics

Ruttan, Vernon, Regents' Professor
Ph.D., University of Chicago
Economics of agricultural development, technical change,
research policy

Sahi, Simran, Assistant Professor and Director of
Undergraduate Programs
Ph.D., University of Pittsburgh
International trade and finance

Schuh, G. Edward, Professor
Ph.D., University of Chicago
Economic development, agriculture and trade

Smith, Harlan, Professor Emeritus
Ph.D., University of Chicago
Economic philosophy, economic problems, world order studies

Swan, Craig, Professor
Ph.D., Yale University
Macroeconomics, econometrics, money and banking,
housing policy, mortgage markets

Werner, Jan, Associate Professor
Ph.D., University of Bonn, West Germany
Microeconomic theory, mathematical economics, general
equilibrium under uncertainty, financial markets

English

*†Anson, Christopher, Professor
Ph.D., Indiana University
Theory and research of writing, writing across the curriculum

Bales, Kent, Professor
Ph.D., University of California, Berkeley
American literature, romanticism, literature and the other arts

†Bridwell-Bowles, Lillian, Professor
Ed.D., University of Georgia
Composition research and theory, rhetorical theory, feminist
rhetoric

†Brown, Robert, Associate Professor
Ph.D., University of Michigan
Linguistics, writing theory, teaching writing
*Browne, Michael Dennis, Professor
M.A., University of Iowa
Creative writing, modern and contemporary poetry and poetics

*†Clayton, Thomas, Professor and Chair of Classical
Civilization Program
D.Phil., Oxford University
Shakespeare, 17th-century English literature, classical
literature, literary criticism

Copeland, Rita, Associate Professor
Ph.D., University of California, Berkeley
Medieval studies

Damon, Maria, Associate Professor
Ph.D., Stanford University
Modern poetry, poetics

Elfenbein, Andrew, Associate Professor
Ph.D., Yale University
Romanticism, Victorian literature, intertextuality and
influence, gender

Escure, Genevieve, Professor
Ph.D., Indiana University
Sociolinguistics, language universals, linguistic theory,
phonology, syntax

Firchow, Peter, Professor
Ph.D., University of Wisconsin
Modern British and American literature, comparative
literature, literature and society, Utopian literature

Fitzgerald, M.J., Associate Professor
M.A., York University
Fiction writing, contemporary fiction

Furia, Philip, Professor and Associate Dean
Ph.D., University of Iowa
Modern poetry, American literature, literature and the arts

†Garner, Shirley, Professor
Ph.D., Stanford University
Renaissance literature, 16th-century poetry, Shakespeare,
autobiography, feminist criticism

*Geffen, Arthur, Associate Professor
Ph.D., University of Chicago
American literature, fiction, poetry, drama, humor, Jewish-
American literature

*Griffin, Edward, Professor
Ph.D., Stanford University
American literature and American studies, use of early
American history and literature by modern American
writers, American religion, teaching

Haley, David, Professor
Ph.D., Harvard University
Renaissance and Enlightenment poetry, philosophy, drama,
politics; the Bible as literature

*Hampl, Patricia, Professor
M.F.A., University of Iowa
Creative writing, autobiographical and memoiristic writing,
contemporary American poetry and fiction

Hancher, Michael, Professor
Ph.D., Yale University
Victorian literature, pragmatics and literature, literary
illustration

Hirsch, Gordon, Professor
Ph.D., University of California, Berkeley
Victorian literature, the English novel, psychological
approaches to literature, critical theory

†Kendall, Calvin, Professor
Ph.D., University of California, Berkeley
Old English literature (especially Beowulf), Middle English
literature (especially Chaucer), medieval Latin

Lee, Josephine, Assistant Professor
Ph.D., Princeton University
Modern and contemporary British and American drama; world
drama; performance theory; Asian-American studies

†Leyasmeyer, Archibald, Associate Professor and Director
of Program for Individualized Learning
Ph.D., Princeton University
Drama (especially modern), 18th-century literature, verbal
and visual satire

Luke, David, Assistant Professor
Ph.D., State University of New York
Romantic literature (especially Keats), Victorian literature
(especially Arnold)

*†McNaron, Toni, Professor
Ph.D., University of Wisconsin
Shakespeare, Virginia Woolf, Emily Dickinson, lesbian poetry, feminist criticism, feminist pedagogy, Milton

Messer-Davidow, Ellen, Associate Professor
Ph.D., University of Cincinnati
Literary and cultural theory; feminist studies; 18th-century literature; academic knowledge-production

Miner, Valerie, Associate Professor
M.J., University of California
Fiction writing, contemporary fiction

Mowitz, John, Associate Professor
Ph.D., University of Wisconsin
Literary theory and cultural studies, film and popular music

Rabinowitz, Paula, Professor
Ph.D., University of Michigan, Ann Arbor
20th-century American writers, women and minority writers, U.S. literary radicalism, Marxist and feminist criticism

*Reed, Peter, Professor
Ph.D., University of Washington
20th-century British novel (especially 1930-present), 20th-century British poetry and drama

Ross, Donald, Professor
Ph.D., University of Michigan
The American "Renaissance," theory of the novel, role of computers and word processors in writing instruction

Roth, Marty, Professor
Ph.D., University of Chicago
19th-century American fiction, popular culture, film, culture and addiction

Solotaroff, Robert, Professor
Ph.D., University of Chicago
American literature, theory of fiction, modernism

Sprengnether, Madelon, Professor
Ph.D., Yale University
Feminist criticism, Renaissance literature (especially Shakespeare), women writers, creative writing

Stekert, Ellen, Professor
Ph.D., University of Pennsylvania
Folklore: in popular culture; aesthetics of horror; Anglo- and African-American folksong; fieldwork; lesbian folklore; folklore of/about "disability"

†Sugnet, Charles, Associate Professor
Ph.D., University of Virginia
Shakespeare, the novel, feminist criticism, American nature writing, the Romantic period

Wallace, David, Professor
Ph.D., St. Edmund's College, University of Cambridge
Medieval studies; English and Italian literatures; literature and history; politics, historiography, gender

Watkins, John, Associate Professor
Ph.D., Yale University
Medieval and Renaissance literature, poetics

Weinsheimer, Joel, Professor
Ph.D., Ohio University
Late 18th-century literature (especially Samuel Johnson and Jane Austen), literary theory

English as a Second Language

Cohen, Andrew, Professor
Ph.D., Stanford University
Applied linguistics, second-language acquisition

*Tarone, Elaine, Professor
Ph.D., University of Washington
Applied linguistics, second-language acquisition

French and Italian

Akehurst, F.R.P., Professor
Ph.D., University of Colorado
Old French language, law, and literature

Barnes, Betsy, Associate Professor
Ph.D., Indiana University
French linguistics, applied linguistics, pragmatics

Brewer, Daniel, Associate Professor
Ph.D., Johns Hopkins University
Early modern French literature and culture, literary theory

Brewer, Mária, Associate Professor
Ph.D., Yale University
20th-century literature, theater, postmodernism, critical theory, cultural and gender studies

Conley, Tom, Professor
Ph.D., University of Wisconsin
Renaissance literature, cinema

Ferlito, Susanna, Assistant Professor
Ph.D., University of California, Los Angeles
19th-century Italian literature

Liu, Catherine, Assistant Professor
Ph.D., City University of New York
Classical Age literature and theater, cultural studies

Martinez, Ronald, Associate Professor
Ph.D., University of California, Santa Cruz
Dante, Renaissance

Noakes, Susan, Professor
Ph.D., Yale University
Poetics, French and Italian medieval and Renaissance literature, women's studies

Paganini, Maria, Professor
Ph.D., Zurich University, Switzerland
20th-century novel

Preckshot, Judith, Associate Professor
Ph.D., University of California, Irvine
Francophone and 20th-century literature

Robinson, Peter, Associate Professor
Ph.D., University of Pennsylvania
19th-century poetry

Sivert, Eileen, Associate Professor
Ph.D., University of California, Riverside
19th-century narrative, literature of Québec, women's studies

Waldauer, Joseph, Professor
Ph.D., Columbia University
18th-century narrative and theater

Geography

Adams, John, S., Professor
Ph.D., University of Minnesota
American cities, regional analysis

Barrett, Ward, Professor Emeritus
Ph.D., University of California, Berkeley
Middle America, Oceania, historical geography

Borchert, John, Regents' Professor Emeritus
Ph.D., University of Wisconsin
Metropolitan and regional land use planning

Brown, Dwight, Professor
Ph.D., University of Kansas
Physical geography, cartography, paleoenvironments, water resources, geographic information systems

*Gersmehl, Philip, Professor
Ph.D., University of Georgia
Physical geography, education, North America, geographic information systems

Hart, John, Professor
Ph.D., Northwestern University
Regional geography, North America

Hsu, Mei Ling, Professor
Ph.D., University of Wisconsin
East Asia, cartography (design and automation)

Klink, Katherine, Assistant Professor
Ph.D., University of Delaware
Climate-biosphere interaction, climate dynamics, quantitative methods

Leitner, Helga, Professor
Ph.D., University of Vienna
Urban and regional development, international labor migration, Europe

Lukermann, Fred, Professor Emeritus
M.A., University of Minnesota
Historical-geographical thought

McMaster, Robert B., Associate Professor
Ph.D., University of Kansas
Cartography, geographic information systems, quantitative methods, spatial analysis

†Martin, Judith A., Associate Professor
Ph.D., University of Minnesota
Urban planning, environmental perception

Mather, Eugene, Professor Emeritus
Ph.D., University of Wisconsin
Rural settlement of the Americas

†Miller, Roger, Associate Professor
Ph.D., University of California, Berkeley
Urban and historical geography, geographical methodology and theory

Porter, Philip, Professor
Ph.D., University of London
Cartography, Africa, tropical agrclimatology, development

Rice, John, Professor
Fil. lic., University of Uppsala
Historical geography, Europe (especially the Scandinavian states and Finland)

Samatar, Abdi, Associate Professor
Ph.D., University of California, Berkeley
Third World development and regional planning; East Africa

Schwartzberg, Joseph, Professor
Ph.D., University of Wisconsin
South and Southeast Asia, political geography, historical cartography

Scott, Earl, Professor
Ph.D., University of Michigan
Cultural and economic geography, Africa

Sheppard, Eric, Professor
Ph.D., University of Toronto
Economic geography, political economy, quantitative methods, philosophical foundations of geography

Skaggs, Richard, Professor and Interim Associate Dean
Ph.D., University of Kansas
Climatology, physical geography, long-term temperature trends, drought

Squires, Roderick, Associate Professor
Ph.D., University of Durham, England
Public land policy

Veregin, Howard, Assistant Professor
Ph.D., University of California, Santa Barbara
Geographic information systems, remote sensing, digital cartography, spatial data quality

†Weil, Connie, Associate Professor
Ph.D., Columbia University
Medical geography, Latin America

German, Scandinavian, and Dutch

Duroche, Leonard, Associate Professor
Ph.D., Stanford University
Men's studies, literary theory, phenomenology, literary space, children's literature, Romanticism

Firchow, Evelyn Scherabon, Professor
Ph.D., Harvard University
Germanic philology and medieval German literature

Fullerton, Gerald Lee, Associate Professor
Ph.D., University of Michigan
German and Germanic linguistics

Grimstad, Kaaren, Associate Professor
Ph.D., Harvard University
Swedish, old Norse languages and literatures, Icelandic sagas, Scandinavian mythology

Hasselmo, Nils, Professor and President
Ph.D., Harvard University
Scandinavian linguistics

Hirschbach, Frank, Professor Emeritus
Ph.D., Yale University
20th-century literature, GDR area studies and literature

Houe, Poul, Professor
Ph.D., Aarhus University, Denmark
Danish language, modern Danish and Swedish literature, European humanism

Joeres, Ruth-Ellen Boetcher, Professor
Ph.D., Johns Hopkins University
18th- and 19th-century literature, women's history and literature

Liberman, Anatoly, Professor
Dr. phil., University of Leningrad
General linguistics, Germanic philology, folklore, poetic translation

McCormick, Richard, Associate Professor
Ph.D., University of California, Berkeley
Film studies, 20th-century literature and theory, feminism

Melin, Charlotte, Education Specialist
Ph.D., University of Michigan
Postwar German poetry, German-American literary relations, second-language acquisition

Metcalf, Eva-Maria, Education Specialist
Ph.D., University of Minnesota
German and Scandinavian children's literature, second-language acquisition

Mishler, William, Associate Professor
Ph.D., University of Minnesota
Norwegian language and literature, modern Scandinavian literature and film

Parente, James A., Jr., Professor
Ph.D., Yale University
Medieval and early modern German literature; Dutch literature; German literature 1830-1918; German cultural studies; German-Scandinavian literary relations

Schulte-Sasse, Jochen, Professor
Dr. phil., Ruhr-Universität, Bochum, Germany
Literature 1700-1820, 1885-present; theory of literature, popular literature

Sinks, I. Tuulikki, Teaching Specialist
M.A., University of Arizona
Finnish language and culture

Stockenström, Göran, Professor
Ph.D., Uppsala University, Sweden
Swedish language and literature, modern drama and theater, Scandinavian immigrant culture

Taraba, Wolfgang, Professor Emeritus
Dr. phil., Westfälische-Wilhelms-Universität Münster
18th- and 19th-century literature, lyric poetry, novella

Teraoka, Arlene A., Associate Professor
Ph.D., Stanford University
20th-century and minority literature; intellectual history; cultural criticism

Van der Sanden, Nicolaas, Assistant Education Specialist
doctoraal, University of Amsterdam
Early modern literature, literary translations, Dutch language and literature

Wakefield, Ray, Associate Professor
Ph.D., Indiana University
Second-language acquisition, medieval literature, Dutch

**Weiss, Gerhard, Professor
Ph.D., University of Wisconsin, Madison
17th-, 19th-, and 20th-century literature, German studies

Zagar, Monika, Assistant Professor
Ph.D., University of California-Berkeley
Norwegian language and literature, modernism, Scandinavian women writers

†Zipes, Jack, Professor
Ph.D., Columbia University
Fairy tales, 20th-century literature; German, GDR, women's, and Jewish studies

History

Allman, Jean, Associate Professor
Ph.D., Northwestern University
Modern Africa, modern West Africa, South Africa, women in African history

Altholz, Josef, Professor
Ph.D., Columbia University
Modern English history, religious history of modern Europe

Bachrach, Bernard, Professor
Ph.D., University of California, Berkeley
Medieval Europe before 1200

Berman, Hyman, Professor
Ph.D., Columbia University
American labor and radicalism, 20th century, Minnesota history

Brauer, Kinley, Professor
Ph.D., University of California, Berkeley
U.S. diplomatic history

Dillard, Angela, Assistant Professor
Ph.D., University of Michigan
Afro-American history

Evans, John, Professor
Ph.D., McMaster University, Canada
Roman history

Evans, Sara, Professor
Ph.D., University of North Carolina, Chapel Hill
American women's history, family history, social movements

†Farmer, Edward, Professor
Ph.D., Harvard University
Modern Chinese history, comparative early modern history,

Good, David F., Professor
Ph.D., University of Pennsylvania
European economic history, Hapsburg Empire

†Green, George, Associate Professor
Ph.D., Stanford University
American economic and business history, historiography, historical methods

Hanawalt, Barbara, Professor
Ph.D., University of Michigan
Medieval English social history

Howe, John, Professor
Ph.D., Yale University
18th- and 19th-century American political history

*Isaacman, Allen, Professor
Ph.D., University of Wisconsin
Africa, comparative history

Kelly, Thomas, Professor
Ph.D., University of Illinois
Ancient Greece

ADMINISTRATION AND FACULTY

†Kieft, David, Associate Professor
Ph.D., University of California, Berkeley
European diplomatic history, German history

Kopf, David, Professor
Ph.D., University of Chicago
South and Southeast Asian cultural and comparative history
of world and West

*Lehmberg, Stanford, Professor
Ph.D., Cambridge University
Tudor-Stuart England

Marshall, Byron K., Professor
Ph.D., Stanford University
Asian history, 19th- and 20th-century intellectual and social
Japanese history

Maynes, Mary Jo, Professor
Ph.D., University of Michigan
European social history, history of the family, women,
education, Germany, France

McCaa, Robert, Professor
Ph.D., University of California, Los Angeles
Modern Latin America, demographic history, quantitative
methods

Menard, Russell, Professor
Ph.D., University of Iowa
Early American history

*Metcalf, Michael, Professor
Ph.D., University of Stockholm
Early modern Scandinavian history, modern Scandinavian
history

*Munholland, Kim, Professor
Ph.D., Princeton University
Late 19th- and 20th-century French social and political
history, French imperialism

*Murphy, Paul, Regents' Professor
Ph.D., University of California, Berkeley
American constitutional and legal history, civil liberties and
civil rights

*†Noble, David, Professor
Ph.D., University of Wisconsin, Madison
American intellectual history, historiography, progressivism

Noonan, Thomas, Professor
Ph.D., Indiana University, Bloomington
Early Russian history, archaeology and numismatics, early
Russian relations with Islam and the Vikings

Norling, Lisa, Assistant Professor
Ph.D., Rutgers University
American social and cultural history

O'Brien, Jean M., Assistant Professor
Ph.D., University of Chicago
Indians of the Northeast (17th and 18th centuries)

Phillips, Carla, Professor
Ph.D., New York University
European economy and society 1450-1750, Spain 1492-present

Phillips, William, Professor
Ph.D., New York University
Medieval Europe and early modern European history,
history of Spain, slavery and European expansion

Pomata, Gianna, Associate Professor
Ph.D., University of Florence, Italy
European cultural history

Reyerson, Kathryn, Professor
Ph.D., Yale University, Doctorat D'Etat Montpellier Law
School
Medieval social and economic history, medieval France,
medieval legal history

Roediger, David, Professor
Ph.D., Northwestern University
Race and class in the United States

Rudolph, Richard, Professor
Ph.D., University of Wisconsin
European social and economic history, Russia, Eastern Europe

Ruggles, Steven, Professor
Ph.D., University of Pennsylvania
Historical demography, history of the family, U.S. social
history

*Samaha, Joel, Professor
Ph.D., Northwestern University
Criminal justice history, criminal law and criminal procedure

†Schwartz, Stuart, Professor
Ph.D., Columbia University
Colonial Latin America, Brazil, social history

Spear, Allan, Associate Professor
Ph.D., Yale University
20th-century U.S. history

*Stavrou, Theofanis, Professor
Ph.D., Indiana University
Russian history

Taylor, Romeyn, Professor Emeritus
Ph.D., University of Chicago
History of Chinese society, late imperial Chinese history

Thayer, John, Professor
Ph.D., University of Wisconsin
Modern European political-cultural history, history of
historiography and method

Tracy, James, Professor
Ph.D., Princeton University
Early modern Europe, 16th century, the Low Countries

Valdés, Dennis, Associate Professor
Ph.D., University of Michigan
Chicano history, labor history, Mexico

Vecoli, Rudolph, Professor
Ph.D., University of Wisconsin, Madison
History of American immigration, ethnicity and pluralism

Waltner, Ann, Associate Professor
Ph.D., University of California, Berkeley
Traditional Chinese social history, religion, gender, fiction,
ritual and law

Humanities

Kliger, George, Assistant Professor
Ph.D., University of Minnesota
Modern European philosophy, psychology, literature, art,
pre-Muslim culture of India

International Relations

Knudson, Barbara, Professor Emeritus
Ph.D., University of Minnesota
Women in development, international development

Journalism and Mass Communication

Babcock, William, Associate Professor
Ph.D., Southern Illinois University
News-editorial, international communication, media ethics, environmental communication

Chang, Tsan-Kuo, Associate Professor
Ph.D., University of Texas at Austin
International communication, theory and methodology, mass communication diplomacy

Dicken-Garcia, Hazel, Professor
Ph.D., University of Wisconsin, Madison
Mass communication history, news-editorial

Doyle, Kenneth, Associate Professor
Ph.D., University of Minnesota
Quantitative and qualitative research methodology, financial psychology, cross-cultural

Faber, Ronald, Professor
Ph.D., University of Wisconsin, Madison
Advertising, mass media effects, political communication

Fang, Irving, Professor
Ph.D., University of California, Los Angeles
Broadcast journalism, history of communication technology, history of photography and motion pictures

†Gillmor, Donald, Professor
Ph.D., University of Minnesota
Media and constitutional law, communication agencies as social institutions

Griffin, Michael, Assistant Professor
Ph.D., University of Pennsylvania
Mass media studies (media, culture and society), television news research, history of television, photography and film, visual communication, magazines

Hansen, Kathleen, Associate Professor
M.A., University of Wisconsin, Madison
Information access and communication, sociology of news, bibliographic retrieval

Lee, Chin Chuan, Professor
Ph.D., University of Michigan
International mass communication, theory and methodology, political communication

Roberts, Nancy, Associate Professor
Ph.D., University of Minnesota
Communication history, magazine writing, literary aspects of journalism

Schwartz, Dona, Associate Professor
Ph.D., University of Pennsylvania
Visual communication, photography, qualitative approaches to mass communication

Tims, Albert, Associate Professor
Ph.D., University of Wisconsin, Madison
Communication theory and methodology, media socialization, public opinion and political communication

Wackman, Daniel, Professor
Ph.D., University of Wisconsin, Madison
Media management, advertising, theory and methodology

Wells, William, Professor
Ph.D., Stanford University
Advertising and marketing, information management, statistics, consumer behavior and attitudes

Linguistics

Downing, Bruce, Associate Professor
Ph.D., University of Texas
Syntax, English linguistics, bilingualism

Gundel, Jeanette, Professor
Ph.D., University of Texas
Syntax, semantics, pragmatics, discourse analysis, language processing

Hutchinson, Larry, Associate Professor
Ph.D., Indiana University
Syntax, computational and mathematical linguistics, history and philosophy of linguistics

Stenson, Nancy, Associate Professor
Ph.D., University of California, San Diego
Syntax, Irish and Celtic languages, American Indian languages, applied linguistics

Music

Anderson, John, Professor
Ed.D., Columbia University
Woodwind area coordinator, clarinet, pedagogy and literature, woodwind ensembles

Argento, Dominick, Regents' Professor
Ph.D., Eastman School of Music
Composition, orchestration

Artymiw, Lydia, Professor
B.A., Philadelphia College of Performing Arts
Piano

Ashworth, Thomas, Associate Professor
M.M., North Texas State University
Trombone, euphonium

Baldwin, David, Professor
D.M.A., Yale University
Brass area coordinator, trumpet, trumpet pedagogy, transcription for winds

Becher, Eric, Assistant Professor
M.M., University of Michigan
Bands, marching band, conducting

Billmeyer, Dean, Associate Professor
D.M.A., Eastman School of Music
Organ, literature and pedagogy, church music, advanced keyboard harmony

Bjork, Mark, Assistant Professor
B.M., Indiana University
Violin, Suzuki pedagogy

Braginsky, Alex, Professor
D.M.A. (equiv), Moscow Conservatory
Piano, chamber music

Cherlin, Michael, Associate Professor
Ph.D., Yale University
Tonal and posttonal theory and analysis, text and music

Damschroder, David, Associate Professor
Ph.D., Yale University
Tonal theory and analysis, history of music theory

del Santo, Jean, Associate Professor
M.M., Indiana University
Voice (soprano), vocal literature, diction

Furman, Charles, Associate Professor
Ph.D., Florida State University
Music therapy, music education, psychology of music

Garrett, Margo, Professor
Ethel Hitchcock Endowed Chair in Accompanying and
Coaching
M.M., Manhattan School of Music
Accompanying and coaching

Grayson, David, Associate Professor
Ph.D., Harvard University
Historical musicology, 19th-20th centuries, Debussy studies

Haack, Paul, Professor
Ph.D., University of Wisconsin
Music education

Hepokoski, James, Professor
Ph.D., Harvard University
Musicology of 19th-20th centuries, symphonic structures,
historical-analytical methodologies, critical theory

Jackson, Donna, Professor
Ph.D., Harvard University
Historical musicology, medieval and Renaissance

Kagan, Alan, Associate Professor
Ph.D., Indiana University
Ethnomusicology, China, Asia; American fiddle; video
documentation

Kim, Young Nam, Associate Professor
M.M., Syracuse University
Violin, chamber music, string orchestra

Kirchhoff, Craig, Professor
M.M., University of Wisconsin
Director of bands, conducting

Konkol, Korey, Associate Professor
M.M., New England Conservatory
Viola

Lancaster, Thomas, Professor
D.M., Indiana University
Choral conducting

†Lubet, Alex, Professor
Ph.D., University of Iowa
Composition, 20th-century theory, theory pedagogy

Maurice, Glenda, Professor
M.M., Manhattan School of Music
Voice (mezzo-soprano), vocal literature

McCoy, Claire, Associate Professor
Ph.D., University of Iowa
Music education, movement-based methods

McCurdy, Ronald, Professor
Ph.D., University of Kansas
Jazz ensemble, vocal jazz, jazz improvisation, Afro-
American studies

McNab, Duncan, Associate Professor
D.M.A., University of California, Los Angeles
Piano, piano literature

Meza, Fernando, Assistant Professor
M.M., University of Michigan
Percussion, percussion literature/techniques/pedagogy

O'Reilly, Sally, Professor
M.M., Indiana University
Violin

Remenikova, Tanya, Professor
D.M.A. (equiv), Moscow Conservatory
Cello, cello pedagogy, string techniques, chamber
ensembles

Romey, Kathy Saltzman, Lecturer
D.M.A. (equiv), Hochschule für Musik (Frankfurt,
Germany)
Choral music

Schultz, Stephen, Associate Professor
Ph.D., Northwestern University
Music education

Shaw, Paul, Assistant Professor
D.M.A., The Juilliard School
Piano

Shockley, Rebecca, Associate Professor
D.M.A., University of Colorado
Piano, class piano, pedagogy, piano ensembles

†Sutton, Everett, Professor
Ph.D., University of Minnesota
Opera theater/workshop

Ware, D. Clifton, Associate Professor
D.M., Northwestern University
Voice (tenor), pedagogy

Weller, Lawrence, Associate Professor
M.M., University of Illinois
Voice (baritone), diction, vocal literature

Zaimont, Judith, Professor
M.A., Columbia University
Composition, theory

Philosophy

Bowie, Norman E., Professor
Ph.D., University of Rochester
Political philosophy, corporate responsibility, ethics

Dahl, Norman, Professor
Ph.D., University of California, Berkeley
Moral philosophy, ancient philosophy

†Dolan, John M., Associate Professor
Ph.D., Stanford University
Philosophy of language, epistemology, medical ethics

Eaton, Marcia M., Professor
Ph.D., Stanford University
Aesthetics

- Giere, Ronald, Professor
Ph.D., Cornell University
Philosophy of science
- Gunderson, Keith, Professor
Ph.D., Princeton University
Philosophy of mind, aesthetics
- †Hanson, William, Professor
Ph.D., Yale University
Logic, philosophy of logic
- Hellman, Geoffrey, Professor
Ph.D., Harvard University
Philosophy of natural science, philosophy of mathematics
and logic, aesthetics
- Holtman, Sarah, Assistant Professor
Ph.D., University of North Carolina
Ethics, political philosophy, philosophy of law
- Hopkins, Jasper, Professor
Ph.D., Harvard University
Ancient and medieval philosophy, philosophy of religion
- Kac, Michael, Professor
Ph.D., University of California, Los Angeles
Philosophy of language, formal theories of language
- †‡Lewis, Douglas, Professor
Ph.D., University of Iowa
17th- and 18th-century philosophy, metaphysics
- Mason, H. E., Professor
Ph.D., Harvard University
Moral and political philosophy, philosophy of language
- Owens, Joseph, Professor
Ph.D., University of California, Los Angeles
Philosophy of mind, language, metaphysics
- *Peterson, Sandra, Associate Professor
Ph.D., Princeton University
Ancient philosophy, moral philosophy
- *Root, Michael, Associate Professor
Ph.D., University of Illinois
Philosophy of language, philosophy of social science
- Savage, C. Wade, Professor
Ph.D., Cornell University
Philosophy of science, epistemology, philosophy of
psychology
- *†Scheman, Naomi, Professor
Ph.D., Harvard University
Feminist theory, philosophy of mind, theory of criticism
- Wallace, John, Professor
Ph.D., Stanford University
Philosophy of language
- Waters, C. Kenneth, Associate Professor
Ph.D., Indiana University
Philosophy of science, epistemology, philosophy of biology
- Political Science**
- ‡Backstrom, Charles, Professor
Ph.D., University of Wisconsin
Parties and elections, state and local politics
- Ball, Terence, Professor
Ph.D., University of California, Berkeley
European and American political theory, analytical political
philosophy
- Davidheiser, Evelyn, Assistant Professor
Ph.D., Duke University
Comparative politics, Soviet Union
- *Dietz, Mary, Professor
Ph.D., University of California, Berkeley
Development of political thought
- Disch, Lisa, Associate Professor
Ph.D., Rutgers University
Political theory
- *†Duvall, Raymond, Professor
Ph.D., Northwestern University
International relations, comparative political economy
- **†Farr, James, Professor
Ph.D., University of Minnesota
Political theory
- Flanigan, William, Professor
Ph.D., Yale University
Political behavior
- Fogelman, Edwin, Professor
Ph.D., Princeton University
Political theory
- *†Freeman, John, Professor
Ph.D., University of Minnesota
Political economy, methodology
- Gray, Virginia, Professor
Ph.D., Washington University
American public policy, comparative state politics
- Holt, Robert, Professor
Ph.D., Princeton University
Comparative political systems
- Jacobs, Lawrence, Associate Professor
Ph.D., Columbia University
American public policy
- Kelliher, Daniel, Associate Professor
Ph.D., Yale University
Comparative politics, China
- Krislov, Samuel, Professor
Ph.D., Princeton University
Judicial behavior
- Kvavik, Robert, Professor and Associate Vice President for
Academic Affairs, Vice Provost
Ph.D., Stanford University
Political organizations, Scandinavia
- Legro, Jeffrey W., Assistant Professor
Ph.D., University of California, Los Angeles
International relations, comparative politics
- Light, Paul, Professor
Ph.D., University of Michigan
American government, presidency

Nimtz, August, Associate Professor
Ph.D., Indiana University
Africa, comparative, community politics

Oren, Ido, Assistant Professor
Ph.D., University of Chicago
International relations

Price, Richard, Assistant Professor
Ph.D., Cornell University
International Relations

Rahn, Wendy, Assistant Professor
Ph.D., University of Minnesota
American politics, political psychology

Richards, Diana, Assistant Professor
Ph.D., Yale University
Methodology, international relations

†Sampson, Martin, Associate Professor
Ph.D., Indiana University
International relations, foreign policy

Scott, Thomas, Professor and Director of Center for Urban
and Regional Affairs
Ph.D., Northwestern University
Urban government and politics

†Shively, W. Phillips, Professor and Provost for Arts,
Sciences and Engineering
Ph.D., University of North Carolina
Comparative politics, Western Europe

Sikkink, Kathryn, Associate Professor
Ph.D., Columbia University
Comparative politics, Latin America

Smith, Steven, Professor
Ph.D., University of Minnesota
Legislative and executive process

Sorauf, Frank, Regents' Professor
Ph.D., University of Wisconsin
Political parties, judicial process

Stimson, James, Professor
Ph.D., University of North Carolina
Electoral behavior and public opinion, methods

†Sullivan, John, Professor
Ph.D., University of North Carolina
Methodology, political psychology

Psychology

Ackerman, Phillip, Professor
Ph.D., University of Illinois, Urbana-Champaign
Ability measurement, human factors, individual differences
in learning

Berscheid, Ellen, Regents' Professor
Ph.D., University of Minnesota
Interpersonal attraction, close relationships, emotion, social
perception and cognition

*†Borgida, Eugene, Professor
Ph.D., University of Michigan
Social cognition, attitude theory, psychology and law,
psychology and politics

Bouchard, Thomas, Professor
Ph.D., University of California, Berkeley
Twins, adoptees, mental ability, behavior genetics,
personality interests

Burkhardt, Dwight, Professor
Ph.D., Brown University
Sensory psychobiology: vision, function of retinal neurons,
human psychophysics

Butcher, James, Professor
Ph.D., University of North Carolina
Personality psychology

Campbell, John, Professor
Ph.D., University of Minnesota
Personnel selection and placement, performance modeling,
performance assessment, prediction models

Cudeck, Robert, Professor
Ph.D., University of Southern California
Quantitative psychology

Dawis, René, Professor
Ph.D., University of Minnesota
Vocational psychology, individual differences,
psychological measurement, work adjustment

Dunnette, Marvin, Professor
Ph.D., University of Minnesota
Personnel selection and placement, performance appraisal,
task and job analysis

Fletcher, Charles, Associate Professor
Ph.D., University of Colorado, Boulder
Experimental, cognition, text comprehension

Fox, Paul, Professor
Ph.D., Tulane University
Human learning and memory, cognition, psychology of
instruction

Frazier, Patricia, Associate Professor
Ph.D., University of Minnesota
Counseling psychology, coping with stressful life events

†Gonzales, Marti, Associate Professor
Ph.D., University of California, Santa Cruz
Accountability, applied social psychology, impression
management

Grove, William, Associate Professor
Ph.D., University of Minnesota
Clinical psychology, experimental psychopathology,
behavior genetics of schizophrenia, taxometric methods

Hansen, Jo-Ida, Professor
Ph.D., University of Minnesota
Vocational interest measurement and inventory construction,
career development, cross-cultural interests

Iacono, William, Professor
Ph.D., University of Minnesota
Schizophrenia, mood disorders, psychophysiology, detection
of deception

Kanfer, Ruth, Professor
Ph.D., Arizona State University
Work motivation, self-regulation, goal setting, job and task
training strategies

Kersten, Daniel, Professor
Ph.D., University of Minnesota
Perception, computational vision, neural networks

Legge, Gordon, Professor
Ph.D., Harvard University
Visual perception

Leon, Gloria, Professor
Ph.D., University of Maryland
Eating disorders, stress and coping in extreme situations

Lykken, David, Professor
Ph.D., University of Minnesota
Personality, psychophysiology, behavior genetics, twins

Marsolek, Chad, Assistant Professor
Ph.D., Harvard University
Cognitive neuroscience of human memory and vision

McGue, Matthew, Professor
Ph.D., University of Minnesota
Behavior genetics, individual differences, quantitative psychology, aging

Ones, Deniz, Assistant Professor
Ph.D., University of Iowa
Ability and personality assessment, personnel selection and classification, meta-analysis procedures

Overmier, J. Bruce, Professor
Ph.D., University of Pennsylvania
Learning, memory, stress and its psychosomatic consequences

Palace, Eileen, Assistant Professor
Ph.D., University of British Columbia
Clinical psychology, human sexuality, sexual dysfunction and treatment

*Peterson, Gail, Associate Professor
Ph.D., Indiana University
Learning and cognition, general behavior theory

Rothman, Alexander, Assistant Professor
Ph.D., Yale University
Social cognition, health beliefs and health behavior, social influence, emotion and cognition

Snyder, Mark, Professor
Ph.D., Stanford University
Social perception and interpersonal behavior, personality and social interaction, the self

Tellegen, Auke, Professor
Ph.D., University of Minnesota
Personality assessment and research

Viemeister, Neal, Professor
Ph.D., Indiana University
Auditory perception, psychophysics, models of perceptual process

Weiss, David, Professor
Ph.D., University of Minnesota
Psychometric methods, counseling, computerized adaptive testing, latent trait measurement theory

Slavic and Central Asian Languages and Literatures

*Bashiri, Iraj, Professor
Ph.D., University of Michigan
Iranian linguistics and literature, Central Asian studies

Corten, Irina, Professor
Ph.D., University of California, Berkeley
Modern Russian and Soviet literature, Soviet culture, Russian

Jahn, Gary, Associate Professor
Ph.D., University of Wisconsin
19th-century Russian literature, Tolstoy

*†Polakiewicz, Leonard, Associate Professor
Ph.D., University of Wisconsin
19th-century Russian literature, Chekhov, Polish language and literature

Sociology

*Aminzade, Ronald, Professor
Ph.D., University of Michigan
Political sociology, historical sociology

Anderson, Ronald, Professor
Ph.D., Stanford University
Methodology, sociology of technology, sociology of education, social psychology, gender roles

Bian, Yanjie, Assistant Professor
Ph.D., State University of New York, Albany
Stratification, state socialist societies, research methods

Boyle, Elizabeth, Assistant Professor
Ph.D., expected June 1996, Stanford University
Sociology of law, crime and deviance, gender, social psychology, political sociology, sociological methods

Broadbent, Jeffrey, Assistant Professor
Ph.D., Harvard University
Social movements, political sociology, environmental sociology, development and change, Japanese and Asian society

*†Brustein, William, Professor
Ph.D., University of Washington
Political sociology, historical sociology, stratification, social movement and change, social theory

†Cooperman, David, Professor
Ph.D., University of Minnesota
Comparative sociology, sociology of conflict, economy and society, Scandinavian societies

Donohue, George, Professor Emeritus
Ph.D., Washington State University
Social theory, social organization, community

Ellenbogen, B.L., Professor Emeritus
Ph.D., University of Wisconsin
Social organization, developmental change, Latin America

Fulton, Robert, Professor
Ph.D., Wayne State University
Sociology of death, medical sociology, AIDS, social self and life course, social stratification

Galaskiewicz, Joseph, Professor
Ph.D., University of Chicago
Organizations, community, social networks

Johnson, Arthur, Professor Emeritus
Ph.D., University of Minnesota
Sociology of religion, family, sociology of leisure

Kennedy, Robert, Associate Professor
Ph.D., University of California, Berkeley
Demography and population, social self and life course,
AIDS research

Knoke, David, Professor
Ph.D., University of Michigan
Organizations, methods and statistics, political sociology

Kruttschnitt, Candace, Professor
Ph.D., Yale University
Criminology, women offenders, violent crime

Laslett, Barbara, Professor
Ph.D., University of Chicago
Historical sociology, family, sociology of gender, theory

Leik, Robert, Professor
Ph.D., University of Wisconsin, Madison
Mathematical models, methods and statistics, family, social
psychology

Malmquist, Carl, Professor
M.D., University of Minnesota
Criminal psychopathology, juvenile violence, law and the
mental health system, juvenile justice, homicide

Marini, Margaret, Professor
Ph.D., Johns Hopkins University
Stratification, sociology of gender, demography,
quantitative research methods, life course, family,
education, theory

McLeod, Jane, Associate Professor
Ph.D., University of Michigan
Psychiatric epidemiology, medical sociology, quantitative
methods, family

†McTavish, Donald, Professor
Ph.D., University of Iowa
Research methods, statistics, computer text analysis,
gerontology, social organization, organizational
simulation

Mortimer, Jeylan, Professor
Ph.D., University of Michigan
Social psychology of work, work-family linkages, aging and
development, social structure and personality

Nelson, Joel, Professor
Ph.D., Yale University
Social stratification, comparative community organization

Pierce, Jennifer, Assistant Professor
Ph.D., University of California, Berkeley
Gender, feminist theory, sociology of work and occupations,
social psychology, qualitative methods

Reiss, Ira L., Professor
Ph.D., Pennsylvania State University
Human sexuality, gender roles, family, theory construction

Savelsberg, Joachim, Associate Professor
Dr. rer. pol., University of Trier, FRG
Law, criminology, knowledge, comparative

Spitzer, Stephan, Associate Professor
Ph.D., University of Washington
Social psychology, deviant behavior, visual sociology

Uggen, Christopher, Assistant Professor
Ph.D., University of Wisconsin
Criminology, juvenile delinquency, deviance, white collar
crime, work and occupations

Ward, David, Professor
Ph.D., University of Illinois
Criminology, penology, sociology of law, comparative penal
policy, policing

Spanish and Portuguese

Arenas, Fernando, Assistant Professor
Ph.D., University of California, Berkeley
Luso-Afro-Brazilian studies, critical theory

Jara, René, Professor
Ph.D., Arizona State University
Spanish-American literature: narrative, poetry, essay,
poetics, literary theory, semiotics

Klee, Carol, Associate Professor
Ph.D., University of Texas
Hispanic linguistics, applied linguistics and sociolinguistics

Mirrer, Louise, Professor
Ph.D., Stanford University
Medieval literature, comparative literature, language
development

O'Connell, Joanna, Associate Professor
Ph.D., University of California, Berkeley
Spanish-American literature: Mexico, the Caribbean,
Central America; feminist theory, comparative literature

Ocampo, Francisco, Associate Professor
Ph.D., University of Southern California
Hispanic linguistics, syntax and pragmatics

Ramos-Gascon, Antonio, Professor
Ph.D., University of California, San Diego
Spanish literature: 18th-20th-century prose and poetry

Spadaccini, Nicholas, Professor
Ph.D., New York University
Spanish literature: Renaissance and Golden Age narrative,
poetry, theater; comparative literature

Sullivan, Constance, Associate Professor
Ph.D., University of Illinois
Spanish literature: 18th-20th-century novel and lyric poetry;
Spanish feminism

Vidal, Hernan, Professor
Ph.D., University of Iowa
Spanish-American literature: novel, short story, theater;
social theory of literature and symbolic production

Zahareas, Anthony, Professor
Ph.D., Ohio State University
Spanish literature: medieval, Renaissance, Golden Age,
19th- and 20th-century; ideology and literature

South Asian and Middle Eastern Languages and Cultures

*Junghare, Indira, Professor
Ph.D., University of Texas
Marathi, Hindi, linguistics, culture and civilization of India

Speech-Communication

- Albert, Rosita, Associate Professor
Ph.D., University of Michigan
Intercultural communication, international relations, cross-cultural research methods, health communication
- Browne, Donald, Professor
Ph.D., University of Michigan
Comparative and international media, international relations, historical research methodology
- Campbell, Karlyn Kohrs, Professor
Ph.D., University of Minnesota
Rhetorical theory and criticism, women in communication, presidential rhetoric
- Goldstein, Sheldon, Professor and Director of Media Resources
M.A., University of Minnesota
Educational television and media
- Hewes, Dean, Professor
Ph.D. Florida State University
Communication theory, decision making in small groups and organizations
- Kinney, Terry, Assistant Professor
Ph.D., University of Wisconsin
Interpersonal communication and aggression, persuasion and social influence, communication, physiology and health, research methodology
- Omdahl, Becky, Assistant Professor
Ph.D., University of Wisconsin
Interpersonal and organizational communication
- Rarick, David, Associate Professor
Ph.D., Ohio State University
Communication theory, media ethics and audience analysis, new telecommunications media
- *Scott, Robert, Professor
Ph.D., University of Illinois
Rhetorical theory, criticism of public address, value implications in communication research and practice
- Schiappa, Edward, Associate Professor
Ph.D., Northwestern University
Contemporary rhetorical theory, classical rhetoric, criticism of public address, argumentation
- Sheldon, Amy, Associate Professor
Ph.D., University of Texas
First- and second-language acquisition, discourse analysis, language and gender
- Wilson, Kirt, Assistant Professor
Ph.D., Northwestern University
Rhetorical theory, historical/contemporary rhetoric, U.S. public address, political persuasion

Statistics

- Bingham, Christopher, Professor
Ph.D., Yale University
Directional data analysis, time series analysis, multivariate analysis, chronobiometry
- Chaloner, Kathryn, Professor
Ph.D., Carnegie-Mellon University
Bayesian statistics, experimental design, AIDS clinical trials

- Cook, R. Dennis, Professor
Ph.D., Kansas State University
Experimental design, linear and nonlinear models, regression diagnostics, population genetics, graphical methods
- Dickey, James, Professor
Ph.D., University of Michigan
Bayesian statistics, expert opinion probability modeling, smoothing analysis, foundations of inference
- Eaton, Morris, Professor
Ph.D., Stanford University
Multivariate analysis, probability inequalities, decision theory, Bayesian analysis
- Geisser, Seymour, Professor
Ph.D., University of North Carolina
Bayesian inference, model selection, predictivism, sample reuse, biomedical applications, diagnostics
- Geyer, Charles, Associate Professor
Ph.D., University of Washington
Markov chain Monte Carlo, constrained maximum likelihood, statistical genetics
- Grund, Birgit, Assistant Professor
Ph.D., Humboldt-Universität, Berlin
Categorical data analysis, kernel smoothing
- Hawkins, Douglas, Professor
Ph.D., University of the Witwatersrand, Johannesburg, South Africa
Quality improvement, case diagnostics, geostatistics
- Larntz, Kinley, Professor
Ph.D., University of Chicago
Categorical data, experimental design, computer-intensive methods, medical applications
- Lindgren, Bernard, Professor
Ph.D., University of Minnesota
Statistical education, general theory
- Louis, Thomas, Professor
Ph.D., Columbia University
Biostatistics, empirical Bayes, geostatistics, AIDS research
- Martin, Frank, Associate Professor
Ph.D., Iowa State University
Experimental design, analysis of variance procedures, finite population sampling
- Meeden, Glen, Professor
Ph.D., University of Illinois
Decision theory, Bayesian inference, finite population sampling
- Oehlert, Gary, Professor
Ph.D., Yale University
Data analysis, environmental trend analysis, nonparametric regression
- Posse, Christian, Assistant Professor
Ph.D., Swiss Federal Institute of Technology
Projection pursuit, data analysis, Gaussian processes
- Pruitt, Ronald, Associate Professor
Ph.D., University of California, Davis
Nonparametrics, survival analysis
- Sudderth, William, Professor
Ph.D., University of California, Berkeley
Probability theory, stochastic games, foundations of statistics

Tierney, Luke, Professor
Ph.D., Cornell University
Reliability models, inference, approximate Bayesian
methods, statistical computing, dynamic graphics

Weisberg, Sanford, Professor
Ph.D., Harvard University
Regression and modeling, diagnostics, graphical methods,
computing

Theatre Arts and Dance

Adey, Lee, Professor Emeritus
M.A., University of Minnesota
Directing

Balk, H. Wesley, Professor Emeritus
D.F.A., Yale University
Directing, acting, music theatre

*Ballet, Arthur, Professor Emeritus
Ph.D., University of Minnesota

Barker, Barbara, Associate Professor
Ph.D., New York University
Dance history, ballet

Bellamy, Louis, Associate Professor
M.A., University of Minnesota
Directing, acting

Brockman, C. Lance, Professor
M.S., Kansas State Teachers College
Scene design, scene painting

Cheng, Maria, Associate Professor
B.A., University of Minnesota
Modern dance, choreography theory

*Congdon, Jean, Associate Professor Emeritus
Ph.D., University of Minnesota
Interpretation

Gadberry, Glen, Associate Professor
Ph.D., University of Wisconsin
Theatre history

Gwinup, Martin, Associate Professor
M.F.A., Yale University
Technical production

Hennum, Nels, Assistant Professor
M.F.A., Carnegie Mellon University
Stage movement, acting, directing

Houfek, Nancy, Assistant Professor
M.F.A., American Conservatory Theatre
Voice production, acting

*Josal, Wendell, Professor Emeritus
Ph.D., Northwestern University
Scene design

Kanee, Stephen, Associate Professor
M.F.A., University of Minnesota
Directing, acting

Kobialka, Michal, Associate Professor
Ph.D., City University of New York
Theatre history, literature

Maddux, Margaret L., Assistant Professor
M.A., Sarah Lawrence College
Modern dance, choreography, ethnic and theory

Montgomery, Jean, Associate Professor
M.F.A., University of Minnesota
Lighting design, stage management

Nash, Elizabeth, Associate Professor
Ph.D., Indiana University
Voice, speech, singing

Nolte, Charles, Professor Emeritus
Ph.D., University of Minnesota
Theatre history, playwriting

Norwood, James, Associate Professor
Ph.D., University of California, Berkeley
Introduction to theatre; drama and media; Shakespeare

Reid, Barbara, Professor
M.F.A., Yale University
Acting

Smith Joan Anne, Assistant Professor
M.A., University of California, Los Angeles
Modern dance, choreography

Wagner, Sherry, Teaching Specialist
MBA, Illinois State University
Theatre Management

*Whiting, Frank, Professor Emeritus
Ph.D., University of Minnesota

Women's Studies

Faunce, Patricia, Professor
Ph.D., University of Minnesota
Psychology, personality, therapy, achievement, work,
power, sex roles

Geiger, Susan, Associate Professor
Ph.D., University of Dar es Salaam, Tanzania
African women's history, interdisciplinary feminist theory,
life history methodology

Kaminsky, Amy, Professor
Ph.D., Pennsylvania State University
Feminist literary theory and criticism, Spanish and Latin
American women writers

Longino, Helen, Professor
Ph.D., Johns Hopkins University
Feminist theories of knowledge, gender and science,
philosophy of science, social epistemology

Reyes, Angelita, Associate Professor
Ph.D., University of Iowa
Comparative literature; postcolonial feminisms; literary
theory; African, Caribbean, African-American women
writers

Zita, Jacquelyn, Associate Professor
Ph.D., Washington University
Feminist theory and philosophy, women's health issues,
lesbian and gay studies, film theory, sexuality and
gender studies